Draft Safety Requirements DS543 — SPESS Step 9 Resolution Table
Regulations for the Safe Transport of Radioactive Material

COMMENTS BY REVIEWER				RESOLUTION			
Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
Step 9/ FR-01	***General***	**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. **This is also consistent with DS543DPP** which states that "*Within the review cycle of SSR-6 (Rev. 1), many proposals were submitted by Member States that could form the basis, either individually or in the aggregate, for its revision. Some of the key areas for which proposals were submitted are as follows… Harmonization with IAEA Safety Standards Series* " ➔ **See detailed suggestions in attachment**	**Improved understanding and clarification of key expectations.** 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*…." **IAEA SPESS A states also that:** - "*The General Safety Requirements and the Specific Safety Requirements* ***include overarching requirements and associated requirements, both expressed as "shall" statements."*** - "*For General Safety Requirements and Specific Safety Requirements, a format has been adopted with a discrete set of*			X	This proposal was rejected at TRANSSC 45. Therefore, the resubmission of this proposal at Step 8 is 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. This should be considered in the next revision.

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			overarching requirements followed by requirements of associated conditions to be met, both expressed as "shall" statements. In addition, when necessary, the publication also includes explanatory text in support of the safety requirements." - **"*When a decision is made to revise a Safety Requirements publication, the revision should include the adoption of this new format, consistent with the following aims*:** • *In term of* ***user-friendliness, the format and style of the safety standards should facilitate their use for the establishment of the regulatory framework***. *The Safety Requirements should be short enough to encourage their reading and actual use in the Member States;* • *In addition, each* ***individual overarching requirement should be allocated a number in sequence***. *The requirements of associated conditions are referenced through the normal paragraph numbering system. By appropriate references in the Safety Guides, this will help*				

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			building a logical relationship between Safety Requirements and Safety Guides."				
Step 9/ RUS-1	Preface	There are not text of PREFACE in DS543 Evidently PREFACE will be SSR-6 (Rev.2) at issuing.. It is recommended to include in PREFACE the table with Summary of changed paragraphs in thi publication similar to PREFACE in SSR-6 (Rev.1).But line of Amended paragraphs to split into lines editorial amendments, small and major amendments or by another similar splitting.	For convenient using SSR-6 (Rev.2).	X	Format of Preface should be the same as in SSR-6 (Rev. 1). Because of the subjective nature of categorizing changes, paragraphs will probably not be presented according to a categorization scheme.		
Step 9/ FR-02	101	(…) These Regulations are based on: IAEA Safety Standards Series No. SF-1, Fundamental Safety Principles [1], jointly sponsored by the European Atomic Energy Community (EAEC), the Food and Agriculture Organization of the United Nations (FAO), the IAEA, the International Labour Organization (ILO), the International Maritime Organization (IMO), the OECD Nuclear Energy Agency (NEA), the Pan American Health Organization (PAHO), the United Nations Environment Programme (UNEP) and the World Health Organization (WHO); IAEA Safety Standards Series No. GSR Part 3, Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards [2], jointly sponsored by the European Commission (EC), FAO, IAEA, ILO, OECD/NEA, PAHO, UNEP and WHO; IAEA Safety Standards Series No. GSR	**GSR Part 4 is also to be mentioned as it is one of the General Safety Requirement and is therefore applicable to transport.**	X			

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		Part 1 (Rev. 1), Governmental, Legal and Regulatory Framework for Safety [3]; IAEA Safety Standards Series No. GSR Part 2, Leadership and Management for Safety [4]; IAEA Safety Standards Series No. GSR Part 4 (Rev. 1), Safety Assessment for Facilities and Activities [xx] and IAEA Safety Standards Series No. GSR Part 7, Preparedness and Response for a Nuclear or Radiological Emergency [5].					
Step 9/ FR-03	101	~~Thus, compliance with these Regulations is deemed to satisfy the principles of GSR Part 3 [2] in respect of transport.~~ In accordance with SF-1 [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 an assertion quite questionable. First, **GSR Part 3 sets requirements – not principles** – and GSR Part 3 scope encompasses transport. Second, **some inconsistencies with GSR Part 3 do exist,** for example when addressing radiation safety during storage in transit (radiation zone marking for example)….. Another example would be the optimization principle as the design requirement for a package is not to have external dose rate as low as reasonably achievable (in routine, normal or accident condition) or to have release in ACT as low as reasonably achievable. **With this consideration, rewording would necessary, for example:** 527. The maximum *dose rate* at any point on the external surface of a *package* or *overpack* shall be as low as reasonably achievable and not	X	Rewrite sentence as follows: "Thus, compliance with these Regulations is deemed to satisfy the General Safety Requirements of the IAEA Safety Standards Series in respect of transport."		

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			exceed 2 mSv/h except for *packages* and *overpacks* transported under the following[…]. 528. The maximum *dose rate* at any point on the external surface of a *package* or *overpack* under *exclusive use* shall as low as reasonably achievable and not exceed 10 mSv/h.				
Step 9/ GER-1	101	…; and IAEA Safety Standards Series No. GSR Part 7, Preparedness and Response for a Nuclear or Radiological Emergency [5], **jointly sponsored by FAO, IAEA, the International Civil Aviation Organization (ICAO), ILO, IMO, the International Criminal Police Organization (INTERPOL), OECD/NEA, PAHO, the Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO), UNEP, the United Nations Office for the Coordination of Humanitarian Affairs (OCHA), WHO and the World Meteorological Organization (WMO)**.	The co-sponsoring organizations of SF-1 und GSR Part 3, respectively, are specified in para. 101. For internal consistency reasons, the same approach should be followed in the case of GSR Part 7.	X	Delete references to co-sponsoring organizations for all concerned GSRs for ease of reading and because this information is not needed here.		
Step 9/ FR-04	102	This Safety Standard supplements the general safety requirements established in GSR Part 1 (Rev.1), GSR Part 2, GSR Part 3 (Rev.1), GSR Part 4 (Rev.1) and GSR Part 7. This Safety Standard is supplemented by a hierarchy of Safety….	Before mentioning the existence of Safety Guides, it would be worth reminding that the **GSR are applicable and SSR-6 brings in additional requirements or precise how a general requirement is implemented for transport.**			X	See resolution of Step 9/ FR-03.

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Step 9/ FR-05	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 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].~~	**Unnecessary details.** In a top-down approach, Safety Guides list may change with time…			X	This is useful information for users of the Regulations.
Step 9/ RUS-2	102	To replace the words in brackets "(the edition 20XX is under development)" with words"(SSG-26 (Rev.2) the 20XXedition that also will include appropriate advisory materials to some new provisions in these Regulations is under development)"	Editorial comments for more clear understanding contents of the new SSG-26 edition. The new proposed text essentially is similar to the text of the SSR-6 (Rev.1) – "that will coincide with this edition of the Regulations"			X	The proposed details are not consistent with the listing of safety guides in the rest of the paragraph.

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Step 9/ RUS-3	102	To replace the words in brackets "(the edition 20XX is under development)" with "(SSG-33 (Rev.2) the 20XXedition that also will include appropriate schedule provision taking into account new provisions in these Regulations is under development)"	Editorial comment for more clear understanding contents of the developed new SSG-33 edition. The new proposed text essentially is similar to the text of the SSR-6 (Rev.1) – "that will coincide with this edition of the Regulations"			X	The proposed details are not consistent with the listing of safety guides in the rest of the paragraph.
Step 9/ FR-06	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 according to 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.	It is a 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**…			X	The existing text provides an explanation for not assigning the entity responsible.
Step 9/ OM-1	107 (e)	Radioactive material in consumer products which have received regulatory approval, following their sale to the end use.	To align with ICAO Technical Instructions 1-6-2			X	Authorization instead of approval makes clear that this is something different from the approvals related to transport within SSR-6.
Step 9/ WNTI-07	Para. 107	107. These Regulations do not apply to any of the following: (…) (e) Radioactive material in consumer products that have received regulatory authorization, following their sale to the end user. (…).	Editorial – In para. 107 (e), "approval" has been changed to "authorisation". One element of the justification stated for this change is the definition included in the Nuclear Safety and Security Glossary.			X	See OM-01. Following discussions with the IAEA Safety Standards Specialists, authorization is the correct term in this context.

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			However, in the Nuclear Safety and Security Glossary, it is specified that an authorization is a "permission (..) to conduct specified activities". Here, in para. 107 (e), the term authorization is used for "radioactive material in consumer products" which are not really "activities". It should be confirmed that the term "authorization" is appropriate in the context of para. 107 (e). Note – No alternative term is proposed.				
Step 9/ AUS-4	107 (f)	consideration of the transport regulations in the context of IAEA GSR Part 3	The exemption within Para 107f is quite generous. Using uranium bearing ore as an example, it provides for up to 10 Bq/g U-nat, or in the case of uranium deficient NORM residues, up to 100 Bq/g if the dominant nuclide is Ra-226 or Pb-210. Para 107f is not subject to any activity limits, so it's possible for large consignments to contain GBq of activity which has potential for surface and 1 metre dose rates in the order of 47 and 24 uSv/h respectively, which if the transport regulations were applied,			X	No specific proposal. Should be resubmitted in the next review/revision cycle.

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			would require freight container quantities to be classified as III-Yellow. Such radioactive material under GSR Part 3 would normally require some degree of regulatory control by both the consignor and consignee and carrier. Such consignments would normally require the carrier to consider dose rates to drivers and passengers and in transit storage. Incidents would require radiation protection considerations. Sometimes regulators find it challenging to account for para 107 (f). Suggest the next review of GSR Part 3 consider the interaction with para 107(f).				

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Step 9/ RUS-9	107	**Text of DS543:** Page 3, section 107: It is proposed to supplement the section with the following text: (h) Radioactive material inside a reactor on board a vessel used for any purpose except for self-propulsion and that is in sub-critical condition when the vessel is transported.	Comment: According to SSR-6 the safety of nuclear fuel is ensured by the design of the packaging kit. The safety of nuclear fuel in a reactor is ensured by physical barriers based on the defense in depth principle and safety systems either active or passive or a combination of them. Safety of a fueled reactor is also controlled by the crew. Therefore reactor can not be considered to be a package in terms of SSR-6. Transportation of a vessel with a fueled reactor being in operation or in shutdown / in cooled down condition could be designated as transportation of the whole nuclear facility and not of the nuclear material itself and could be regulated by legal instruments of the maritime law and should meet the requirements of the IAEA presumed to be used for an NPP. Special arrangements are applied only to packages and SCOs. Vessels with fueled nuclear reactors can not be considered neither as a package nor as SCO as they are fueled. In the current version of paragraph 107 (a) of SSR-6 terms of 'means of transport' and 'intergral part' are not defined. SSG-26 has a clarification that this item corresponds to uranium counterweights and other equipment on board an aircraft. So it is applicable to vessels with reactor units on board. In-applicability of SSR-6 to TNPPs is also highlighted in			X	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.

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			IAEA Safety Standards to Non-Water Cooled Reactors and Small Modular Reactors.				
Step 9/ JPN-01	Para. 109	109. Measures should be taken to ensure that *radioactive material* is kept secure in transport so as to prevent **theft** ~~unauthorized removal, sabotage~~ or damage and to ensure that control of the	Current text is simple and easily understandable for general transport people.			X	As proposed by the IAEA's NSNS, to harmonize with the with the Nuclear Security Series, 'unauthorized removal'

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		radioactive material is not relinquished inappropriately (see Annex I).					will be retained because it includes 'theft'.
Step 9/ USA-1	109	Measures should be taken to ensure that radioactive material is kept secure in transport to prevent unauthorized removal, **sabotage,** theft or damage and to ensure that control of the radioactive material is not relinquished inappropriately (see Annex I.)	Radioactive material is defined very broadly in the regulation, so it applies to very large sources and large activities as well as very small, excepted sources. US regulations do not require all regulated entities that possess radioactive material to factor in "sabotage" and this requirement is overly conservative and causes unnecessary burden to the regulated entities not justified by safety or security risk. Recommendation is to remove reference to "sabotage." If sabotage is to be a design factor, it should only apply to radioactive materials that pose a significant radiological safety or security risk under a sabotage scenario.	X	"In accordance with a graded approach," should be added to the beginning of the sentence without removing reference to "sabotage".		

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Step 9/ OM-7	111	This publication is structured so that Section I represents the main objectives and scope of the present regulations;	Suggest adding the following sentence for more consistency.	X	"Section I presents the Background, Scope and Objective of these Regulations,		
Step 9/ OM-4A	211	One or more packages of dangerous goods accepted by an operator from one shipper at one time and at one address, receipted for in one lot and moving to one consignee at one destination address.	To standardize definition to align with ICAO Technical Instructions 1-3-2			X	SSR-6 definitions must be, as appropriate, independent of mode. Also, the proposed definition applies to the destination of a consignment.
Step 9/ FR-07	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 *paclaging* during transport.	**Clarification** as "*retain*". Alternatively, "r*etain*" could be replaced by "*prevent the release and dispersion of*".	X			
Step 9/ AUS-5	214	Contamination shall mean the presence of a radioactive substance on a surface in quantities in excess of 0.4 Bq/cm2 for beta and gamma emitters and alpha emitters,	The 0.04 Bq/cm2 contamination threshold for all other alpha emitters applies practical purposes impossible to measure in-situ using the survey equipment typically used in transport related operations and when applying the guidance contained within ISO 7503-3:2016. If certain isotopes justify the use of 0.04 Bq/cm2 then these should be explicitly stated as they require specialist assessment. At a practical level, when measuring for alpha radiation surface contamination, an alpha probe is used. In all situations, it is impossible to			X	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.

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			distinguish between the alpha radiation coming from individual naturally occurring radionuclides, however, there is a requirement to consider different limits for "low toxicity alpha emitters" and "other alpha emitters". Table 1 shows the alpha energy, the toxicity classification and the inhalation and ingestion dose factors for the main naturally occurring alpha emitters. The inhalation dose factors are from ICRP Publication 137 and are for the most conservative solubility values at a size of 1μm. Table 1: Alpha toxicity classification [Note: *Rn-222, Rn-220, Po-218, Po-216, Po-214, Bi-212 and Po-212 are low toxicity alpha emitters, however, no dose factors are available.*] It is important to consider: • the reference to "toxicity" needs to be based on its radiotoxicity. As can be seen in Table 1, the justification for "other" toxicity alpha classification seems to mainly refer to ingestion doses (for Ra-226 and Po-				

Radionuclide	Total Alpha Energy (MeV)	Toxicity Classification	Dose Factors
			Inhalation
U-238	4.26	Low	20
U-234	4.84	Low	23
Th-230	4.74	Low	25
Ra-226	4.86	Other	23
Po-210	5.40	Other	2.8
Th-232	4.07	Low	100
Th-228	5.49	Other	35
Ra-224	5.36	Low	1.6

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			210). For inhalation (which is likely to be the dominant pathway in an exposure situation), the dose factors are relatively consistent across all alpha classes, with Po210 and Ra-224 being an order of magnitude lower. • the alpha energies are very similar and therefore discrimination between the different alphas is practically impossible. Alpha spectroscopy is likely to identify the small differences in energy, however, when in the field conducting surface contamination measurements, this is not possible. Further, lack of differentiation between "low toxicity alphas" and "other", can be seen in the proposed revised A1 and A2 values [A1/A2 TTEG WG Report]. The A2 values (both old and proposed values) for Ra-226, Po-210 and Th-228 are consistent with the values for "low toxicity alpha" radionuclides. Note: There are A2 values for various solubility classes of U234. Uranium Oxide is generally regarded as insoluble, and this value has been used.				
Step 9/ AUS-6	214A	Inclusion of new para 214A: For naturally occurring radioactive materials, where the relative radionuclide concentrations of contamination are well known, it is sufficient to undertake alpha	To remove the requirement for beta surface contamination monitoring under specific situations. The proposed new clause will compensate for the			X	As stated in the 3 January 2024 Note Verbale, in accordance with the 2021 Transport Regulations

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		surface contamination monitoring alone and infer the beta surface contamination levels from the results. This can only occur with the approval of the competent authority.	removal of the requirement for beta surface contamination.				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.
Step 9/ FR-08	214 215 216	*Excessive* contamination Excessive contamination shall mean the presence of a radioactive substance on a surface in quantities in excess of 0.4 Bq/cm² for beta and gamma emitters and low toxicity alpha emitters, or 0.04 Bq/cm² for all other alpha emitters. Non-fixed contamination shall mean excessive contamination that can be removed from a surface during routine conditions of transport. Fixed contamination shall mean excessive contamination other than non-fixed contamination.	**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 "🛈*The 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."* **The definition of "*contamination*" in SSR- 6 differs from the one set in GSR Part 3. This inconsistency is to be resolved**. One way could be to replace "*contamination*" by "*Excessive contamination*" in paras 214, 215 and 216.			X	1) Definitions are not inconsistent with GSR Part 3 definition 2) Definition explains what excessive means (in excess of …) and therefore to add "excessive" is not needed and makes the definition unnecessarily complicated.

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			-> to be replicated all over the document				
Step 9/ PAK-7	220	The words 'excepted' under para 417(f) may be elaborated	To bring clarity and avoid long chain of reference			X	Adequate explanation is provided by the reference to para. 417(f).
Step 9/ FR-09	220A	Consider deletion of the "~~*dose rate*~~" definition	**"*dose rate*" is used many times in GSR Part3 without a definition.** "dose rate" has a general definition in the Nuclear Safety and Security glossary…. **A sentence such as** "*The terms "dose rate", "management system" and "radioactive materials" are defined in the IAEA Nuclear Safety and Security Glossary.*" **could be added at the end ot the section setting definitions**.			X	"dose rate" is important for transport and must be defined so that SSR-6 can "stand alone" as a document and be correctly implemented.
Step 9/ OM-2	223	Freight container in the case of radioactive material transport. An article of transport equipment designed to facilitate the transport of packaged goods by one or more modes of transport without intermediate reloading, which is of a permanent enclosed character, rigid and strong enough for repeated use, and must be fitted with devices facilitating its handling, particularly	To standardize the definition to align with ICAO Technical Instructions 2;7.1.3			X	SSR-6 definition must be mode-independent.

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		in transfer between aircraft and from one mode of transport to another. In addition, a small freight container is that which has an internal volume of not more than 3 m3. A large freight container is that which has an internal volume of more than 3 m3. For the transport of radioactive material, a freight container may be used as a packaging.					
Step 9/ AUS-8	227	Amendment to para 227: Low toxicity alpha emitters are: unirradiated uranium enriched up to 20%, all naturally occurring alpha emitting radionuclides ~~uranium, depleted uranium, natural thorium, uranium-235, uranium-238, thorium-232, thorium-228 and thorium-230~~ when contained in ores or in physical and chemical concentrates; or alpha emitters with a half-life of less than 10 days.	For naturally occurring radionuclides, there be no distinction between "low toxicity alpha emitters" and "other alpha emitters".			X	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.
Step 9/ PAK-14	227/2&3	"unirradiated uranium enriched up to 20%, natural uranium, depleted uranium, natural thorium, uranium 235, uranium 238, thorium 228, thorium 230 and thorium 232 when contained in ores or in physical and chemical concentrates	Thorium isotopes may be mentioned in ascending order	X			
Step 9/ FR-10	228	Consider the deletion of the "~~*management system*~~" definition	**The definition is set in GSR Part 3 and is also in the Nuclear Safety and Security glossary.**			X	Definitions that are essential for transport should be maintained in SSR-6.

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			A sentence such as "*The terms "dose rate", "management system" and "radioactive materials" are defined in the IAEA Nuclear Safety and Security Glossary.*" could be added at the end ot the section setting definitions.				
Step 9/ RUS-4	228/line 1	To replace the words "interrelated or interacted elements(system)" with ""interrelated or interacted elements(system)"	Editorial comment			X	Text is correct as written.
Step 9/ AUS-7	107(f), 229A and 229B	Revisit the addition of para 229A and 229B. To be consistent with the new definition of NORM, it is also proposed that a change occurs to para 409. Para 409 is proposed to be modified as: LSA material shall be in one of three groups: (a) LSA-I: (i) Uranium and thorium ores and concentrates of such ores, and other materials (~~ores~~) containing naturally occurring radionuclides **Comment**	The addition of clauses 229A and 229B could also mean that uranium oxide is considered to be NORM under this definition which may cause concern elsewhere. Para 107(f) has been changed in the revised Regulations to include the definitions of NORM. The most significant change is the removal of the words "*which may have been processed*" from Clause 107(f), which is now encompassed in the definition of NORM. Since the term processing is proposed to be removed from the section outlining when the regulations do not apply and placed into the definition of			X	Para 409 (a)(i) was limited to ores only. The consequences of including other materials than ores (which could be processed materials such as uranium oxide pellets) in LSA-I has not been proposed before, not been investigated, and no safety demonstration has been provided. A change in the definition of NORM does not mean that every specific use of a terminology having something in common with NORM has to be changed.

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			NORM, it is important to ensure that no later changes occur to the definition of NORM.				
Step 9/ CDN-01	229A	229A. Naturally occurring radioactive material (NORM) shall mean radioactive material containing no ~~significant amounts of~~ radionuclides other than naturally occurring radionuclides. Material in which the activity concentrations of the naturally occurring radionuclides have been changed by a process is included.	Remove "significant amounts". NORM is defined in the IAEA Nuclear Safety and Security Glossary with the words "significant amounts", but the glossary is not a regulation like SSR-6. If this definition is in SSR-6 it must be enforceable. If "significant amounts" are not defined, it will be impossible to enforce. This requires significant guidance to determine what and how significant amounts are determined (weight versus activity, dose rates, and other considerations). Note that although this was discussed in the TTEG-PPA, the original proposal did not include the words "significant amounts".	X	See GER-2.		
Step 9/ GER-2	229A	*Naturally occurring radioactive material (NORM)* shall mean *radioactive material* containing no significant amounts of radionuclides other than *naturally occurring radionuclides*. **Other radionuclides than *naturally occurring radionuclides* may be contained in the *NORM* provided the following conditions, evaluated according to paras 403 – 407, are met:**	The proposed definition is taken from IAEA Nuclear Safety and Security Glossary. However, it is stated in the Glossary that a definition of "significant amounts" should be a regulatory decision. The definition of NORM is used in para. 107(f) to specify material exempted from the	X	Proposal accepted, except, that (i) the additional limitation under (b) is not justified and seems to be unnecessarily restrictive and should therefore not be included, and (ii) the deletion of the text in the last sentence should not		

COMMENTS BY REVIEWER				RESOLUTION			
Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
		(a) The activity concentration of other radionuclides than *naturally occurring radionuclides* does not exceed the exempt material limits specified in Table 2. **(b) The ratio of activity concentrations for *naturally occurring radionuclides* to other radionuclides in the material, is at least 10.** Material in which the activity concentrations ~~of the *naturally occurring radionuclides*~~ have been changed by a process is included."	Regulations. As a result, this material is no longer subject to regulatory control during transport. To avoid contradictory national regulations regarding the amount of radionuclides other than naturally occurring radionuclides, a definition of "significant amounts" should be internationally agreed and therefore given in SSR-6. It is proposed that the activity concentration of radionuclides other than naturally occurring radionuclides should be limited by the value for exempt material specified in Table 2. In addition, it is proposed that the activity concentration ratio of naturally occurring radionuclides and other radionuclides should be at least 10. Processes that changes the activity concentration of one radionuclide often also affects the activity concentration of other radionuclides. Therefore, it is proposed to delete the phrase "of the naturally occurring radionuclides" in the last sentence.		be accepted to maintain consistency with the definition in the IAEA Glossary. The following modified text is proposed: "*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 be so restricted that the activity concentration of these radionuclides in the material does not exceed the values specified in Table 2, or calculated in accordance with paras 403-407. Material in which the activity concentration of the *naturally occurring radionuclides* have been changed by a process is included."		

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Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
Step 9/ UK-1	229A	229A. Naturally occurring radioactive material (NORM) shall mean radioactive material containing no significant amounts of radionuclides other than naturally occurring radionuclides.[a] ~~Material in which the activity concentrations of the naturally occurring radionuclides have been changed by a process is included.~~ a Material in which the activity concentrations of the naturally occurring radionuclides have been changed by a process is included.	The IAEA Glossary has the second sentence as an "information note" and not part of the formal definition. In this case it would be better to include it as a footnote to match the IAEA Glossary. Alternative option would be to include in SSG-26 rather than here. Concerns that a strict reading of this definition as written could mean that HEU is considered NORM.	X	See GER-2.		
Step 9/ CH-1	229B	Naturally occurring radionuclides shall mean radionuclides that occur naturally ~~on Earth~~ in significant quantities. The term is used to refer to the primordial radionuclides potassium-40, uranium-235, uranium-238 and thorium-232 and their radioactive decay products. This includes U (natural) and Th (natural).	The term "on earth" is not clearly defined. Is it on the solid part of the earth. Material under the sea should be excluded? Finally, it does not matter, where the material exactly comes from. It can be somewhere in nature. So, it is not necessary to mention it. Therefore, the proposal is to delete the term "on earth" to avoid confusion. It should be more relevant to clarify if the list of primordial radionuclides is exhaustive. Lu-171 together with the radioactive Lu-176, Rb-87 as well as some samarium isotopes are often			X	Consistency with IAEA Glossary.

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			considered as NORM. The meaning of "significant quantities" is also quite vague.				
Step 9/ UK-2	229B	229B. Naturally occurring radionuclides shall mean radionuclides that occur naturally on Earth in significant quantities. The term is used to refer to the primordial radionuclides potassium-40, uranium-235, uranium-238 and thorium-232 and their radioactive decay products. This includes radionuclides found in U (natural) and Th (natural).	U(Nat) and Th(Nat) are not radionuclides, but are mixtures of radionuclides.	X			
Step 9/ FR-11	231	*Package* *Package* shall mean the complete product of the packing operation, consisting of the *packaging* and its contents prepared for transport. ~~The types of *package* covered by these Regulations that are subject to the activity limits and classification of Section IV and meet the corresponding requirements are:~~ ~~*Excepted package;*~~ ~~*Industrial package Type 1 (Type IP-1);*~~ ~~*Industrial package Type 2 (Type IP-2);*~~ ~~*Industrial package Type 3 (Type IP-3);*~~ ~~*Type A package;*~~ ~~*Type B(U) package;*~~ ~~*Type B(M) package;*~~	**This is not a definition.**			X	This is important information to related subgroups of packages which are not given in such a condensed form somewhere else in SSR-6.

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		~~*Type C package.*~~ ~~*Packages* containing *fissile material* or uranium hexafluoride are subject to additional requirements.~~					
Step 9/ PAK-1	233	Subject clause has been deleted, whereas, clause 233 has been referred in INDEX (Dose Rate)	May rectify to remove it from INDEX	X			
Step 9/ FR-12	234	*Radiation protection programme* *Radiation protection programme* shall mean systematic arrangements that are aimed at providing adequate consideration of radiation protection measures for the workers, the public and the environment.	This would made sense considering **the requirements set in 301 to 305, 311 and 562.** GSR Part 3 (requirement 24) requires a "*radiation protection programme for occupational exposure*".	X			
Step 9/ FR-13	236	*Transport regulated Radioactive material* *Transport regulated Radioactive material* shall mean any material containing radionuclides where both the activity concentration and the total activity in the consignment exceed the values specified in paras 402–407.	GSR Part 2 defines "*radioactive material*" as "*Material designated in national law or by a regulatory body as being subject to regulatory control because of its radioactivity.*" To ake it clearer in the transport context, suggestion to add "transport regulated" ➔ to be replicated all over the document			X	SSR-6 applies to transport only; therefore, this clarification is not needed.
Step 9/ JPN-02	Para. 240	240. *Specific activity* of a radionuclide shall mean the activity per unit mass of that nuclide. The *specific activity* of a material shall mean the activity per unit mass of the material in which the radionuclides are essentially uniformly distributed. **[line break]** Note: The terms 'activity concentration' and *specific activity* of a material are	Editorial. Note should be started in a new line.	X			

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		synonymous for the purpose of these Regulations.					
Step 9/ OM-5	247	Depleted uranium. Uranium containing a lesser mass percentage of uranium-235 than in natural uranium.	To standardize definition to align with ICAO Technical Instructions 2-7-2	X [for consistency with UNOB, IMDG-Code & TI.]			
Step 9/ FR-14	302	A *radiation protection programme* shall be established for the transport of *radioactive material*. It shall address both worker and public exposure under normal operating conditions but also in case of an accident or 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. Programme documents shall be available, on request, for inspection by the relevant *competent authority*.~~	Make it clear to the reader by **avoiding cross-references**. **Partially redundant** with 301.			X X	See FR-12. Deleted text should remain to refer to specific requirements.
Step 9/ GER-3	305	… in the event of a nuclear or radiological emergency. **Requirements for emergency preparedness and response are established in GSR Part 7 [5].** Guidance for the establishment of ~~such~~ **arrangements for emergency preparedness and response** is **provided** ~~contained~~ in Refs [~~5,~~ 7, 13–15].	GSR Part 7 establishes safety requirements ('shall' statements) but does not provide recommendations and guidance ('should' statements), in contrast to SSG-65, GS-G-2.1, GSG-2 and GSG-11.			X	Similar comment provided at Step 7 [CDN/EPReSC-02] As written in the Step 7 resolution table: 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 when it is incorporated into modal regulations, adherence to which is

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							required by international conventions and regional agreements. Therefore, in SSR-6 it would be appropriate to refer to GSR Part 7 as "guidance".
Step 9/ FR-15	306	*management system* based on international, national or other standards acceptable to the *competent authority* shall be established and implemented for all activities within the scope of the Regulations, as identified in para. 106, to ensure compliance with the relevant provisions of these Regulations. Certification that the *design* specification has been fully implemented shall be available to the *competent authority* ~~The manufacturer, *consignor* or user shall be prepared:~~ ~~(a) To provide facilities for inspection during manufacture and use;~~ ~~(b) To demonstrate compliance with these Regulations to the *competent authority*.~~ (…)	Too detailed. *To be transfered to a Safety Guide.*			X	These are requirements that cannot be moved to a safety guide. Also, this is a new proposal.
Step 9/ FR-16	307	~~Delete 307~~	**Unnecessary as already established in GSR Part 1**, 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. The regulatory process shall provide a high*			X	This is a specific and necessary requirement for compliance assurance in Transport.

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Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
			degree of confidence, until the release of facilities and activities from regulatory control, that: *(a) Safety is optimized, the balance between operational benefits and potential consequences for people and the environment being taken into account.* *(b) Safety assessments carried out for facilities and activities demonstrate that an adequate level of safety has been achieved, and that the objectives and criteria for safety established by the designer, the authorized party and the regulatory body have been met.* *…* *(e) Facilities are operated and activities are conducted within the limits and conditions specified in the safety assessment and established in the authorization, and operations are carried out safely under a proper management system [9, 10].* *(f) Authorized parties have the human, organizational, financial and technical capabilities to operate facilities safely or to conduct activities safely under all circumstances until the release of the facilities or activities from regulatory control.* “				

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Step 9/ FR-17	308	~~Delete 308~~	**Already required by GSR Part 3,** which also set requirements for authorized parties (and not only the regulztory body). GSR Part 3 states that: *"**Requirement 32: Monitoring and reporting*** ***The regulatory body and relevant parties shall ensure that programmes for source monitoring and environmental monitoring are in place and that the results from the monitoring are recorded and are made available.*** *3.135. 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.* *…*			X	This is a specific and necessary requirement for dose assessment in transport. This is also a new proposal.

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Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
			(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. *…* *3.136. The regulatory body shall publish or shall make available on request, as appropriate, results from source monitoring and environmental monitoring programmes and assessments of doses from public exposure".*				
Step 9/ OM-8	311	Workers shall receive appropriate and periodic training concerning radiation protection, including the precautions to be observed …….	To ensure that workers are updating their required skills periodically.			X	This requirement is harmonized with the UNOB.
Step 9/ FR-18	312	~~Delete 312~~	**Redundant with 313 as modified**			X	Must remain, not redundant with 313; harmonized with UNOB
Step 9/ OM-9	312	Persons engaged in the transport of radioactive material shall receive periodic training on the contents of these Regulations commensurate with their responsibilities, and their responsible entity must provide them with the necessary protective equipment.	Suggest to ensure that workers are updating their protection skills periodically and to align with our national regulations. (article 25; p13)			X X	Periodic training is covered in para. 315. New proposal. As stated in the 3 January 2024 Note Verbale, in accordance with the 2021 Transport Regulations Revision

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							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.
Step 9/ FR-19	313	Persons such as those who classify *radioactive material*; pack *radioactive material*; mark and label *radioactive material*; prepare transport documents for *radioactive material*; offer or accept *radioactive material* for transport; carry or handle *radioactive material* during transport; mark or placard or load or unload *packages* of *radioactive material* into or from transport *vehicles*, bulk *packagings* or *freight containers*; or are otherwise ~~directly~~ involved in the safety of the transport of *radioactive material* ~~as determined by the competent authority;~~ shall receive ~~the following~~ appropriate training, including: (a) General awareness/familiarization training, ~~:-~~ ~~(i) Each person shall receive training~~ designed to provide familiarity with the general provisions of these Regulations.- ~~(ii) The general awareness/familiarization training shall include a description of the classification of *radioactive material* in accordance with Section IV; labelling, marking, placarding and *packaging* and segregation requirements; the purpose and content of the *radioactive material* transport document; and the available emergency response documents.~~ (b) Function specific training: Each person shall receive detailed training concerning specific *radioactive material*	Too detailed. **Text should be transfered to a Safety Guide.**			X	Current requirements are harmonized with UNOB training requirements for dangerous goods. Must remain as requirements.

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		transport requirements that are applicable to the function that person performs. These training shall address ~~c)~~ Safety ~~training: Commensurate with the risk of exposure in the event of a release, and with the functions performed, each person shall receive training on:~~ , inlcuding (i) Methods and procedures for avoidance of accident conditions during transport, such as proper use of *package* handling equipment and appropriate methods of stowage of *radioactive material*. (ii) Available emergency response information and how to use it. (iii) General hazards presented by ~~the various classifications of~~ *radioactive material* ~~in accordance with Section IV~~ and how to prevent exposure to those hazards, including, if appropriate, the use of personal protective clothing and equipment. (iv) Procedures to be immediately followed in the event of an unintentional release of *radioactive material*, including any emergency response procedures for which the person is responsible and personal protection procedures to be followed.					
Step 9/ PAK-4	313	Text may be included as following: Persons such as those who classify radioactive material; pack radioactive material; mark and label radioactive material; prepare transport documents for radioactive material; offer or accept radioactive material for transport; **persons involved in authorization process** for transport of radioactive material; carry or handle radioactive material during transport..				X	Authorization is not part of these kinds of activities for which the training under (a)-(c) applies.

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Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
Step 9; FR-20	314	~~Delete 314~~	**Already stated in GSR Part 3** para 3.110			X	Must remain as a transport-specific requirement as harmonized with UNOB training requirements.
Step 9/ OM-3	314	. Records of all safety training undertaken shall be kept for a period of 36 months by the employer and made available to the employee if requested.	Suggest to add a period to Align with ICAO requirements			X	Mode specific example with no general agreement for all transport modes.
	315	The training required in para. 313 shall be provided or verified upon employment in a position involving radioactive material transport and shall be periodically supplemented with recurrent training as deemed appropriate by the competent authority	Suggest to utilize Recurrent training instead of retraining			X	Harmonized with UNOB training requirements.
Step 9/ FR-21	315	The training required in para. 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~~.	**According to GSR Part 3, retraining is neither optional nor to be set by the regulatory body**			X	Harmonized with UNOB training requirements.
Step 9/ JAM-1	303	Is likely to be between 1 and 6 millisieverts (mSv)	mSv is first used in Para 303 (page13) but is not defined until Para 524 (page 57).			X	See Annex II
Step 9/ JAM-2	309	*No proposed text provided*	It is noted that there is no penalty for non-compliance of the Regulations. It is also noted that there is no compensation for the			X	Penalties and issues of compensation are a national prerogative.

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			effect to human, property and the environment.				
Step 9/ JAM-3	310	*No proposed text provided*	It is noted that consignments needing special arrangements will require multilateral approval. It would be useful to specify the type of parties to be included along with the competent authority, previously mentioned in the paragraph, it comprise the multilateral approval.			X	See para. 204 and 243 of SSR-6.
Step 9/ PAK-13	316 Page 16	Section 316 may be included in the draft text as following: Systematic consideration of human factor shall be included during the design of package, preparation of package, handling, transport of package and the delivery of the package at destination	Human Factor may be considered for complete cycle of transport package from preparation, handling, transport of package to delivery at destination			X	Human factors are not included in the draft as decided by TRANSSC.
Step 9/ PAK-12	315-401 Page 16-17	Paragraph Numbering is switched from 315 to 401 directly from page 16-17	Serial Numbers of Paras maybe corrected 315-316 so on and so forth			X	The paragraph numbering restarts at 1 with each section.
Step 9/ PAK-15	Table 1	UN3322 RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-III), non-fissile or fissile- excepted	Under the heading "Low Specific Activity Material", the terms LSA- III,LSA-II and LSA-III against UN 3322, UN3324 and UN	X			

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Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
			3325 respectively may be written jointly in a single line				
Step 9/ ARG-1	Table 2: Basic radionuclide values	--	It is important to highlight the importance and quality of the technical work carried out by the TRANSSC A1/A2 Working Group in the review of the calculation methodology used so far, incorporating all advances in dosimetry (phantoms, dosimetric factors, models) and new calculation tools and considerations, for obtaining the maximum activity values for Type A packages (A1 and A2). However, it is necessary to assess the justification of adopting these new A1 and A2 values, taking into account the possible impact of these changes in different areas, such as: • Radiological impact: considering the difference between the current A1 and A2 and those values proposed in this review, the variation of the doses obtained with respect to those postulated (50 mSv effective dose or 500 mSv skin equivalent dose, as			X	No specific proposal has been made. The described impacts of the changes of the A1/A2 values should be addressed in the discussion and specification of the transitional arrangements for the implementation of the new A1/A2 values. *Radiological impact:* See figures 16 and 17 of V1.1 of the A1/A2 WG report concerning the number and magnitude of changes to A1/A2 values.

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			appropriate) considering the new dosimetric factors, is relevant from the point of view of radiation protection? • Economic impact: If the application of such modifications implies the need to change from an excepted package to a Type A package or from a Type A package to a Type B package, how would this affect the industry? • Impact on the calculation methodology of other existing values in the IAEA Standards, such as exemption and clearance values. If the new values of A1 and A2 are accepted, the IAEA should consider in the near future the review of the calculations performed to derive other existing values with the new parameters used to calculate A1 and A2, in order to ensure consistency between them. • Impact on interested parties: changing a large number of A1 and A2 values, could imply a lack of confidence and trust in the current values or in the				*Economic impact:* See information received in comments Step 9/ AUS-1, Step 9/ CDN-04, Step 9/ AUS-2, and Step 9/ AUS-3. *Impact on the calculation methodology of other existing values in IAEA Safety Standards.* There is no direct impact on exemption values. Relevance of calculation methodologies to other values in safety standards was considered through the activities of Joint TRANSSC/RASSC WG on A1/A2. *Impact on interested parties:* The point made is valid. The question could also be asked differently: "Would leaving the

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			methodology used for their derivation in the past. • Administrative impact on the application of the new A1 and A2 values by competent authorities and users In summary, it would be important to know whether, after analyzing the possible positive and negative impacts of adopting the proposed new A1 and A2 values, the effort in				values as they are, when we know that many of them do not meet the stated dose criteria of the Q system, lead to a lack of trust?" Furthermore, it should be noted that the revision of the A1/A2 values is analogous to the revision of the annual limit on occupational exposures, which was lowered from 50 mSv to 20 mSv with the issuance of the 1996 Edition of the BSS, a decision that was based on current recommendations of the ICRP. *Administrative impact* will be limited because the A1/A2 values of only a few radionuclides will be impacted significantly. Guidance on transitional arrangements should be considered for inclusion in the revision of SSG-26.

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			implementing these changes by all interested parties is justified.				
Step 9/ JPN-03	Table 2	[Comment] Japan expects the release of a custom version of CORAL to facilitate the evaluation of Q and A_1/A_2 values among transport stakeholders. At the same time, Japan supports to this revised table on the condition that a TECDOC will be issued as soon as possible after TRANSSC48, which enables a third party to verify the process of deriving new A_1/A_2 values. In addition, the custom version of CORAL should be authorized by the IAEA or other proper organization to maintain its accessibility by the transport stakeholders, reliability (quality) and sustainability.	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. In order to ensure the scientific reproducibility of the new A_1/A_2 values, the derivation method used in this revision, including the prerequisite conditions, numerical specifications, calculation formulas and algorithms, has to be documented in an appropriate public document, such as TECDOC, at least.			X	• As of June 2024, a TECDOC on the Q System and the work of the A1/A2 WG is under development. The provision of CORAL software and related computer files will be addressed through this process. • The Report of the WG A1/A2 for the 2021-2024 SSR-6 review and revision cycles, V1.1 is available. It contains details of the calculation methodology, which is the most important information for the evaluation of the Q and A1/A2 values.
Step 9/ AUS-1	Table 2, revised A1/A2 values	Marginal reduction of A1/A2 values should be carefully consider and reviewed given the potential impact to current radiation practices. The uncertainty in the calculation methodology does not seem to have been considered with respect to practical	The A1/A2 calculation report is detailed. There are a number of target medical treatments that are potentially life saving. Many of these treatment use new radioisotopes to target cancer cells. This is known as			X	No proposal has been made. TRANSSC should consider the significance of the impact of a reduction in the A_2 value for Th-228

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		radiation safety. These potential impacts are especially risky for emerging targeted medical treatments.	Theranostics. Targeted alpha therapies are an example. In this type of treatment alpha emitting radioisotopes are targeted into cancer cells. There are a range of alpha emitters that might be used. For example, Th-228 or Pb-212. The A2 value for those two example isotopes has been reduced marginally, by 10% (1 GBq to 0.9 GBq). This reduction is likely to have a significant impact on the transport of these radioisotopes, especially where production is via the use of a 'generator'. The contained radioactivity in such a device is likely to have been determined according to the current 1 GBq. The reduction is likely to introduce large increases in cost, as generators are unlikely to be special form radioactive material. Therefore, requiring more expensive transport packaging. Alternatively, reducing the available number of treatments per generator and in turn increasing cost for patients. The uncertainty in the calculation of A2 values must be greater than 10% given the general nature of the methodology. These changes may increase cost with no corresponding				of 10% as stated in this comment.

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Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
			improvement in practical safety. There are other examples where marginal technical changes may have significant unintended consequences for beneficial radiation uses.				
Step 9/ CDN-04	Table 2, Basic Radionuclide Values	Radionuclide (atomic number) / A_2 [orig] (TBq) / A_2 [new] (TBq) / A_2 [prop] Ac-225 (a) / 6×10^{-3} / 7×10^{-4} / 2×10^{-2} Ac-226 (a) / no value / 2×10^{-3} / 6×10^{-2} At-211 (a) / 5×10^{-3} / 4×10^{-3} / 4×10^{-1} Bi-212 (a) / 6×10^{-1} / 1×10^{-3} / 5×10^{-1} Pb-212 (a) / 2×10^{-1} / 9×10^{-4} / 2×10^{-1} Ra-223 (a) / 7×10^{-3} / 2×10^{-3} / 2×10^{-2} Ra-224 (a) / 2×10^{-2} / 8×10^{-4} / 2×10^{-2} Ra-225 (a) / 4×10^{-3} / 2×10^{-4} / 4×10^{-3} Ra-226 (a) / 3×10^{-3} / 2×10^{-3} / 2×10^{-3} Rn-222 (a) / 4×10^{-3} / 2×10^{-3} / 1×10^{-1} Th-228 (a) / 1×10^{-3} / 9×10^{-4} / 1×10^{-3} U-230 (fast lung absorption) (a)(d) / 1×10^{-1} / 2×10^{-3} / 3×10^{-2} U-230 (medium lung absorption) (a)(e) / 4×10^{-3} / 2×10^{-3} / 9×10^{-3} U-230 (slow lung absorption) (a)(f) / 3×10^{-3} / 2×10^{-3} / 9×10^{-3}	BWXT Medical, a Canadian nuclear medicine company, proposes alternative A_2 values for the isotopes listed in the "proposed new text" column (see the original SSR-6 2018 Edition values, A_2 [orig], the new values proposed by the IAEA Working Group, A_2 [new], and the values proposed by BWXT Medical, A_2 [prop]). BWXT Medical contends that the inclusion of alpha particles in the skin dose calculation is a significant change in how $Q_{D,skin}$ has been calculated, and for the isotopes listed this results in a reduction of the $Q_{D,skin}$ values by factors ranging from ≈ 110 to 11000. The resulting package content limits associated with the $Q_{D,skin}$ values proposed by the IAEA Working Group may be overly conservative. The A_2 values proposed by BWXT are based on the most restrictive of			X	The method mixing two Q systems to get the best of them is not justified. See the report of TTEG-RP for the TRANSSC 48 Breakout session.

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			the IAEA Working Groups revised Q_C, $Q_{D,inh}$, or current $Q_{D,skin}$ values. Several of the isotopes listed are being used in the development of new radiopharmaceutical therapies known as Targeted Alpha Therapies (TATs). TATs are designed to prolong or save patients' lives and incorporate high energy alpha emitting isotopes. Some of these alpha emitters are already in short supply and patient demand is projected to significantly increase. The significant reduction in the A_2 values for high energy alpha-emitters, calculated using the revised methodology may require the development and use of new Type B packages. A significant number of hospitals, researchers, and nuclear pharmacies do not have the experience or resources to accept Type B packages. This will present challenges for these facilities to cost-effectively handle and manage the requirements in accepting Type B packages. This introduces an additional factor that jeopardizes patient access to these new TATs which will adversely impact patient care.				
Step 9/ AUS-2	Table 2, A2 value for Pb-212	proposed A2 value for Pb-212 be reviewed in the context of the radiopharmaceutical industry. It is recommended that a minimum of 0.001TBq be considered should the change to the existing value be retained.	A2 value for Pb-212 is listed as 9 x 10-4 TBq (0.0009 TBq). This represents a significant change from the current Regulations which assign an A2 value of 2 x 10-1 TBq (0.2 TBq) to Pb-212. This represents a reduction of >99% in the maximum activity of Pb-212 that can be shipped in a			X	The proposed A_2 value for Pb-212 was calculated by the A1/A2 WG, as documented in their report: Report of the WG A1/A2 for the 2021-2024 SSR-6 review and revision

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			Type A container and is expected to have a significant impact on the radiopharmaceutical industry and in particular, organizations that are developing Pb-212 based radiotherapeutic goods. For a radionuclide with a comparatively short half-life of 10.64 hours, maximizing the activity and therefore the number of doses that can be delivered to a treatment site is critical to the supply of therapeutic goods. This will minimise supply chain disruptions and ensure that the patient can be treated at medical centers. This is to ensure transport limits do not hinder the delivery of critical medical supplies or impose significant cost should a Type B transport container be required to ship activities greater than 0.001TBq.				cycles, Version 1.1. See also the report of TTEG-RP for the TRANSSC 48 Breakout session. TRANSSC should consider the significance of the impact of a reduction in the A_2 value for Pb-212.
Step 9/ AUS-3	Table 2, A2 value for Th-228	Retain the retain existing value (0.001TBq)	A2 value for Th-228 is listed as 9 x 10-4 TBq (0.0009 TBq). In the context of the above feedback relating to the proposed A2 value of Pb-212, a similar change to the A2 value of Th-228, although less significant, will have an impact on the operational planning for organizations who are utilizing Th-228 to produce Pb-212 for clinical supply of therapeutic goods. It is recommended that the existing A2 value be retained to maximize potential			X	The proposed A2 value for Th-228 was calculated by the A1/A2 WG, as documented in their report: Report of the WG A1/A2 for the 2021-2024 SSR-6 review and revision cycles, Version 1.1. See also the report of TTEG-RP for the TRANSSC 48 Breakout session.

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			shipments of Th-228, particularly as it has significant potential with regards to the manufacture of radiopharmaceutical products.				TRANSSC should consider the significance of the impact of a reduction in the A_2 value for Th-228 as stated in this comment.
Step 9/ GER-6	Table 2	Radionuclide / A_1 (TBq) / A_2 (TBq) U-236 (intermediate fast/medium lung absorption) (e) / ~~4×10^1~~ **Unlimited** / **Unlimited**	If A_2 is "Unlimited", A_1 must be "Unlimited", too, see also "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 1.1).	X			
Step 9/ GER-7	Table 2	Radionuclide / A_1 (TBq) / A_2 (TBq) U (enriched to 20% or less) (slow lung absorption) (h)(k) / ~~5×10^{-1}~~ **1×10^1** / 2×10^{-3}	The activity to be taken into account is that of U-238, U-234 and U-235 based on the ratios of the specific activities. Recalculation of the A_1 value for U (enriched to 20% or less) (slow lung absorption) results in A_1=10 TBq, see also "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 1.1).	X			
Step 9/ FR-24	Table 2	TABLE 2. BASIC RADIONUCLIDE VALUES Radionuclide (atomic number) / A_1 (TBq) / A_2 (TBq)	**In table 2, there are inconstancies with the WG A_1/A_2 report**: - A_1 values of the following RN: Tc-95, U (enriched to	X			

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Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
		Tc-95 ~~1 × 10^{1}~~ ~~1 × 10^{1}~~ 1 × 10^{0} 1 × 10^{0} Te-131m 7 × 10^{-1} ~~6 × 10^{-1}~~ 5 × 10^{-1} U (enriched to less than 20%) ~~5 × 10^{-1}~~ 2 × 10^{-3} 1 × 10^{1} U-236 (fast/medium lung absorption) ~~4 × 10^{1}~~ Unlimited Unlimited	less than 20%)*, U-236 (fast/medium lung absorption) - A_2 values of the following RN: Tc-95 and Te-131m				
Step 9/ GER-4	Table 2	Radionuclide A_1 (TBq) A_2 (TBq) Tc-95 ~~1 × 10^{1}~~ **1 x 10^{0}** ~~1 × 10^{1}~~ **1 × 10^{0}**	See "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 1.1)	X			
Step 9/ GER-5	Table 2	Radionuclide A_1 (TBq) A_2 (TBq) Te-131m 7 × 10^{-1} ~~6 × 10^{-1}~~ **5 × 10^{-1}**	See "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 1.1) and Comment "REH61" in "Draft DS543 with changes"	X			
Step 9/ JPN-05	Table 2	U-232 (intermediate fast/medium lung absorption) ~~(a)~~(e)	Typo	X			

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Step 9/ UK-9	Table 2	Values for Lu-177m to be added to Table A.	Lu-177m is a contaminant in some Lu-177 therapies and has a half-life of 160.4 days. It currently is not within the full list and the use of the general Table 3 list causes issues with waste disposal levels.	X	A_1 = 1 TBq, A_2 = 0.4 TBq, exempt activity concentration = 10 Bq/g and exempt activity = 1 MBq.		
Step 9/ JPN-04	Table 2	Radionuclides should be appear in orders Eu-150, Eu-150m and Np-236, Np-236m.	Editorial.	X			
Step 9/ FR-22	Table 2 Footnotes	(…) (d) The fast lung absorption values apply only to compounds of uranium that take the chemical form of UF_6, UO_2F_2, $UO_2(NO_3)_2$ and uranyl tri-butyl-phosphate in both normal and accident conditions of transport. (…) (f) The medium lung absorption values apply only to compounds of uranium that take the chemical form of uranyl acetylacetonate, UF_4, UCl_4, hexavalent compounds and depleted uranium aerosols from use of kinetic energy penetrators in both normal and accident conditions of transport. (g) The intermediate medium/slow values apply only to compounds of uranium that take the chemical form of uranium aluminide, U3O8 and UO2 in both normal and accident conditions of transport.	**Four uranium compounds that are listed in the footnotes (d) and (e) in the current Regulations for the Safe Transport of Radioactive Material (2018 Edition) [SSR-6 (Rev. 1)] are not included in the draft SSR-6** (Rev. 2): UO_2F_2, $UO_2(NO_3)_2$, UCl_4, and hexavalent compounds. As these compounds are important for transport activities, it is necessary to include them in the footnotes of table 2 in SSR-6 (Rev. 2). UO_2F_2 should be included in the list of compounds for which the fast lung absorption values apply, exactly as for UF_6, as UO_2F_2 and UF_6 should be considered similarly, which is explained in paragraph (830) in ICRP Publication 137.	X X X			See also Step 9/ WNTI-01

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			UCl_4 and hexavalent compounds should be included in the list of compounds for which the medium lung absorption values apply, as (i) they are included in this group in SSR-6 (Rev. 1), and (ii) (ii) ICRP Publication 137 states that "*default Type M is recommended for use in the absence of specific information on which the exposure material can be assigned to an absorption type*". Moreover, Uranium aluminide, that was not previously listed but is also used in the industry, should be included in the type M/S, as stated in the draft report from the A1/A2 Working Group: "*The "uranium aluminide" special chemical form, for which the inhalation dose coefficient is not included in any lung absorption type defined by ICRP, was conservatively categorized as "M/S" since the coefficients provided by ICRP publication 137 are between those of "M" and "M/S" types.*"				
Step 9/ WNTI-01	Table 2 Footnotes	(…) (d) The fast lung absorption values apply only to compounds of uranium that take the chemical form of UF_6,	Three uranium compounds that are listed in the footnotes (d) and (e) in the current Regulations for the Safe Transport of				See FR-22

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		UO_2F_2 and uranyl tri-butyl-phosphate in both normal and accident conditions of transport. (…) (f) The medium lung absorption values apply only to compounds of uranium that take the chemical form of uranyl acetylacetonate, UF_4**, UCl_4, hexavalent compounds** and depleted uranium aerosols from use of kinetic energy penetrators in both normal and accident conditions of transport. (g) The intermediate medium/slow values apply only to compounds of uranium that take the chemical form of **uranium aluminide,** U_3O_8 and UO_2 in both normal and accident conditions of transport.	Radioactive Material (2018 Edition) [SSR-6 (Rev. 1)] are not included in the draft SSR-6 (Rev. 2): UO_2F_2, UCl_4, and hexavalent compounds. As these compounds are important for transport activities, it is necessary to include them in the footnotes of SSR-6 (Rev. 2). - UO_2F_2 should be included in the list of compounds for which the fast lung absorption values apply, as UF_6, because UO_2F_2 and UF_6 should be considered similarly, as explained in paragraph (830) in ICRP Publication 137. - UCl_4 and hexavalent compounds should be included in the list of compounds for which the medium lung absorption values apply, because (i) they are included in this group in SSR-6 (Rev. 1), and (ii) ICRP Publication 137 states that "default Type M is recommended for use in the absence of specific information on which the exposure material can be	X X X			

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			assigned to an absorption type". In addition, uranium aluminide is not listed in the current Regulations for the Safe Transport of Radioactive Material (2018 Edition) [SSR-6 (Rev. 1)] and is not included in the draft SSR-6 (Rev. 2). As this compound is also important for transport activities, it is necessary to include it in one of the footnotes of SSR-6 (Rev. 2). - Uranium aluminide compounds should be included in the list of compounds for which the medium/slow lung absorption values apply, as stated in the draft "Report of the WG A_1/A_2 for the 2021-2024 SSR-6 review and revision cycles" entitled "Update of the Q system to derive the A_1/A_2 basic values of the IAEA Transport Regulations NO. SSR-6 (Version 1.1)". More precisely, paragraph 9.3 of the draft report states the following: "The "uranium aluminide" special chemical form, for which the inhalation dose coefficient is				

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			not included in any lung absorption type defined by ICRP, was conservatively categorized as "M/S" since the coefficients provided by ICRP publication 137 are between those of "M" and "M/S" types."				
Step 9/ GER-8	Table 2 Footnote (f)	(f) The medium lung absorption values apply only to compounds of uranium that take the chemical form of uranyl acetylacetonate, UF4 ~~and~~**;** depleted uranium aerosols from use of kinetic energy penetrators**; vaporised uranium metal and all unspecified forms** in both normal and accident conditions of transport.	See information in ICRP 137 (table 15.8)	X	[…] depleted uranium aerosols from use of kinetic energy penetrators**; vaporised uranium metal** ~~**and all unspecified forms**~~ in both normal and accident conditions of transport.		ICRP deals with RP, not safety (using type M is a "recommendation" for which the context of its use is important). Using type M is not a safe approach, and is not justified within the scope of the Q system. For the "unspecified form", cf. Step 9/USA-2
Step 9/ FR-23	Table 2 Footnotes	(g) The intermediate medium/slow values apply ~~only to compounds of uranium that take the chemical form of U_3O_8 and UO_2 in both normal and accident conditions of transport.~~ ~~(h) The slow lung absorption values apply~~ to all compounds **and forms** of uranium other than those specified in (d) to (~~g~~**f**) above. *Subsequent renumbering of other footnotes:* (~~i~~**h**) These values apply only to natural uranium that has undergone chemical purification after mining. (~~j~~**i**) Parent nuclides and their progenies included in secular equilibrium are listed (…) (~~k~~**j**) These values apply to unirradiated uranium only.	In the draft SSR-6 (Rev. 2), the default lung absorption values for uranium are the slow lung absorption values (S). This is unduly penalizing and the default lung absorption values for uranium should be the medium/slow lung absorption values (M/S), as justified hereafter. - The ICRP Publication 137 states that "default Type M is recommended for use in the absence of specific information on which the exposure material can be assigned to an absorption type". - Some materials such as UO_2 are already assigned to Type M/S in the ICRP Publication			X	Cf. Step 9/GER-8 and Step 9/USA-2 proposal

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		Subsequent changes in Table 2: see table below.	137 (which is more penalizing that Type M), whereas there is no material associated to Type S, meaning that the results from laboratory tests never lead to assign a specific form of uranium to Type S. Consequently, it is appropriate **to add all unspecified forms of uranium to Type M/S**. As a secondary consequence, it is appropriate to **delete all values and lines relating to forms of uranium presented under slow lung absorption**, U (slow lung absorption), as these values will never be applicable or used.				
		Table 2 – Step 9/ FR-23 (…) Uranium (92) (…) ~~U-232 (slow lung absorption) (h)~~ ~~4 × 10^{1}~~ ~~4 × 10^{-4}~~ ~~1 × 10^{1}~~ ~~(…)~~ ~~U-233 (slow lung absorption) (h)~~ ~~4 × 10^{1}~~ ~~2 × 10^{-3}~~ ~~1 × 10^{1}~~ (…) ~~U-234 (slow lung absorption) (h)~~ ~~4 × 10^{1}~~ ~~2 × 10^{-3}~~ ~~1 × 10^{1}~~ (…) ~~U-236 (slow lung absorption) (h)~~ ~~4 × 10^{1}~~ ~~2 × 10^{-3}~~ ~~1 × 10^{1}~~ (…) U (natural) (purified) (all lung absorption types) (~~i~~h) Unlimited Unlimited 1 × 10^{1} (~~j~~i) (…) U (enriched to 10% or less) (all lung absorption types) (~~k~~i) Unlimited Unlimited 1 × 10^{1} (~~j~~i)	See reason above				

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(…) U (enriched to 20% or less) (~~except slow~~**all** lung absorption **types**) ~~(d)(e)(f)(g)~~(~~k~~**j**) (…) ~~U (enriched to 20% or less) (slow lung absorption) (h)(k)~~ U (depleted) (all lung absorption types)	Unlimited ~~5 × 10^{-1}~~ Unlimited	Unlimited ~~2 × 10^{-3}~~ Unlimited	1×10^{1} (~~j~~**i**) ~~1 × 10^{1} (j)~~ 1×10^{1} (~~j~~**i**)	1×10^{4} (~~j~~**i**) ~~1 × 10^{4} (j)~~ 1×10^{4} (~~j~~**i**)			
Step 9/ WNTI-02	Table 2 Footnotes	(g) The intermediate medium/slow values apply ~~only to compounds of uranium that take the chemical form of U_3O_8 and UO_2 in both normal and accident conditions of transport.~~ ~~(h) The slow lung absorption values apply~~ to all compounds **and forms** of uranium other than those specified in (d) to (~~g~~**f**) above. *Subsequent renumbering of other footnotes:* (~~i~~**h**) These values apply only to natural uranium that has undergone chemical purification after mining. (~~j~~**i**) Parent nuclides and their progenies included in secular equilibrium are listed (…) (~~k~~**j**) These values apply to unirradiated uranium only. *Subsequent changes in Table 2: see table below.*	In the draft SSR-6 (Rev. 2), the default lung absorption values for uranium are the slow lung absorption values (S). This is unduly penalizing and the default lung absorption values for uranium should be the medium/slow lung absorption values (M/S), as justified hereafter. - The ICRP Publication 137 states that "default Type M is recommended for use in the absence of specific information on which the exposure material can be assigned to an absorption type". - Some materials such as UO_2 are already assigned to Type M/S in the ICRP Publication 137 (which is			X	Cf. Step 9/GER-8 and Step 9/USA-2 proposal

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			more penalizing that Type M), whereas there is no material associated to Type S, meaning that the results from laboratory tests never lead to assign a specific form of uranium to Type S. Consequently, it is appropriate to add all unspecified forms of uranium to Type M/S. As a secondary consequence, it is appropriate to delete all values and lines relating to forms of uranium presented under slow lung absorption, U (slow lung absorption) , as these values will never be applicable or used.				
(…) Uranium (92) (…) ~~U-232 (slow lung absorption) (h)~~ ~~(…)~~ ~~U-233 (slow lung absorption) (h)~~ (…) ~~U-234 (slow lung absorption) (h)~~ (…) ~~U-236 (slow lung absorption) (h)~~ (…) U (natural) (purified) (all lung absorption types) (~~i~~h)		~~4×10^{-1}~~ ~~4×10^{-1}~~ ~~4×10^{-1}~~ ~~4×10^{-1}~~ Unlimited	~~4×10^{-4}~~ ~~2×10^{-3}~~ ~~2×10^{-3}~~ ~~2×10^{-3}~~ Unlimited	~~1×10^{-1}~~ ~~1×10^{-1}~~ ~~1×10^{-1}~~ ~~1×10^{-1}~~ 1×10^{1} (~~j~~i)	~~1×10^{4}~~ ~~1×10^{5}~~ ~~1×10^{5}~~ ~~1×10^{4}~~ 1×10^{4} (~~j~~i)				

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(…) U (enriched to 10% or less) (all lung absorption types) (~~k~~j) (…) U (enriched to 20% or less) (~~except slow~~**all** lung absorption **types**) ~~(d)(e)(f)(g)~~(~~k~~j) (…) ~~U (enriched to 20% or less) (slow lung absorption) (h)(k)~~ U (depleted) (all lung absorption types)	Unlimited Unlimited ~~5 × 10^{-1}~~ Unlimited	Unlimited Unlimited ~~2 × 10^{-3}~~ Unlimited	1 × 10^{1} (~~j~~i) 1 × 10^{1} (~~j~~i) ~~1 × 10^{1} (j)~~ 1 × 10^{1} (~~j~~i)	1 × 10^{4} (~~j~~i) 1 × 10^{4} (~~j~~i) ~~1 × 10^{4} (j)~~ 1 × 10^{4} (~~j~~i)			
Step 9/ WNTI-08	Table 2 Footnotes	(…) (g) The intermediate medium/slow **lung absorption** values apply only to compounds of uranium that take the chemical form of U_3O_8 and UO_2 in both normal and accident conditions of transport.	The words “lung absoption” have been omitted and should be inserted.	X			
Step 9/ USA-2	Table 2 Footnotes	(d) These values apply only to fast lung absorption chemical forms of uranium, including UF_6, uranyl tri-butyl-phosphate, and UO_2F_2 in both normal and accident conditions of transport. (e) These values apply only to intermediate fast/medium lung absorption chemical forms of uranium, including uranyl nitrate	ICRP 137 is the basis for Table 2 footnotes (d) through (g); however, the ICRP 137 report’s Table 15.2 for uranium absorption parameters specifically states that "Type M” is recommended as the default for unknown chemical forms of	X	(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.		This is a consensus to solve an issue in the interpretation of ICRP 137. The full basis is documented in the TRANSSC 48 TTEG RP breakout session report. Additionally, footnote (h) is proposed to be modified to indicate

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		$UO_2(NO_3)_2$, UO_4, ammonium diuranate ADU and UO_3 in both normal and accident conditions of transport. (f) These values apply only to medium lung absorption chemical forms of uranium, including uranyl acetylacetonate, UF_4, UCl_4 and depleted uranium aerosols from use of kinetic energy penetrators in both normal and accident conditions of transport. (g) These values apply to intermediate medium/slow lung absorption chemical forms of uranium, including U_3O_8, UO_2, uranium aluminide (UAl_x), UZr, uranium carbide (UC_x), and all chemical forms of uranium other than those specified in (d), (e), (f), and (h) in both normal and accident conditions of transport. (h) These values apply only to slow lung absorption chemical forms of uranium. ~~values apply to all compounds of uranium other than those specified in (d) to (g) above.~~	uranium. It is understandable for TRANSSC to take a conservative approach in assigning a lung absorption classification for unlisted/unknown chemical forms of uranium; however, ICRP 137 lists no known chemical forms that are actually classified as "Type S" (current default in draft SSR-6). This has a potentially significant impact on classifications for chemical forms of uranium that aren't specifically listed in SSR-6, many of which there exists (or may be in the future) data on solubility and lung absorption. It is proposed to: - Make intermediate M/S (footnote (g)) the default classification for unknown/ unlisted chemical forms of uranium since it is the most conservative classification for which there are		(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 medium and slow lung absorption rates, including U3O8, UO2, uranium		that the values to which it refers can also be used as a default value.

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Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
			known applicable compounds. - Revise the wording of each footnote to be inclusive of all chemical forms of a given lung absorption classification. This mirrors the previous SSR-6 footnote wording and permits data either from other publications or site-specific testing to properly classify a uranium compound. There are also a number of chemical forms of uranium that are not included in the current draft footnotes of Table 2, which has an impact on classification and mixture calculations for the listed uranium radionuclides as well as for enriched uranium up to 20%. - Uranyl fluoride (UO_2F_2) and uranium tetrachloride (UCl_4) were both included in previous revisions of SSR-6 but are not		aluminide (UAl_x), ~~UZr, uranium carbide (UC_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.		

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			found in the current draft. - ICRP 137 includes lung absorption data for uranium aluminide (UAl_x), with values between M and M/S. Recommend Type M/S as the conservative choice. - Uranium carbide (UC_x) is a key component of some current and future fuel configurations, including TRISO fuels. Uranium zirconium alloys are also utilized in some fuels. Recommend classification as Type M/S for both, referring to US DOE Standard "Good Practices for Occupational Radiological Protection in Uranium Facilities", which has been previously referenced in IAEA Safety Report Series No 100.				

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Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
Step 9/ UK-3	Table 2		Uranium footnotes need clarification. Some formatting issues exist (values should be lined with top line of column 1) The multiple use of the term "medium" in footnotes is confusing (fast/medium, medium, medium/slow). Since the footnotes specify the chemical forms of concern it may be clearer to use the chemical forms in the table.	X	Replace "medium" with "moderate" to align with the ICRP definition. "intermediate X/X" has been replaced with "between X and X".		Those terms are ICRP ones. Besides, there is value in keeping them if USA-2 is eventually kept by TRANSSC.
Step 9/ CH-2	Table 2	No proposal for new text	1) How A1/A2 value calculated by A1/A2 WG for radionuclides not currently in table 2 will be accessible by the radioactive transport community in order to use them? 2) If A1/A2 values need to be identified for nuclides, which are not part of the table 2, the procedure should be defined to ensure consistency with the current approach. This may be implemented by an amendment in SSG-26	X X	TRANSSC should decide whether Table 2 should be moved to an appendix of SSR-6 and whether additional basic radionuclide values should be included. Moving Table 2 to an appendix would improve readability of SSR-6. Adding additional values will be helpful in harmonizing the international application of the new values. Also, the usage of new values instead of the default values in Table 3 will allow for "package		

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			but it should also be reflected for para 403(a) to facilitate harmonization for international transports.		relief" for the transport of certain radionuclides.		
Step 9/ FR-25	Table 3	TABLE 3. BASIC RADIONUCLIDE VALUES FOR UNKNOWN RADIONUCLIDES OR MIXTURES *Radioactive content* / A_1 (TBq) / A_2 (TBq) Only beta or gamma emitting nuclides are known to be present / 1×10^{-1} / ~~2×10^{-2}~~ 1×10^{-3}	**In the latest WG A_1/A_2 report rev 1.1, a value of Table 3 was updated**.	X			
Step 9/ GER-9	Table 3	*Radioactive content* / A_1 (TBq) / A_2 *(TBq)* Only beta or gamma emitting nuclides are known to be present / 1×10^{-1} / ~~2×10^{-2}~~ **1×10^{-3}** Alpha emitting nuclides, but no neutron emitters are known to be present / 2×10^{-1} / 3×10^{-4} Neutron emitting nuclides are known to be present or no relevant data are available / 4×10^{-3} / 8×10^{-5}	Recalculation of the A values of all radionuclides in ICRP 107 without considering any progeny nuclide results, as the lowest value, in an A_2 value of $1x10^{-3}$ for Ra-228. The A_2 value for "Only beta or gamma emitting nuclides are known to be present" should be set to this lowest value. See also "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 1.1).	X			

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Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
Step 9/ GER-10	407	For individual radionuclides or for mixtures of radionuclides for which relevant data are not available, the values shown in Table 3 shall be used. **The values shown in Table 3 were calculated without considering any progeny nuclide. Therefore, the parent and any potential progeny nuclide shall be accounted for as a mixture of different nuclides.**	Clarification. The A values in Table 3 were calculated without considering any progeny nuclide, since daughters may belong to different types than that of their parent.			X	This topic is not appropriate for SSR-6 and would be more appropriately addressed in a TECDOC concerning the revised Q System/A1/A2 values.
Step 9/ GER-11	409	… (a) *LSA-I*: … (iii) *Radioactive **material*** ~~material~~ for which the A_2 value is unlimited. …	Italicization is used to denote terms that are defined in Section II of this safety standard. Therefore, the term 'radioactive material' should be set in italics, as it is defined in para. 236.	X			
Step 9/ JPN-06	Para. 409 (b)(i)	(i) ~~Tritiated w~~**W**ater with a **tritium** concentration of ~~tritium~~ up to 0.8 TBq/L;	Out of the scope of this revision process.			X	The current wording is misleading, pointing to a solution of some material containing tritium in water, which is not the intention. Furthermore, the A1/A2 WG recommended to clearly mention "tritiated water" when defining the LSA-II specific criterion of 0.8 TBq/L for tritium. See Section 9.2 of the report of the WG A1/A2 for the 2021-2024 SSR-6 review and revision cycles "UPDATE OF THE Q SYSTEM TO DERIVE THE A1/A2 BASIC

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							VALUES OF THE IAEA TRANSPORT REGULATIONS NO. SSR-6", Version 1.1.
Step 9/ AUS-9	241, 412	Minor modification to para 412. Suggested amendments: Radioactive material may be classified as SCO if the conditions in paras ~~241~~ (delete reference to para 241), 413, 414 and 517–522 are met. Or A Radioactive material as defined in para 236 may be classified as SCO if the conditions in paras 241, 413, 414 and 517–522 are met.	This is ambiguous in practice as it has been taken to imply that a SCO is radioactive material in some jurisdictions. The proposed amendment (s) will provide better clarity.			X	Reference to para. 241 must remain because it is the definition of SCO.
Step 9/ GER-12	414A	~~414A~~**530A.** When *LSA material* and *SCO* are packed together in a package, …	Para. 414A addresses the use of UN numbers and shipping names of mixed packing of LSA material and SCO. This is done after the material has been classified. Therefore, the provision shouldn't be listed in the section "Classification". It is proposed to move para. 414A to Section V as new para. 530A. Remark: If accepted, the reference to para. 414A in Table 9 and para. 546A should be readjusted.			X	Para. 414A is proposed for deletion. See Step 9/ JPN-07.
Step 9/ JPN-07	Para. 414A and the title	~~**Mixed packing of low specific activity material and surface contaminated object**~~ ~~414A. When *LSA material* and *SCO* are packed together in a *Type IP-1, Type IP-*	The proposed series of amendments on mixed packing, including case of the different groups of LSA material in a single package, are considered incomplete at	X			See Step 9/ JPN-12.

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Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
		~~*2, or Type IP-3 package*, two 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*.~~	present, as the following questions are raised: (1) The provision for the case when FISSILE and non-FISSILE material are packed together is not clear. For example, if LSA-II, FISSILE (UN3324) and LSA-III, non-fissile (UN3322) were to be packed together, following the proposed method (414A), the UN number and proper shipping name would be those of the higher order (LSA-III, non-fissile (UN3322)). However, this would be inappropriate as the information that the package contains fissile material would be lost. (2) Regarding the mixing of contained materials during transport, it would be necessary to take measures to prevent mixing, taking into account the different states of the materials (solid, liquid or gaseous). The proposal to clarify the requirements for multiple radioactive materials in a single package is welcome, but Japan believes that it is necessary to impose basically the same				

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			requirements as for "mixed packing" as specified in the UNOB. Overall, further consideration is needed. Note that since the assignment of UN numbers to material is irrelevant to whether they are packaged together or not, the provisions on marking and transport documentation arising from the way they are packed in packaging should be specified in Section V.				
Step 9/ Step 9/ FR-26	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			
Step 9/ CDN-02	414B	"414B. When *LSA material* and *SCO* are packed together in a *Type IP-1, Type IP-2, or Type IP-3 package*, each…"	Re-iterate, as in para. 414A, that para. 414B only applies to the use of Type IP packaging.	X			
Step 9/ CH-3	414B	No proposal for new text	It should be clarified in the regulatory text, if the meaning is, that, for instance, LSA and SCO material is packed in separate items like drums and then packed together in an IP container or that			X	No proposal made. Para. 414A (former 414B) doesn't need any clarification because it clearly restricts the dose rate and the total activity only for IP-packages in which LSA material and SCO as radioactive contents are

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Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
			LSA and SCO material is packed together in one item like a drum or container (e. g. unpackaged). In the case, the meaning is, that both options are possible, it may be rather appropriate to provide an itemized list of the options instead of pure text. It may be helpful to complement the concept by proper examples to be provided in SSG-26.				packed together. It allows to pack LSA material and SCO as they are in the IP package or also within an inner packaging. Both options are possible. A specific explanation or an "itemized list" is not needed. This comment, including the provision of examples, should be considered during the development of SSG-26 (Rev. 2).
Step 9/ JPN-08	Para. 414B	~~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 by para. 517, 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.~~	See Step 9/ JPN-07			X	Step 9/ JPN-07 does not provide a justification for deleting this para.
Step 9/ WNTI-09	Para. 414B	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 **so** restricted ~~as required by~~ **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.	Editorial – The wording of the new para. 414B should be aligned with the wording of the current paras 411 and 414.	X			

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Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
Step 9/ GER-13	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 (UF6) (ISO 7195) [16] and that have contained enriched uranium hexafluoride, provided that the average ~~*contamination*~~ **area density** on the internal surface does not exceed 2.5 g/m² for uranium-235, with a total mass of *fissile nuclides* not exceeding 15 g per package.	Terminological issue. The given value for uranium-235 denotes an area density (unit g/m^2) rather than a surface contamination (unit Bq/cm^2). See also the definition of the term 'contamination' in para. 214.	X	Because "area density" is not an established term, the following formulation is proposed: "… provided that the average amount of uranium-235 on the internal surface does not exceed 2.5 g/m², with a total …"		
Step 9/ WNTI-10	Para. 417	417. *Fissile material* and *packages* containing *fissile material* shall be classified under the relevant entry as "FISSILE" in accordance with Table 1 unless excepted by one of the provisions of subparagraphs (a)–(h) of this paragraph and (…): (a) Uranium enriched in uranium-235 to a maximum of 1% by mass, and with a total plutonium and uranium-233 content not exceeding 1% of the mass of uranium-235, provided that the *fissile nuclides* are distributed essentially homogeneously throughout the material. (…).	Editorial – The wording of the new sub-paragraph (h) should be similar to the wording of the current sub-paragraph (a).	X X			

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Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
		(h) *Packaging* containing 15 g or less of *fissile nuclides*, ~~provided~~ **with** the mass of *fissile nuclides* ~~does~~ not exceed**ing** 0.5% of the mass of solid non-fissile material in the package. (…).			See Step 9/ UK-4, Step 9/RUS-5; Format of para. 417(h) is proposed to be revised to match the format of the other subparas as follows: (h) Fissile nuclides with a total mass not greater than 15 g per package, provided: (i) The mass of fissile nuclides does not exceed 0.5% of the mass of solid material of the package (including packaging material), and (ii) The package is transported subject to the requirements in para. 570(f). Lead, beryllium, hydrogenous material enriched in deuterium, graphite and other allotropic forms of carbon may be present in the package but shall not be included in determining the		

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					required mass of solid material.		
Step 9/ GER-14	417	… (h) ~~*Packaging*~~ ***Packages*** containing 15 g or less of *fissile nuclides*, provided **the *package* is transported subject to the *consignment* limit provided in para. 570(f) and** the mass of *fissile nuclides* does not exceed 0.5% of the mass of solid non-fissile material in the *package*. Lead, beryllium, hydrogenous material enriched in deuterium, graphite and other allotropic forms of carbon may be present in the *package* but shall not be included in determining the required mass for solid non-fissile material~~, provided the *package* is transported subject to the *consignment* limit provided in para. 570(f)~~.	Para. 417 (h) applies to material in packages. Therefore, "Packaging" should be replaced by "Packages". For the exception of the classification as "FISSILE" the consignment limit of para. 570(f) should always apply, independently from the presence of the mentioned additional materials. The reference to para. 570(f) should therefore be clearly separated from the description of the way several additional materials have to be treated	X	See Step 9/ UK-4.		
Step 9/ UK-4	417(h)	Packaging containing 15 g or less of fissile nuclides, provided the mass of fissile nuclides does not exceed 0.5% of the mass of solid non-fissile material in the package, provided the package is transported subject to the consignment limit provided in para. 570(f). Lead, beryllium, hydrogenous material enriched in deuterium, graphite and other	The split of the paragraph requires the condition be moved.	X	The following text is proposed for the first sentence in para. 417(h): *Packages* containing 15 g or less of *fissile nuclides*, provided the mass of *fissile nuclides* does not exceed 0.5% of the mass of solid non-fissile material in the *package* and the		

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		allotropic forms of carbon may be present in the package but shall not be included in determining the required mass for solid non-fissile material~~, provided the package is transported subject to the consignment limit provided in para. 570(f)~~.			*package* is transported subject to the requirements in para. 570(f).		
Step 9/ RUS-5	417(h)/ lines 1-2	**Text of DS543**: Packaging containing 15 g or less of fissile nuclides, provided the mass of fissile nuclides does not exceed 0.5% of the mass of solid non-fissile material in the package. **Proposed new text:** *Packaging* containing 15 g or less of *fissile nuclides*, provided the mass of fissile nuclides does not exceed 0.5% of *package* mass.	Proposed new text correspond to USA CFR 71.15(b) where the mass of nonfissile material may include packaging material mass as well. Justificatons of such approach are in NUREG/CR-7239.). In the proposed SSG-26 language submitted with the U.S. proposal for new section 417.9 stated: "The non-fissile material must be solid and can include the packaging." Text of 417 (h) in DS543 may be more interpreted otherwise – not to take into account packaging mass. It is very important difference.	X	The following text is proposed: *Packages* containing 15 g or less of *fissile nuclides*, provided the mass of *fissile nuclides* does not exceed 0.5 % of the mass of solid ~~non-fissile~~ material ~~in~~ of the *package* (including *packaging* material), and the *package* is transported subject to the requirements in para. 570(f). Lead, beryllium, hydrogenous material enriched in deuterium, graphite and other allotropic forms of carbon may be present in the *package* but shall not be included in		Input received from TTEG-C at TRANSSC-48.

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					determining the required mass ~~for~~ of solid ~~non-fissile~~ material.		
Step 9/ FR-27	418	~~Delete 314~~	**Why is this expectation restricted to packages containing fissile material?** This is true for any package: The contents of packages shall be as specified as directly in these Regulations or in the certificate of approval or in the package design.			X	No proposal provided. Contents restrictions are part of Section IV for all mentioned package types.
Step 9/ PAK-8	421	Classification as Industrial Packages; Industrial Packages may be used to transport LSA and SCO material. There are three types of industrial packages (Type IP-1, Type IP-2 and Type IP-3) that are used for LSA and SCO shipments in accordance to Table-v	All other types of packages (Excepted, Type A, Type B, etc.) have been classified in the section but industrial packages have not been classified.			X	The classification in Section IV is linked to the assignment of UN numbers (see para. 401). There is no UN number for industrial packages and therefore industrial packages are not classified in Section IV.
Step 9/ FR-28	422	422 A *package* may be classified as an *excepted package* if it meets the conditions of 516 and one of the following conditions: (a) It is an empty package having contained *radioactive material* under 427; (b) It contains instruments or articles not exceeding the activity limits specified in Table 4 under 423; (c) It contains articles manufactured of *natural uranium, depleted uranium* or *natural thorium* under 426; (d) It contains *radioactive material* not exceeding the activity limits specified in Table 4 under 424;	**FOLLOW UP WNTI-14 AND F30**. A link is required between each line of 422 to reference the specific paragraphs articles applicable to each classification, and also to provide general reference for each to para 516 concerning dose level limit for excepted packages, not presently referenced but a clear classification criterion.	X	Modified for consistency of text in SSR-6: 422. A *package* may be classified as an *excepted package* if it meets the requirements of para. 516 and one of the following conditions: (a) It is an empty *package* having contained *radioactive material* and meets the requirements of para. 427;		

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		(e) It contains less than 0.1 kg of uranium hexafluoride not exceeding the activity limits specified in column 4 of Table 4 under 425.			(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.		
Step 9/ PAK-5	422(a)	Text may be included as following: It is an empty package having **previously** contained radioactive material;	Word previously may be added to bring clarity			X	Not necessary to repeat "previously" from para. 427. See Step 9/ FR-28.

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Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
Step 9/ ISR-1	422(a)	We suggest referring part (a) of this paragraph to the comprehensive explanation given in paragraph no. 427, to avoid possible ambiguity regarding "*empty package having contained radioactive material".*	Clarity and Completeness	X	See Step 9/ FR-28		
Step 9/ OM-4B	423 (b) ii	Consumer products that either have received regulatory approval in accordance with 1;6.1.4 c) or do not individually exceed the activity limit for an exempt consignment in Table 2-12 (column 5), provided such products are transported in a package that bears the mark "RADIOACTIVE" on an internal surface in such a manner that a warning of the presence of radioactive material is visible on opening the package	To standardize and align with ICAO Technical Instructions 2;7.2.4			X	References in SSR-6 are generally to other parts of SSR-6.
Step 9/ AUS-10	423(c)	Further clarity on what constitutes an instrument or article	Para 423 (c) states: *The active material is completely enclosed by non-active components (a device performing the **sole function** of containing radioactive material shall not be considered to be an instrument or manufactured article).* This clause is often used in relation to source container components of radiation gauges. In the context of a radiation gauge component. By considering an item an instrument/article, a higher activity can be contained in the excepted package compared to a storage only situation. A			X	No specific proposal. Consider during revision of SSG-26.

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Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
			storage only function is easier to achieve a higher level of package integrity over an instrument/article and the lower activity limit in the storage only situation is contradictory to the risk. The source housing component contains the radioactive material and permits the emission of radiation in the manner desired by the manufacture, so in effect the housing has 2 functions and would be considered an instrument/article. If the IAEA considers it is inappropriate to consider such a device as an instrument/article, then the paragraph should be revised to exclude such devices.				
Step 9/ AUS-11	430	Change to make sure the equation includes the condition. $\sum_i \frac{B(i)}{A_1(i)} + \sum_i \frac{B(i)}{A_2(i)} \leq 1$	Omission of conditional requirement "≤1" is likely an error.	X			
Step 9/ GER-14	430	For mixtures of radionuclides whose identities and respective activities are known, the following condition shall apply to the *radioactive contents* of a *Type A package*: $\sum_i \frac{B(i)}{A_1(i)} + \sum_j \frac{C(j)}{A_2(j)} \leq 1$	The equation given in para. 430 is incomplete.	X			

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Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
Step 9/ UK-5	430	$\Sigma_i B(i)/A_1(i) + \Sigma j C(j)/A_2(j) \leq 1$	The revised para 430 has now became a statement, rather than a condition with the removal of the ≤1 condition. This appears to be a typo.	X			
Step 9/ CDN-03	430A	430A. When *special form radioactive material* is packed in a *Type A package* with other *radioactive material*, two UN numbers and proper shipping names shall be used: one for the *special form radioactive material* (UN 3332 or UN 3333) and one for the other *radioactive material* (UN 2915 or UN 3327 or others? (LSA and SCO)?).	To clarify the UN numbers required. Does the UN number for the other *radioactive material* include LSA and SCO?			X	Para. 430A is proposed for deletion in accordance with Step 9/ JPN-09.
Step 9/ GER-15	430A	~~430A~~**530B**. When *special form radioactive material* is packed in a *Type A package* with other *radioactive material*, …	Para. 430A addresses the use of UN numbers and shipping names of mixed packing of special form radioactive material and other radioactive material. This is done after the material has been classified. Therefore, the provision shouldn't be listed in the section "Classification". It is proposed to move para. 414A to Section V as new para. 530B. Remark: If accepted, the reference to para. 430A in Table 9 and para. 546B should be readjusted.			X	Para. 430A is proposed for deletion in accordance with Step 9/ JPN-09.
Step 9/ ISSPA-1	430A	SSR-6 Rev. 2 Draft Text: 430A. When special form radioactive material is packed in a Type A package with other	ISSPA recognizes that there may be value in the new paragraph; this might be of use if, for example, two Cs-137			X	Para. 430A is proposed for deletion in accordance with Step 9/ JPN-09.

COMMENTS BY REVIEWER				RESOLUTION			
Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
		radioactive material, two UN numbers and proper shipping names shall be used: one for the special form radioactive material and one for the other radioactive material. Proposed revision to 430A: 430A. When special form radioactive material is packed in a Type A package with other radioactive material, two UN numbers and proper shipping names ~~shall~~ may be used: one for the special form radioactive material and one for the other radioactive material, otherwise, the UN number for other than special form radioactive material shall be used.	sources are being shipped together and one meets special form, while the other is not special form. If the combined activities exceed the A2 value then a Type B package would be required, if, however the sources are considered separately and the sum of the rations of A1 and A2 are below 1 the the sources could be shipped in a Type A. It is not expected that this would be a common occurrence, and the "SHALL" requirement forces the shipper to list both UN numbers. But consider the the case with Co60, special form source and non-special form source, the A1 and A2 values are the same, differentiating between the A1 and A2 values will not change the type of package needed. It also seems that from an emergency response perspective the most restrictive UN number would be preferred.				

COMMENTS BY REVIEWER				RESOLUTION			
Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
Step 9/ JPN-09	Para. 430A	~~430A. When *special form radioactive material* is packed in a *Type A package* with other *radioactive material*, two UN numbers and proper shipping names shall be used: one for the *special form radioactive material* and one for the other *radioactive material*.~~	See Step 9/ JPN-07. UN numbers and proper shipping names are used for marking and transport document, so requirements for them should be specified in Section V.	X	The Japanese amendment to para. 532 in Step 9/ JPN-12 ("When two or more radioactive materials are packed within the same packaging, the package shall be labelled and marked as required for each material.") would also cover 430A.		
Step 9/ FR-29	501	Before a *packaging* is first used to transport *radioactive material*, it shall be confirmed that it has been manufactured in conformity with the *design* specifications to ensure compliance with the relevant provisions of these Regulations and any applicable certificate of *approval*. ~~The following requirements shall also be fulfilled, if applicable:~~ ~~(a) If the *design* pressure of the *containment system* exceeds 35 kPa (gauge), it shall be ensured that the *containment system* of each *packaging* conforms to the approved *design* requirements relating to the capability of that system to maintain its integrity under that pressure.~~ ~~(b) For each *packaging* intended for use as a *Type B(U), Type B(M)* or *Type C package* and for each *packaging* intended to contain *fissile material*, it shall be ensured that the effectiveness of its shielding and containment and, where necessary, the heat transfer characteristics are within the limits applicable to or specified for the approved *design*.~~ ~~(c) For each *packaging* intended to contain *fissile material*, it shall be ensured that the~~	**These are specific and detailed points of some design requirements.** This would better fit in a Safety Guide.			X	New proposal. These are essential requirements to be met before a package is first used to demonstrate that the manufactured package meets important safety functions as designed.

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Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
		~~effectiveness of the criticality safety features is within the limits applicable to or specified for the *design*, and in particular where, in order to comply with the requirements of para. 673, neutron poisons are specifically included, checks shall be performed to confirm the presence and distribution of those neutron poisons.~~					
Step 9/ FR-30	503d	For packages containing ~~*fissile material*~~ *irradiated fuel*, after irradiation but prior to shipment, a measurement shall be performed to confirm the isotopic composition. ~~the measurement specified in para. 677(b).~~	**Avoid cross-reference to improve clarity.** More generally, cross reference should be avoided as much as possible (to be addressed by the Secretariat throughout the document)			X	New proposal. Also, changes the scope of the requirement.
Step 9/ FR-31	503e	For *packages* ~~intended~~ to be used for *shipment* after storage, it shall be ensured that ~~all *packaging* components and *radioactive contents*~~ characteristics are still within those specified for the package, including those set ~~have been maintained during storage in a manner such that all the requirements specified in the relevant provisions of these Regulations and~~ in the applicable certificates of *approval* ~~have been fulfilled~~.	**Simplification and clarification**			X	New proposal. Also, does not provide clarification and would change contents of the requirement by not referring any more to the "relevant provisions of these regulations".
Step 9/ GER-16	508	The *non-fixed contamination* on the external surfaces of any *package* shall be kept as low as practicable and, under routine conditions of transport, shall not exceed the following limits: (a) 4 ~~Bq/cm2~~ **Bq/cm^2** for beta and gamma emitters and ~~low toxicity alpha emitters~~ ***low toxicity alpha emitters***; (b) 0.4 ~~Bq/cm2~~ **Bq/cm^2** for all other alpha emitters. These limits are applicable when averaged over any area of 300 cm^2 of any part of the surface.	1.) Editorial correction in the unit of surface contamination. 2.) The term 'low toxicity alpha emitters' should be set in italics, as it is defined in para. 227.	X			

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Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
Step 9/ PAK-9	508	Bq/cm2 may be written as Bq/cm^2	Superscript may be used where possible	X			
Step 9/ JAM-4	511		(Page 53) This paragraph mentions specifications and procedures for transporting radioactive material. However, it does not specify the procedures for interim location of such materials. The MSETT recommends precise specifications and procedures for the interim location of radioactive materials.			X	New/no proposal. May be considered in revision of SSG-26.
Step 9/ FR-32	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:**	X	With the removal of "or object or collection of objects", it seems that the case of dose rate limits for unpackaged LSA and SCO has been somehow "forgotten", whereas it should remain. It is recognized that the term "object or collection of objects" is not very clear. Therefore, since the text "object or collection of objects" could be interpreted as unpackaged SCO and to align the text with para. 522, the following text is proposed: 517. The quantity of *LSA material* and		

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Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
			The quantity of *LSA material* or *SCO* in a single object or collection of objects, whichever is appropriate, shall be so restricted that the external *dose rate* at 3 m from the unshielded object or collection of objects does not exceed 10 mSv/h.		*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 *SCO* (for a single *SCO*) or each *SCO* or collection of *SCOs* (when different *SCOs* are packed together); (c) …		
Step 9/ FR-33	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);	Editorial proposal to **remove an unnecessary repetition in the same sentence.**	X			

COMMENTS BY REVIEWER				RESOLUTION			
Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
		(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).					
Step 9/ -01	517	*[…] the sum of the external dose rates ~~at 3 m~~ from the following unshielded items does not exceed 10 mSv/h at 3 m […]*	Editorial (duplication of "at 3 m")	X			
Step 9/ WNTI-11	Para. 517	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~~:	Editorial – There is no need to repeat "at 3 m". Note - The proposed new text is the one that is included in the draft document "with changes".	X			
Step 9/ JPN-10	Para. 517	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);	Editorial (duplication).	X			

COMMENTS BY REVIEWER				RESOLUTION			
Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
		(d) Each *SCO* or collection of *SCOs* (when different *SCOs* are packed together).					
Step 9/ CDN-05	517	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);… (e) A mix of *LSA* and *SCO* packaged together.	Extra text ("at 3 m" repeated) deleted. Missing a mix of LSA and SCO in the list.	X			
Step 9/ CH-4	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~~:~~**. To identity the sum, the following unshielded items shall be measured separately, and the measurement results shall be added to get the sum.** (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);	The amendment of the text is proposed to provide more clarity. 517.2 of SSG-26 may be complemented by adding advisory text how to perform these kinds of measurements. If the meaning is rather that the mixture of the materials shall respect the 10 mSv/h at 3 m, it could be clearer to replace "sum" by "aggregate".			X	The revised text of para. 517 clarifies the issue raised in this comment. The regulatory text is clear in limiting the total dose rate at 3m distance from the unshielded radioactive contents (being LSA material, SCO or a mixture of them) to 10 mSv/h. This is equivalent to the sum of the unshielded dose rates at 3m distance of each LSA material or SCO contained in the IP package. Demonstration of

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Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
		(c) The *SCO* (when a single *SCO* is packed); (d) Each *SCO* or collection of *SCOs* (when different *SCOs* are packed together).					compliance with this requirement can be achieved by measurement, calculation, or a combination of the two. This issue should be considered in the revision of SSG-26, including the provision of examples.
Step 9/ GER-17	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*~~**object or collection of objects** (when a single **group of** *SCO* is packed); (d) Each **group of** *SCO* ~~or collection of *SCOs*~~ (when different **groups of** *SCOs* are packed together).	1.) The distance of 3 m is mentioned twice. 2.) The goal of the modification of para. 517 should be to enable mixed packing of LSA material and SCOs without changing the existing requirements for a single group of LSA or SCO. Therefore, para. 517(c) should be formulated in the same way as para. 517 in SSR-6 (Rev. 1). To avoid misunderstandings between one surface contaminated object and one group of SCO it is proposed to add "group of" in (c) and (d).	X	See Step 9/ WNTI-12		
Step 9/ WNTI-12	Para. 517	517. The quantity of (…), 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:	Editorial – Subparagraphs (a) and (b) should be merged, and subparagraphs (c) and (d) should be merged as well, to streamline the text in para. 517.	X	See also Step 9/ CDN-05 and Step 9/ UK-7 The following text is proposed: 517. The quantity of (…), shall be so restricted that the		

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Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
		(a) The *LSA material* (when a single group of *LSA material* is packed**)** **or each group of *LSA material* (when different groups of *LSA material* are packed together)**; ~~(b) Each group of *LSA material* (when different groups of *LSA material* are packed together);~~ (~~c~~**b**) The *SCO* (when a single *SCO* is packed) **or each *SCO* or collection of *SCOs* (when different *SCOs* are packed together).**~~;~~ ~~(d) Each *SCO* or collection of *SCOs* (when different *SCOs* are packed together).~~	It should be noted that the connection between the current (a), (b), (c) and (d) is a mix of "or" and "and", which makes the para. 517 not user-friendly.		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) or each group of *LSA material* (when different groups of *LSA material* are packed together); (b) The *SCO* (when a single *SCO* is packed) or each *SCO* or collection of *SCOs* (when different *SCOs* are packed together); (c) Each group of *LSA material* and each *SCO* or collection of *SCOs* (when different groups of *LSA material* and *SCOs* are packed together).		
Step 9/ UK-6	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 does not exceed 10	Removes unnecessary repetition of 3m	X			

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Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
		mSv/h at 3 m from the following unshielded items ~~does not exceed 10 mSv/h at 3 m~~					
Step 9/ UK-7	517 (e)	(e) Each group of LSA material and each SCO ~~or object~~ or collection of SCOs (when different groups of LSA material and SCOs are packed together).	For the proposed wording, the dose rate restriction specified in para 517 does not appear to explicitly reference the case where LSA material and SCOs are packed together.	X			
Step 9/ CDN-06	520	Change first paragraph of 520 to: "520. ~~*LSA material* and *SCO I* in groups~~ *LSA-I* and *SCO-I* may be ~~– and *SCO III* shall be –~~ transported unpackaged, and SCO-III shall be transported unpackaged, under the following conditions:"	Reworded for clarity.	X			
Step 9/ UK-8	520(e)	(e) For SCO-III; (i) Transport shall be ~~on a conveyance~~ under exclusive use by road, rail, inland waterway or sea;	Transport includes loading, stowage, storage and other operations that are not consistent with being "on a conveyance". These activities are some of the more important aspects of exclusive use and this change seems to exclude them from exclusive use. There is no need for the additional words – it is already defined elsewhere (413(c)) that SCO-III cannot be shipped in a large freight container.	X	To account for the definition of exclusive use, which specifies transport by conveyance or large freight container, and for alignment with 520(b), the following text is proposed: 520(e)(i) The conveyance shall be under exclusive use by road, rail, inland waterway or sea		

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Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
Step 9/ JPN-11	Para. 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 *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*. For this purpose, *Type IP-1* shall be regarded as the lowest type. **When different materials are packaged together, measures shall be taken to prevent mixing.**	See Step 9/ JPN-07. The current draft text does not require prevention of mixing when radioactive materials of different classifications are packed together in the same packaging, but considering that they may be in different state (solid, liquid or gaseous), it would be necessary to take measures to prevent mixing. It is also questionable whether the consignee can receive the material as the original materials, even if the materials are mixed during transport and lose its homogeneity. In principle, the concept of mixed packing of UNOB should be followed (See also Step 9/ JPN-12 and Step 9/ JPN-13).	X	For clarification, the word "solid" is proposed to be added to the second sentence of para. 521: "When different groups of solid *LSA material* and *SCO* are packed in the same *industrial package* … " Corresponding changes were made to paras 414A (former 414B) and 546(o).		
Step 9/ CDN-07	524	"The TI for each overpack, freight container or conveyance loaded with packages, ~~or conveyance~~ shall be determined…"	Clearer phrasing to indicate the paragraph applies to conveyances loaded with packages.			X	A conveyance may also be loaded with freight containers where the freight container is a package.

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Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
Step 9/ GER-18	526	For *packages*, *freight containers* used as a *packaging* or *overpacks*, other than those transported under *exclusive use*, the following shall apply: (a) The *TI* of any *package*, other than a *freight container* used as a *packaging*, or *overpack* shall not exceed 10. (b) The *TI* of any *freight container* used as a *packaging* shall not exceed 50. (c) The *CSI* of any *package*, ***freight container* used as a *packaging*** or *overpack* shall not exceed 50.	For consistency with the heading of the subsection and to avoid misunderstandings the phrase "freight container used as a packaging" should be mentioned explicitly in each provision of the subsection.	X			
	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 *overpacks* transported under the following: (a) *Exclusive use* by rail or by road, under the conditions specified in para. 573(a); (b) *Exclusive use* or *special arrangement* by *vessel*, under the conditions specified in para. 575; (c) *Special arrangement* by air, under the conditions specified in para. 579.					
	528	The maximum *dose rate* at any point on the external surface of a *package*, ***freight containers* used as a *packaging*** or *overpack* under *exclusive use* shall not exceed 10 mSv/h.					

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Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
Step 9/ PAK-11	530-544 Page 59	Similar to the HEADING OF MARKING, LABELLING AND PLACARDING a separate section may be included the draft to ensure SOPs and practices regarding the removal of MARKERS/TAGS, LABELS AND PLACARDS with supporting human performance tools	To prevent any export control or configuration control related untoward situation means of verification may be ensured through effective human performance tools. After inclusion of text Training and Practices will automatically be reinforced through Para 311-315			X	New proposal. See also Step 9/PAK-13.
Step 9/ JPN-12	Para. 532 and Table 9	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. [Table 9] ~~Type IP-1, Type IP-2 or Type IP-3 package containing LSA material and SCO (i.e. mixed packing)~~ ~~UN number, preceded by the letters "UN" and followed by the proper shipping name, for the applicable UN numbers in the package (LSA material and SCO)~~[b]	For clarification of marking requirements for packages containing two or more radioactive materials, this could be addressed by adding a general provision to para. 532, rather than complicating Table 9. The proposed text is based on the text of para 5.1.4 of UNOB. In this case, however, in principle, measures shall be taken to prevent mixing of contained materials (see Step 9/ JPN-07).	X	"labelled" not included because para. 531 is in the Marking section.		

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Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
		~~Type A package containing special form radioactive material and other radioactive material (i.e. mixed packing)~~ ~~UN number, preceded by the letters "UN" and followed by the proper shipping name, for the applicable UN numbers in the package (special form radioactive material and the other radioactive material)~~[e] ~~b See para. 414A.~~ ~~c See para. 430A.~~					
Step 9/ CDN-09	Table 9	Remove both new entries in rows 3 and 4 of the table as they are not needed (*Type IP-1*,… and *Type A package* containing…). Amend column 2 of the existing package entry in row 1 of the table to read: "UN number, preceded by the letters "UN", and the proper shipping name for each applicable UN number in the package[b,c]."	Adding these words to the second column of the first row of the table solves the issue of the UN numbers without adding complexity to the table. Note that this wording is already used in the table for Overpack.	X	Footnotes b and c have been deleted		
Step 9/ FR-34	536	Each package that conforms to a Type B(U), Type B(M) or Type C package design shall have the outside of the outermost receptacle, that is resistant to the effects of fire and water, plainly marked by embossing, stamping or other means resistant to the effects of fire and water with the symbol (trefoil) recommended by the International Organization for Standardization ISO 361 (Basic Ionizing Radiation Symbol) publication. ~~symbol shown in Fig. 1.~~	**To become consistent with GSR part 3:** GSR Part 3: "*Shall display the symbol recommended by the International Organization for Standardization [16]*" , reference [16] being "*INTERNATIONAL ORGANIZATION FOR STANDARDIZATION, Basic Ionizing Radiation Symbol, ISO 361, ISO, Geneva (1975).*"			X	New proposal. Furthermore, it is user unfriendly.

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Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
Step 9/ USA-3	536A	"Any package type mark …" be changed to "Any *package* type marking . . ."	Use of "marking" in this phrase aligns with the text that is used to introduce this type of communication (as indicated in the heading just above para 530) and as used in Table 9. The proposed change is provided for consistency and clarity.			X	In SSR-6, "marking" is generally used to indicate an action and "mark" is used as a noun. Therefore, "mark" seems to be the correct word, as it is used in paras 531, 532 and 535(a) and also in Table 9.
Step 9/ FR-35	Figure 1	~~Consider deletion of figure 1~~	See French previous comment for para 536			X	See Step 9/ FR-34
Step 9/ PAK-6	540	In labelling, font size of text RADIOACTIVE , CONTENTS, ACTIVITY is not mentioned	Font size of text may also be mentioned with respect to size of the package.			X	New proposal. Furthermore, there are no international requirements concerning font size for these items.
SWE-2	540, 541		"a line… …parallel and approximately 5 mm from the outside line to the edge of the label", but para 543 (Placard) says "minimum dimensions shall be as shown". Do we want "minimum" or "approximately" or different wording, since the placard is bigger. Not a big thing, but something to think about.			X	No proposal. Furthermore, labelling/placarding requirements are harmonized with UNOB.

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Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
Step 9/ GER-19	543	*Tanks* and *large freight containers* (other than *large freight containers* carrying **only** *excepted packages*) shall bear four placards that conform to the model given in Fig. 6. …	In the way it is drafted, the requirement would not apply to freight containers carrying, beside excepted packages, also packages other than excepted packages. The proposed wording ensures that the provision applies to these freight containers as well.	X			
Step 9/ GER-20	544	Where the *radioactive material* is in a *tank*, or is unpackaged *LSA-I*~~,~~ **or** *SCO-I* ~~or *SCO-III*~~ being carried by a *freight container*, or where a *consignment* in a *freight container* is required to be shipped under *exclusive use* and is packaged *radioactive material* with a single UN number, the appropriate UN number for the *radioactive material* (see Table 1) shall also be displayed, in black digits not less than 65 mm high, either: (a) In the lower half of the placard shown in Fig. 6 and against the white background; or (b) On the placard shown in Fig. 7. When the alternative given in (b) is used, the subsidiary placard shall be affixed immediately adjacent to the main placard shown in Fig. 6, on all four sides of the *freight container* or *tank*.	Due to the size of the SCO-III objects, a freight container would only serve as a platform to attach the object. In addition, the shipment is done in very well-defined conditions controlled by the transport plan. For such shipments, displaying the UN number on the placards would not enhance safety.	X	The following revised text is proposed to keep the requirement for placarding SCO-III: "… is in a *tank*, or is unpackaged *LSA-I* or *SCO-I* being carried by a *freight container*, or where a *consignment* in a *freight container* is required to be shipped under *exclusive use* and is packaged *radioactive material* with a single UN number, or is SCO-III, the appropriate UN number …" For consistency, SCO-III should be added at the end of the para.: When the alternative given in (b) is used, the subsidiary		

COMMENTS BY REVIEWER				RESOLUTION			
Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
					placard shall be affixed immediately adjacent to the main placard shown in Fig. 6, on all four sides of the *freight container*, *tank* or *SCO-III*.		
Step 9/ RUS-6	544A and 544	In section 544A delete words "including, when applicable, placards related to any other dangerous properties as required by section 507"or to add similar text in sections 544 and 572A.	Reason for deleting in se 544A – there is ge requirement for taking account other dang properties in section 509 Reason for adding sections and 572A – harmonizatic texts for more understanding.	X	[NB: For other dangerous properties, para. 507 applies.]		
Step 9/ GER-21	546	… (h) The category of the *package*, *overpack* or *freight container*, as assigned ~~per~~ **in compliance with** para. 529, i.e. I-WHITE, II-YELLOW~~,~~ **or** III-YELLOW.	Editorial correction. More appropriate wording.	X			
Step 9/ GER-22	546	… (j) For *fissile material*: … (iii) Contained in a *package* for which one of ~~para.~~ **the paras** 674(a)–(c) or 675 is applied, reference to that paragraph;	Editorial correction.	X			
Step 9/ GER-23	546	… (n) For *LSA-II*, *LSA-III*, *SCO-I*, *SCO-II* and *SCO-III*, the total activity of the ~~consignment~~ ***consignment*** as a multiple of A_2. For ~~radioactive material~~ ***radioactive material*** for which the A_2 value is	Editorial correction – the terms 'consignment' and 'radioactive material' should be set in italics, as they are defined in paras 211 and 236, respectively.	X			

COMMENTS BY REVIEWER				RESOLUTION			
Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
		unlimited, the multiple of A_2 shall be zero.					
Step 9/ JPN-13	Para. 546	546. The consignor shall include in the transport documents 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: **(m) When two or more radioactive materials are packed within the same packaging, the information required by subparagraphs 546(a)–(f) shall be provided separately for the applicable UN numbers.** ~~546A. When *LSA material* and *SCO* are packed together in a *Type IP-1*, *Type IP-2* or *Type IP-3 package*, the information required by subparagraphs 546(a)–(f) shall be provided separately for the applicable UN numbers as required by para. 414A, followed by the statement "all packed together in one Type IP-1 (or Type IP-2 or Type IP-3) package", and then by the information required by subparagraphs 546(g)–(n) as applicable to the *package*~~. ~~546B. 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~~	See Step 9/ JPN-12	X	Text of new para. 546 (o) was revised to include provisions of deleted paras 546A and 546B, and for consistency with para. 546(l): "When 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 in a *Type A package*, the information required by subparagraphs 546(a)–(f) shall be provided separately for the applicable UN numbers followed by the statement, "all packed together in one Type IP-1 (or Type IP-2 or Type IP-3) package" or "all packed together in one Type A package", as applicable."		

COMMENTS BY REVIEWER				RESOLUTION			
Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
		~~provided separately for the applicable UN numbers as required by para. 430A, followed by the statement "all packed together in one Type A package", and then by the information required by subparagraphs 546(g) (n) as applicable to the *package*~~.					
Step 9/ GER-24	546A	When *LSA material* and *SCO* are packed together in a *Type IP-1*, *Type IP-2* or *Type IP-3 package*, the information required by subparagraphs 546(a)–(f) shall be provided separately for the applicable UN numbers as required by para. 414A, followed by the statement "all packed together in one Type IP-1 ~~(or Type IP-2 or Type IP-3)~~ package"**, "all packed together in one Type IP-2 package" or "all packed together in one Type IP-3 package" as appropriate**, and then by the information required by subparagraphs 546(g)–(n) as applicable to the *package*.	Phrases in quotation marks shall be used unchanged. Instead of the information in brackets it is therefore necessary to separate the phrases for the different types of IP, in the same way as it is done in 534(b).	X	See Step 9/ JPN-13		
Step 9/ ISSPA-2	546B	SSR-6 Rev. 2 Draft Text: 546B. When special form radioactive material and other radioactive material are packed together in a Type A package, two UN numbers and proper shipping names shall be used: one for the special form radioactive material and one for the other radioactive material. The information required	Same reasoning for comment Step 9/ISSPA-1			X	See Step 9/ISSPA-1

COMMENTS BY REVIEWER				RESOLUTION			
Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
		by subparagraphs 546(a)–(f) shall be provided separately for the special form radioactive material and for the other radioactive material, followed by the statement "all packed together in one Type A package", and then the information required by subparagraphs 546(g)–(n) as applicable to the package. Proposed revision to 546B: 546B When special form radioactive material and other radioactive material are packed together in a Type A package, two UN numbers and proper shipping names ~~shall~~ may be used: one for the special form radioactive material and one for the other radioactive material. In this case, ~~The~~ the information required by subparagraphs 546(a)–(f) shall be provided separately for the special form radioactive material and for the other radioactive material, followed by the statement "all packed together in one Type A package", and then the information required by subparagraphs 546(g)–(n) as applicable to the package					

COMMENTS BY REVIEWER				RESOLUTION			
Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
Step 9/ CDN-08	546C	546C. When the provisions of para. 514 are applied to an empty *large freight container* or ~~*vehicle*~~ *conveyance*, the *consignment* shall be described as such by, … that were applicable to the last unpackaged *LSA-I* or *SCO-I* or *SCO-III* carried in the *large freight container* or ~~*vehicle*~~ *conveyance*, and then the words "EXCLUSIVE USE".	To be consistent with para. 514, "conveyance" should be used instead of "vehicle".	X			
Step 9/ GER-25	546C	When the provisions of para. 514 are applied to an empty *large freight container* or ~~*vehicle*~~***conveyance***, the *consignment* shall be described as such by, for example, placing the words "EMPTY UNCLEANED" or "RESIDUE LAST CONTAINED" as appropriate, before or after the information required by the subparagraphs 546(a)–(c) that were applicable to the last unpackaged *LSA-I* or *SCO-I* carried in the *large freight container* or ~~*vehicle*~~***conveyance***, and then the words "EXCLUSIVE USE".	Para. 514 applies to conveyances, not only to vehicles. Therefore, para. 546C as well should apply to conveyances.	X			
Step 9/ JPN-14	Para. 546C	546C. ~~When the provisions of para. 514 are applied to an empty *large freight container* or *vehicle*, the *consignment* shall be described as such by, for example, placing the words "EMPTY UNCLEANED" or "RESIDUE LAST CONTAINED" as appropriate, before or after the information required by the subparagraphs 546(a)–(c) that were applicable to the last unpackaged *LSA-I* or *SCO-I* carried in the *large freight container* or *vehicle*, and then the words "EXCLUSIVE USE".~~ **The transport of any empty large freight container or vehicle for which the provisions of para. 514 are applied, shall be subject to the**	The draft rhetoric prepared by the TTEG-OM held during TRANSSC 47 is shown on the left, but the following questions are still to be clarified. A freight container used as a package would be treated as an empty packaging (excepted package) if its inner surface is contaminated when emptied after transport. The result is the same for freight			X	Para. 514 is not applicable to excepted packages. The text for para. 546C that was accepted at TRANSSC47 was modified for consistency with paras 546A and 546B, both of which were subsequently proposed to be deleted. See also Step 9/ CDN-08 and Step 9/ GER-25.

COMMENTS BY REVIEWER				RESOLUTION			
Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
		requirements specified in paras 546(a), 546(b) and 546(c) applicable to the last unpackaged LSA-I or SCO-I carried in the vehicle or large freight container, preceded or followed by the words, for example "EMPTY UNCLEANED" or "RESIDUE LAST CONTAINED" as appropriate, and followed by the statement "EXCLUSIVE USE".	container with a contaminated inner surface, but with different requirements. This causes confusion. Further consideration may be needed.				
Step 9/ FR-36	549	The declaration shall be signed and dated by the consignor. ~~Facsimile signatures are acceptable where applicable laws and regulations recognize the legal validity of facsimile signatures.~~	Too detailed. **Transfer to guidance if still needed**			X	New proposal. Furthermore, this requirement was established to harmonize with UNOB.
Step 9/ FR-37	550	~~Delete 550~~	Too detailed. **Transfer to guidance if still needed**			X	New proposal. Furthermore, this requirement was established to harmonize with UNOB.
Step 9/ FR-38	552	This declaration shall be dated and the person signing it shall be identified on the document. ~~Facsimile signatures are acceptable where applicable laws and regulations recognize the legal validity of facsimile signatures.~~	Too detailed. **Transfer to guidance if still needed**			X	New proposal. Furthermore, this requirement was established to harmonize with UNOB.
Step 9/ FR-39	555	The consignor shall retain a copy of each of the transport documents containing the information specified in paras 546, 547, 551, 552 and 554, as applicable, for a minimum period of three months. ~~When the documents are kept electronically, the consignor shall be able to reproduce them in a printed form.~~	Too detailed. Transfer to guidance if still needed			X	New proposal. Furthermore, this requirement was established to harmonize with UNOB.

COMMENTS BY REVIEWER				RESOLUTION			
Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
Step 9/ FR-40	557	Before the first *shipment* of any *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~~ forwarded 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 *consignment* is to be transported. ~~The *consignor* is not required to await an acknowledgement from the *competent authority*, nor is the *competent authority* required to make such acknowledgement of receipt of the certificate.~~	**Clarification** to avoid an interpretation of looking for a feedback from the competent authorities. **This is not a requirement, just a precision. Transfer to guidance.**			X	New proposal. Furthermore, proposed changes don't provide clarification and raises new questions for the practical implementation of para. 557.
Step 9/ GER-26	566	… (b) The dose rate under routine conditions of transport shall 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~~ ***vehicle*** are set forth in para. 573(b) and 573(c).	Editorial correction – the term 'vehicle' should be set in italics, as it is defined in para. 248.	X			
Step 9/ GER-27	Table 10	See Table 10 below	The discussion of the changes to the Tables 10 and 11 has shown, that the number of defined deck areas on a ship is not limited. As long as the number and distances of defined deck areas is not limited regarding the use with Table 10, a limit for the whole	X			

COMMENTS BY REVIEWER				RESOLUTION			
Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
			vessel needs to be maintained. If in future the segregation of packages containing radioactive material on vessels can be regulated consistently, making use of an exchange between IMO and IAEA, the limit for the whole vessel may be reassessed. The introduction of several footnotes is intended to ensure clear application. However, the footnotes appear difficult to understand. To avoid misunderstandings a rewording is proposed.				

TABLE 10. TRANSPORT INDEX LIMITS FOR FREIGHT CONTAINERS AND CONVEYANCES NOT UNDER EXCLUSIVE USE

Type of *freight container* or *conveyance*	Limit on sum of *TIs* in a *freight container* or aboard a *conveyance*
Freight container loaded with *packages*[a] and *overpacks:*	
Small freight container loaded with *packages*[a] and *overpacks*	50
Large freight container loaded with *packages*[a] and *overpacks*	50
Vehicle[b]	50
Aircraft[b]:	
Passenger	50
Cargo	200
Inland waterway craft[b]	50
Sea-going *vessel*[c]:	
(i) Hold, compartment or *defined deck area*:	
Packages[d,e], *overpacks*[f], *small freight containers*	50
Large freight containers	200
(ii) Total *vessel*	~~No limit~~
Packages*[d,e], *overpacks*[f], *small freight containers	**200**
Large freight containers	**No limit**

[a] ~~This does not apply to~~**For** *packages* contained in **an** *overpack*~~s~~~~,~~ ~~for which the limit is only applicable to the sum of~~ the *TI*~~s~~ of the *overpack*~~s~~ **shall be used to evaluate the sum of the *TIs***.

[b] ~~When~~**For** *packages* ~~are~~ contained in **an** *overpack*~~s~~, ~~the limit is applicable to the sum of~~ the *TI*~~s~~ of the *overpack*~~s~~ **shall be used to evaluate the sum of the *TIs*.** ~~When~~**For** *packages* or *overpacks* ~~are~~ loaded in **a** *freight container*~~s~~, ~~the limit is applicable to the sum of~~ the *TI*~~s~~ of the *freight container*~~s~~ **shall be used to evaluate the sum of the *TIs***.

[c] *Packages* or *overpacks* carried in or on a *vehicle* that are in accordance with the provisions of para. 573 may be transported by *vessels* provided that they are not removed from the *vehicle* at any time while on board the *vessel*.

[d] ~~This does not apply to~~**For** *freight containers* used as *packagings*~~, nor to~~ **and** *packages* loaded in a *freight container*, ~~for which~~ either the entry *small freight container***s** or *large freight containers* applies.

[e] ~~This does not apply to~~**For** *packages* contained in an *overpack*, ~~for which~~ the entry *overpack***s** applies.

[f] ~~This does not apply to~~**For** *overpacks* contained in a *freight container*, ~~for which~~ either the entry *small freight container***s** or *large freight containers* applies.

Step 9/ GER-28	Table 11	See Table 11 below	The technical basis for total vessel CSI limits could not be identified by TTEG-C. The majority of TTEG-C members agreed that a technical basis would be necessary to change that limit after all. TTEG-C proposed acceptance of the removal of the total vessel CSI limit by TRANSSC very early in the process, based on the proposals to define the terms hold, compartment, and defined deck area used for the subdivisions of sea-going vessels in SSR-6. However, these proposals were finally all rejected during the revision process. Thus, the removal of the CSI limit yet again has no technical basis. TTEG-C discussed the vessel CSI limits extensively, but those discussions focused on containerships. Here, the limits for "bays" resolved existing reservations regarding the usage of defined deck areas as a term. But, on vessels which are no containerships, for on-deck stowage defined deck areas are the only subdivision. Moreover, defined deck	X			Regarding comments/proposals related to Table 11 (GER-28, SWE-1, Step 9/ WNTI-03 to Step 9/ WNTI-05 and Step 9/ JPN-15), the discussion about removing the total vessel limit has gone on too long without achieving a consensus; therefore, it is time to drop this proposal in the current cycle and maintain the current requirements (See Step 9/JPN-15). It is proposed to accept Step 9/GER-28 which goes along with Step 9/ JPN-15 and based on this, to reject SWE-1 and Step 9/ WNTI-03. Also, we propose to accept Step 9/ WNTI-04 and Step 9/ WNTI-05.

			areas can simply be areas spaced 6 m away from each other with no cargo in between. The argument why areas containing fissile material are separated from each other by container stacks between them does not apply here. Since the proposals for defining spaces on containerships and clarifying defined deck areas have been rejected, it is proposed to follow the rejection expressed by Japan in preparation of TRANSSC 45.				

TABLE 11. CSI LIMITS FOR FREIGHT CONTAINERS AND CONVEYANCES CONTAINING FISSILE MATERIAL

Type of *freight container* or *conveyance*	Limit on sum of *CSIs* in a *freight container* or aboard a *conveyance*	
	Not under *exclusive use*	Under *exclusive use*[a]
Freight container loaded with *packages:*		
Small freight container loaded with *packages*	50	Not applicable
Large freight container loaded with *packages*	50	100
Vehicle	50	100
Aircraft:		
Passenger	50	Not applicable
Cargo	50	100
Inland waterway craft	50	100
Sea-going *vessel*:		
(i) Hold, compartment or *defined deck area*:	50	100
(ii) Total *vessel*:	~~No limit~~[b]	~~No limit~~[c]
Packages, overpacks, small freight containers	**200**[b]	**200**[c]
Large freight containers	**No limit**[b]	**No limit**[c]

[a] Requires *shipment approval* in accordance with para. 825(c), as applicable.

[b] The *consignment* shall be so handled and stowed that the sum of *CSIs* in any group does not exceed 50 and that each group is handled and stowed so as to maintain a spacing of at least 6 m from other groups.

[c] The *consignment* shall be so handled and stowed that the sum of *CSIs* in any group does not exceed 100 and that each group is handled and stowed so as to maintain a spacing of at least 6 m from other groups. The intervening space between groups may be occupied by other cargo in accordance with para. 506.

SWE-1	Table 11 Sea-going vessel	… Sea-going *vessel*: (i) Any hold, compartment, or *defined deck area* 50 100 (ii) Total *vessel* No limit[b] No limit[c] [a] Requires *shipment approval* in accordance with para. 825(c), as applicable. [b] Applies in addition to (i). The *vessel* shall contain only one *defined deck area* containing *fissile material*. Compartments containing *fissile material* shall be included in holds. [c] The applicable *CSI* hold limits in (i) shall apply for a group of packages extending over adjacent holds unless a spacing of at least 6 m can be maintained to separate the *fissile materials*.	The current text in (i) essentially states that the limits apply to one hold, compartment or *defined deck area*. The intention is that the limits apply to any of those conveyances. This means all of the applicable conveyances (any one shall comply). The "any" word was lost when paras 538(a) and 539(a) in the 1973 Revised Edition (As Amended) of the Regulations, published in 1979 was transferred to Table 11 in the 1985 Edition. Quote: "The number of packages not in large freight containers [539: … in large freight containers containing packages of radioactive material] aboard a vessel shall be so limited that the total sum of the transport indices in any hold, compartment or defined deck area does not exceed 50…" The highly relevant para. 825(c) (referred to in new Table 11 footnote (a)) uses the word "any" as intended. "Excluded from this requirement shall be *shipments* by sea-going *vessels* if the sum of the *CSIs* does not exceed 50 for any hold, compartment or			X	It is unclear what is meant by "Compartments containing fissile material shall be included in holds." This proposal would complicate Table 11 even more. Table 11 must be understandable for its users. See Step 9/ GER-28

			defined deck area and the distance of 6 m between groups of *packages* or *overpacks*, as required in Table 11, is met.*"* The proposed replaced footnotes are justified by the recent TTEG C discussions and modified WNTI proposals. The clarification that (ii) requires compliance also with (i) was discussed and accepted by TRANSSC-47 (see Resolution table 15, December 2023, page 10). With only one defined deck area (see definition) per vessel and compartments that are parts of holds, the spacing is only needed to separate fissile materials in different holds. The current requirement for 6 m spacing applies also to groups where the total CSI sum on the vessel is less than the hold limit, even when CSI is zero. This is not justified. The issues with CSI control on seagoing vessels has been found to be very complicated. There seems to be consensus among criticality specialists about how to interpret the current Table 11				

			and the need to account for modern shipping. SSG-26 can be used to provide clarification, including the use of examples.				
Step 9/ WNTI-03	Table 11	(…) Sea-going *vessel*: (…) Total *vessel* No limit[b] [d] No limit[b] [d] [a] (…) [b] (…) [c] (…) **[d] When the *packages, overpacks,* or *small freight containers* containing *fissile material* are stowed on more than one *defined deck area,* the sum of the *CSIs* of all the *packages, overpacks,* and *small freight containers* stowed on *defined deck areas* shall not exceed 200.**	The current limits for defined deck areas (200) should be maintained, because the defined deck areas may not be physically separated (by walls), contrary to holds and compartments. This was discussed and suggested during the TTEG-Criticality meeting on 21 March 2024.			X	Additional footnote not needed. See Step 9/ GER-28. There are no current CSI limits of 200 for defined deck areas.
Step 9/ WNTI-04	Table 11 Footnote c	[b] The consignment shall be so handled and stowed that the sum of CSIs in any group does not exceed 50 and that each group is handled and stowed so as to maintain a spacing of at least 6 m from other groups. [c] The consignment shall be so handled and stowed that the sum of CSIs in any group does not exceed 100 and that each group is handled and stowed so as to maintain a spacing of at least 6 m from	The text that it is proposed to add specifies that the groups with a sum of CSIs less than 100 shall be handled and stowed so as to maintain a spacing of at least 6 m from other groups, and also from "other conveyances carrying radioactive material". This requirement is important (and this is consistent with the provisions in para. 569).	X			Guidance should be considered concerning the meaning of conveyance being a hold, compartment or defined deck area.

		other groups **or other conveyances carrying radioactive material**. The intervening space between groups may be occupied by other cargo in accordance with para. 506.	Note – This requirement was in the draft SSR-6 Rev. 2 that was reviewed by TRANSSC. No reason for removing this text has been identified.				
Step 9/ WNTI-05	Table 11 Footnotes b and c	[b] The consignment**s** shall be so handled and stowed that the sum of CSIs in any group does not exceed 50 and that each group is handled and stowed so as to maintain a spacing of at least 6 m from other groups. [c] The consignment**s** shall be so handled and stowed that the sum of CSIs in any group does not exceed 100 and that each group is handled and stowed so as to maintain a spacing of at least 6 m from (…).	It is necessary to consider cases where multiple consignments are loaded on the same conveyance. Note – The plural, for "consignments" was in the draft SSR-6 Rev. 2 that was reviewed by TRANSSC. No reason for removing the plural has been identified.	X			
Step 9/ JPN-15	Table10 & Table11	[Comment] Adoption of the draft of Tables 10 and 11 will depend on the outcome of discussions with the IMO based on the agreement at TRANSSC47. CCC10 in September 2024 should be considered as a deadline for the outcome in this revision cycle.	If no agreement can be reached with IMO, these proposals should be removed based on the following TRANSSC 47 agreement. "TRANSSC47 agreed that the changes in accordance with WNTI-05/CDN-04 will be included in the draft DS543 at Step 8; however, final acceptance of	X	See Step 9/ GER-28.		

			these changes is contingent on the outcome of engagement with members of IMO."				
Step 9/ FR-41	570 and 579A	570. *Fissile material* meeting one of the provisions (a)–(h) of para. 417 shall meet the following requirements: (…) (e) Unpackaged or packaged *fissile material* classified in accordance with para. 417(e) shall be transported on a *conveyance* or in a *large freight container* under *exclusive use* with no more than 45 g of *fissile nuclides* on the *conveyance*~~, except for *consignments* transported by air, which shall be in accordance with the requirements established in para. 579A~~. (…) ~~579A. Packaged *fissile material* classified under UN 2910, UN 2912, UN 2915, UN 2978 and UN 3507 and in accordance with para. 417(e) shall be transported on an *aircraft* with no more than 45 g of *fissile nuclides* either:~~ ~~(a) Under *exclusive use* either of the *aircraft* or of a *large freight container*; or~~ ~~(b) In a certified closed rigid *aircraft* container with rigid or flexible doors, of internal volume of more than 3 m3, used by a single *consignor* and securely sealed. The *consignor* shall provide instructions for (…).~~	Considering **the outcome of the ICAO Dangerous Goods Panel meeting that took place in November 2023**, the proposals concerning transport by air of fissile material meeting the provision in para. 417 (e) should be withdrawn. Consequently, **the last part of sub-para. 570 (e) and the full para. 579A should be deleted.**	X			

Step 9/ WNTI-06	Para. 570 Para. 579A	570. *Fissile material* meeting one of the provisions (a)–(h) of para. 417 shall meet the following requirements: (…) (e) Unpackaged or packaged *fissile material* classified in accordance with para. 417(e) shall be transported on a *conveyance* or in a *large freight container* under *exclusive use* with no more than 45 g of *fissile nuclides* on the *conveyance*~~, except for *consignments* transported by air, which shall be in accordance with the requirements established in para. 579A~~. (…) ~~579A. Packaged *fissile material* classified under UN 2910, UN 2912, UN 2915, UN 2978 and UN 3507 and in accordance with para. 417(e) shall be transported on an *aircraft* with no more than 45 g of *fissile nuclides* either:~~ ~~(b) Under *exclusive use* either of the *aircraft* or of a *large freight container*; or~~ ~~(c) In a certified closed rigid *aircraft* container with rigid or flexible doors, of internal volume of more than 3 m3, used by a single *consignor* and securely sealed. The *consignor* shall provide instructions for (…).~~	Considering the outcome of the ICAO Dangerous Goods Panel meeting that took place in November 2023, the proposals concerning transport by air of fissile material meeting the provision in para. 417 (e) should be withdrawn. Consequently, the last part of sub-para. 570 (e) and the full para. 579A should be deleted.	X			

Step 9/ GER-29	570 579A	… (e) Unpackaged or packaged *fissile material* classified in accordance with para. 417(e) shall be transported on a *conveyance* or in a *large freight container* under *exclusive use* with no more than 45 g of *fissile nuclides* on the *conveyance*~~, except for *consignments* transported by air, which shall be in accordance with the requirements established in para. 579A~~. … ~~Packaged *fissile material* classified under UN 2910, UN 2912, UN 2915, UN 2978 and UN 3507 and in accordance with para. 417(e) shall be transported on an *aircraft* with no more than 45 g of *fissile nuclides* either:~~ ~~(a) Under *exclusive use* either of the *aircraft* or of a *large freight container*; or~~ ~~(b) In a certified closed rigid *aircraft* container with rigid or flexible doors, of internal volume of more than 3 m_3, used by a single *consignor* and securely sealed. The *consignor* shall provide instructions for the loading into the *aircraft* container to the airline company and shall be present or, failing that, shall be represented during the loading into the *aircraft* container to verify correct implementation of the instructions.~~	Both the SSR-6 and ICAO-TI do not require freight containers to be approved in accordance with the International Convention for Safe Containers (CSC), 1972. This means that a large freight container does not necessarily have to be a 20 ft. or 40 ft. container. The proposed aircraft container can therefore also be regarded as a large freight container. In consequence, special provisions for the transport of fissile material classified in accordance with para. 417(e) are not necessary.	X			

Step 9/ JPN-16	Para. 570	(e) Unpackaged or packaged fissile material classified in accordance with para. 417(e) shall be transported on a conveyance or in a large freight container under exclusive use with no more than 45 g of fissile nuclides on the conveyance~~, except for consignments transported by air, which shall be in accordance with the requirements established in para. 579A~~.	When para 579A is deleted, the relevant text is not necessary (see Step 9/ JPN-17).	X			
Step 9/ AUS-12	572A	Suggest deletion of para 572A 572A. Any empty vehicle for which the provisions of para 514 are applied shall bear placards as required by paras 571 and 572 for unpackaged LSA-I or SCO-I previously transported in this vehicle.	This new para is unclear and ambiguous and implies that prime movers and trailers of unpackaged radioactive materials need to be labelled once they are emptied for their return trip, whereas containers do not. If this is the case, then the para is misleading for transport. cf. para 248: *Vehicle* shall mean a road *vehicle* (including an articulated *vehicle*, i.e. a tractor and semi-trailer combination), railroad car or railway wagon. Each trailer shall be considered as a separate *vehicle*.			X	This para. applies to vehicles that transport unpackaged LSA-1 and SCO-1. It only requires placards that were in place to remain for the unloaded vehicle under the conditions of para. 514.
Step 9/ FR-42	575	575 *Packages* or *overpackes* 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 ~~(a)~~ (c), shall not be transported by *vessel* except under *special arrangement.*	The previous footnote (a) under table 10 and related to provisions of para 573 has been moved to footnote (c). **This para 575 must be updated in consequence to reference the footnote (c).**	X			

Step 9/ GER-30	575	*Packages* 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 (~~a~~c), shall not be transported by *vessel* except under *special arrangement*.	Several footnotes were added to table 10 so that formerly footnote (a) is now footnote (c). Thus, the reference in para 575 should be updated accordingly.	X			
Step 9/ WNTI-13	Para. 575	575 *Packages* or *overpackes* 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 ~~(a)~~ **(c)**, shall not be transported by *vessel* except under *special arrangement.*	The footnote (a) under Table 10 in the current Regulations for the Safe Transport of Radioactive Material (2018 Edition) [SSR-6 (Rev. 1)], related to provisions of para 575, has been moved to footnote (c) in the draft SSR-6 (Rev. 2). Para. 575 must be updated in consequence to reference the footnote (c).	X			
Step 9/ JPN-17	Para. 579A	~~579A. Packaged *fissile material* classified under UN 2910, UN 2912, UN 2915, UN 2978 and UN 3507 and in accordance with para. 417(e) shall be transported on an *aircraft* with no more than 45 g of *fissile nuclides* either:~~ ~~(a) Under *exclusive use* either of the *aircraft* or of a *large freight container*; or~~ ~~(b) In a certified closed rigid *aircraft* container with rigid or flexible doors, of internal volume of more than 3 m_3, used by a single *consignor* and securely sealed. The *consignor* shall provide instructions~~	Deletion of this paragraph is recommended in consistent with the results of the ICAO/DGP29 in November 2023. (see DGP/29-WP/42, para 3.2 and A-3).	X			

		~~for the loading into the *aircraft* container to the airline company and shall be present or, failing that, shall be represented during the loading into the *aircraft* container to verify correct implementation of the instructions.~~					
Step 9/ UK-10	579A	Packaged fissile material classified under UN 2910, UN 2912, UN 2915, UN 2978 and UN 3507 and in accordance with para. 417(e) shall not be transported on an aircraft except with no more than 45 g of fissile nuclides either	As written this paragraph prevents transport by any mode other than air.			X	See Step 9/ FR-41, Step 9/ WNTI-06, Step 9/ GER-29, Step 9/ JPN-16, Step 9/ JPN-17 [deletion of para. 579A]
Step 9/ GER-31	581	… (b) The ~~package~~ ***package*** shall be dispatched by the quickest route, normally by air.	Editorial correction – the term 'package' should be set in italics, as it is defined in para. 231.	X			
Step 9/ ISR-2	582	We suggest emphasizing that packages containing radioactive materials which have been opened (and examined) at the customs, may pose potential hazards (during the remaining part of their transport). Therefore, they have to be restored to their original condition as instructed by the consigner.	Scope and Completeness			X	New proposal without specific text. Also, "to restore to its original condition" can be achieved by various methods.
Step 9/ FR-43	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 appropriate *competent authority* shall be informed as soon as possible if this situation leads to a significant safety issue.	The carrier has to liaise with the consignor and the consignee to resolve the issue. The consignor has also to liaise with the consignee to resolve the issue. **It is not the duty of the Competent Authority to manage undeliverable consignements, unless there**			X	New proposal. Furthermore, such an involvement of the competent authority should be part of their compliance assurance programme.

			is an immediate and major safety issue.				
Step 9/ FR-44	586	When the information applicable to the *consignment* is given to the *carrier* in electronic form, the information shall be available to the *carrier* at all times during transport to the *consignment*'s final destination. ~~The information shall be able to be produced without delay in a printed form.~~	Too detailed. **Transfer to guidance if still needed**			X	Requirement is harmonized with the UNOB.
Step 9/ FR-45	588	~~Delete 588~~	Too detailed. **Transfer to guidance if still needed**			X	Requirement is harmonized with the UNOB.
Step 9/ JPN-18	Para. 604A	[Comment] Japan expects that an appropriate guide for the consideration of ageing mechanisms in the design of special form radionuclides will be developed.	Although it is necessary to consider ageing mechanisms in the design of special form radioactive material, there are a lot of practical issues, such as whether designers can define the usage environment and how to evaluate it. So, Japan expects an appropriate guide for this revision.			X	No specific proposal. Comment to be considered in the development relevant safety guides.
Step 9/ USA-4	604A	The design of special form radioactive material shall take into account ageing mechanisms.	This new paragraph needs clarification. In what manner should ageing be considered? To what end? How would a regulated entity know when they have accounted for ageing sufficiently?			X	No specific proposal. Comment to be considered in the development of relevant safety guides.

			Recommendation: Add performance objectives to the paragraph for a regulated entity to "account for ageing mechanisms."				
Step 9/ -02	624	*[…] except for a package whose maximum dose rate **at** its external surface of the package is below 50 µSv/h […]* Moreover, harmonisation is proposed for paras 629 and 630: *[…] except for a freight container whose maximum dose rate at **its** ~~the~~ external surface ~~of the freight container~~ is below 50 µSv/h […]* etc	Editorial ("at" was missing)	X			
Step 9/ GER-32	624	A *package* to be qualified as *Type IP-2* shall be designed to meet the requirements for *Type IP-1* as specified in para. 623 and, in addition, if it were subjected to the tests specified in paras 722 and 723, it would prevent: (a) Loss or dispersal of the *radioactive contents*; (b) More than a 20% increase in the maximum *dose rate* at any external surface of the *package*, except for a *package* whose maximum *dose rate* **at** its external surface is below 50 µSv/h, for which there shall be no increase of more than 10 µSv/h in the maximum *dose rate* at any external surface of the *package.*	Editorial	X			
Step 9/ UK-11A	624	More than a 20% increase in the maximum dose rate at any external surface of the package, except	Added text which was missing.	X			

		for a package whose maximum dose rate at its external surface is below 50 µSv/h, for which there shall be no increase of more than 10 µSv/h in the maximum dose rate at any external surface of the package					
Step 9/ USA-5	624	Appears to be a missing word. Propose the addition of ". . . whose maximum *does rate* at its external surface . . ."	Inserting "at" into the phrase will add clarity and will specify where the *dose rate* is to be assessed.	X			
Step 9/ CDN-10	624(b)	"…except for a package whose maximum dose rate at its external surface is below 50 µSv/h…"	Typo	X			
Step 9/ JPN-19	Para. 624 (b)	More than a 20% increase in the maximum *dose rate* at any external surface of the *package*, except for a *package* whose maximum *dose rate* **at** its external surface is below 50 µSv/h,	Editorial	X			
Step 9/ CH-5	624(b)	More than a 20% increase in the maximum dose rate at any external surface of the package, except for a package whose maximum dose rate **at** its external surface is below 50 µSv/h, for which there shall be no increase of more than 10 µSv/h in the maximum dose rate at any external surface of the package.	The "at" is missing (editorial comment)	X			

Step 9/ WNTI-14	Para. 624	(…) (b) More than a 20% increase in the maximum dose rate at any external surface of the package, except for a package whose maximum dose rate **at** its external surface is below 50 µSv/h, for which there shall be no increase of more than 10 µSv/h in the maximum dose rate at any external surface of the package.	Editorial – The word "at" is missing.	X			
Step 9/ IRN-4	624(b)	(b) More than a 20% increase in the maximum dose rate at any external surface of the package, except for a package whose maximum dose rate at its external surface is below 50 µSv/h, for which there shall be no increase of more than 10 µSv/h in the maximum dose rate at any external surface of the package.	Editorial Modification	X			This change was made during Step 10
Step 9/ PAK-10	625	Test required for Type IP-3 should also be mentioned	In Para 624, test required for Type IP-2 have been mentioned. But test required for Type IP-3 are not mentioned (water spray, free drop, stack and penetration tests)			X	New proposal. Furthermore, IP-3 test requirements are mentioned by referring to para. 648.
Step 9/ FR-46	627	…(b) They satisfy the requirements prescribed either in: (i) Chapter 6.7 of the United Nations Recommendations on the Transport of Dangerous Goods, Model Regulations [19] or chapter 6.8 of the same regulation [19]	It is important to also **keep the possibility of relying on chapter 6.8 of the United Nations Recommendations on the Transport of Dangerous Goods,** Model			X	New proposal. Furthermore, Chapter 6.8 of the UNOB is titled, Requirements for the Design, Construction,

		for tank container, or other requirements, at least equivalent, in the case of portable tanks;	Regulations for the conformity of tank containers (Cf. 6.4.5.4.3).				Inspection and Testing of Bulk Containers.
Step 9/ IRN-5	651	A Type A package designed to contain gases shall prevent loss or dispersal of the radioactive contents if the package were subjected to the tests specified in para. 725, except for a Type A package designed ~~for~~ to contain tritium gas or ~~for~~ noble gases.	Editorial Modification	X			This change should be made for consistency with "to contain" in the beginning of the para.
Step 9/ USA-6	653	A package shall be so designed that, under the ambient temperature of 38°C and the insolation conditions specified in ~~para. 657~~ Table 12 applied prior to the tests.	Remove paragraph 657 and add Table 12 in its place to make the regulations clearer.	X			
Step 9/ PAK-2	656	Subject clause has been deleted, whereas it has been referred in clause 838 (t) at page 119 and in INDEX (Temperature)	May rectify to remove it from INDEX	X			
Step 9/ GER-33	658	A *package* that includes thermal protection for the purpose of satisfying the requirements of the thermal test specified in para. 728 shall be so designed that such protection will remain effective if the *package* is subjected to the tests specified in paras 719–724 and**, in addition, either** 727(a) and 727(b)**,** or 727(b) and 727(c), as appropriate. …	From a purely logical point of view, the original phrase "paras 719–724 and 727(a) and 727(b) or 727(b) and 727(c)" is difficult to interpret correctly by readers who are non-native English speakers – it strings together five items in a row with three 'and' plus one 'or'. The proposed insertion facilitates understanding of what is meant here.	X			

Step 9/ JPN-20	Para. 659 (b)(ii)	(ii) It would restrict the accumulated loss of *radioactive contents* in a period of one week to not more than **10*A*$_2$**~~100 TBq~~ for krypton-85 and not more than A_2 for all other radionuclides. Where mixtures of different radionuclides are present, the provisions of paras 405–407 shall apply, except that for krypton-85 an effective A_2(i) value equal to **10*A*$_2$**~~100 TBq~~ may be used. For case (a), the assessment shall take into account the external *non-fixed contamination* limits of para. 508.	Out of the scope of this revision process.			X	In an email dated 11 June 2024, this comment was withdrawn.
Step 9/ UK-11B	659 (b)(ii). Also 671.	not more than ~~1~~200 TBq for krypton-85	States "100TBq". As the A2 value has changed should this not be 200TBq.			X	Similar comment was rejected at TRANSSC 47. See Section 9.1 of the Report of the Working Group on A1/A2.
Step 9/ GER-34	Table 12, heading	INSOLATION ~~DATA~~ **CONDITIONS**	Maintaining consistency with the terminology used elsewhere in this safety standard – see paras 653, 657, 667 and 728.	X			
Step 9/ FR-47	667	*Type B(M) packages* shall meet the requirements for *Type B(U) packages* specified in para. 652, except that~~:~~ ~~(a) F~~f or ~~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*	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 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			X	New proposal. Furthermore, it will change the intent of the text by moving it from Type B(M) requirements to Type B(U).

		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 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*.~~	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 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~~: (…)				
Step 9/ GER-35	667	*Type B(M) packages* shall meet the requirements for *Type B(U) packages* specified in para. 652, except that: (a) For a *package* 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~~ **653-655 and 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 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 that in the determination of the dose rate in para. 659(b)(i) radioactive material that may escape from the**	1.) Paragraph 656 was deleted in the current revision. 2.) The newly introduced exception (b) from the requirements for Type B(U) packages takes credit from the limited specific activity of the contents. Therefore, the possible intake of activity under accident conditions of transport is restricted due to the limited specific activity, irrespective of the total activity released at accident conditions of transport. But the requirement in para 659(b)(i), aiming on limiting the external irradiation, has to be still fulfilled. Regarding the external dose rate, the limitation of the specific activity or contamination is not effective, but the total dose rate from the released material needs to be considered. Therefore, it should be required, that the dose rate of the lost or	X X	This text is proposed to be revised as follows:		

		package under the conditions of the tests in 659(b) shall be taken into account in the worst configuration.	dispersed radioactive contents must be considered when examining compliance with para 659(b)(i). However, since the limitation of the external irradiation under accident conditions of transport is crucial for Type B(U) and Type B(M) packages, the regulations should require explicitly that the released material should be taken into account in the worst configuration. Remark: It is currently unclear how the amount of material released during accident conditions of transport can be determined.		"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 criteria limit in para. 659(b)(i).|"		
Step 9/ JPN-21	Para. 667	667. Type B(M) packages shall meet the requirements for Type B(U) packages specified in para. 652, except that: (a) For a package 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)	In order not to be misled that 667(b) applies when part of the radioactive material contained in the package includes material that meets the conditions of para 409(b)(ii) or (c) or para 413(a) or (b), the amendment on the left is proposed. Based on the decision at TRANSSC47, Japan	X	See Step 9/ GER-35		

		packages specified in paras 655 and 660–666 shall be met as far as practicable. (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. [Comment] Japan expects that an appropriate text will be developed for SSG-26 on shielding analysis for material inside and released material outside the package including powder or non-fixed contamination in accident conditions.	expects that SSG-26 includes shielding analysis for material inside and released material outside the package including powder or non-fixed contamination in accident conditions in accordance with the following TRANSSC47 decision. Step 7 TRANSSC47 decision on: BEL/TRANSSC47 on BEL-02 of Resolution Table, TTEG-PPA-PrimRev13:"The concern raised by some TTEG PPA members should be addressed in SSG-26. This should include shielding analysis for material inside and released material outside the package including powder or non-fixed contamination (JPN/TRANSSC-11) in accident conditions. The TTEG PPA agrees with the comment and confirms the rejection of				

			the proposal.”				
Step 9/ GER-36	669	*Type C packages* shall be designed to meet … the requirements specified in paras ~~653–~~657 **653–655, 657**, 661–666 and 670–672.	Paragraph 656 was deleted in the current revision.	X			
Step 9/ GER-37	671	… Where mixtures of different radionuclides are present, the provisions of paras 405–407 shall apply, except that for krypton-85 an effective A_2(i) value equal to 100 TBq may be used. For case (a), the assessment shall take into account the external ***non-fixed*** *contamination* limits of para. 508.	Maintaining consistency with the terminology used in para. 508 and elsewhere in this safety standard. Compare also with para. 659, last sentence.	X			
Step 9/ JPN-22	Para. 671 (b)(ii)	(ii) It would restrict the accumulated loss of *radioactive contents* in a period of one week to not more than **10A_2** ~~100 TBq~~ for krypton-85 and not more than A_2 for all other radionuclides. Where mixtures of different radionuclides are present, the provisions of paras 405–407 shall apply, except that for krypton-85 an effective A_2(i) value equal to **10A_2** ~~100 TBq~~ may be used. For case (a), the assessment shall take into account the external *non-fixed contamination* limits of para. 508.	Out of the scope of this revision process.			X	In an email dated 11 June 2024, this comment was withdrawn.

Step 9/ PAK-3	674 (b)	Clause 674(b) guides to calculate CSI for packages with minimum overall outside dimensions of the package to at least 30 cm (iii) The CSI of the package is calculated using the following formula: CSI = 50 × 2 × {[mass of uranium-235 in package (g)]/Z + [mass of other fissile nuclides1 in package (g)]/280} where the values of Z are taken from Table 13. (iv) The CSI of any package does not exceed 10	For 1000 MWe commercial PWR each packed container with 2 x Fuel Assemblies having enrichment 4.45 will contain around 40 Kg U235. CSI calculation as per subject clause with 40000 g U235 will produce much higher value of CSI. Pertinently no alternative instruction has been included for such commercial packages. Suggestion: IAEA may include the requisite provision			X	New proposal. Furthermore, the example is not applicable to para. 674(b). It is subject to paras 677-686.
Step 9/ GER-38	676	~~This paragraph was deleted.~~**Where the chemical or physical form, isotopic composition, mass or concentration, moderation ratio or density, or geometric configuration is not known, the assessments of paras 680–685 shall be performed assuming that each parameter that is not known has the value that gives the maximum neutron multiplication consistent with the known conditions and parameters in these assessments.**	After Japan raised concerns at TRANSSC 46, the deletion of para. 676 was accepted under the condition that a replacement text for SSG-26 is developed by TTEG-C prior to TRANSSC 47. However, such text has still not been submitted. Therefore, the deletion should be reverted.	X	Corresponding change made to the title before para. 676.		
Step 9/ JPN-23	Para. 676	[Comment] Based on the agreement at TRANSSC 46, regarding S-12, a draft of SSG26 for para.676 need to be presented and agreed prior to the adoption of draft SSR6 at TRANSSC 49.	Japan agreed with the deletion of para. 676 at TRANSSC46 on condition that a draft of SSG 26 should be presented before TRANSC47 as described below. However, due to the	X	See Step 9/ GER-38		

			lack of time for consideration, the draft has not been presented at the moment. "Japan raised concerns about the deletion of para. 676 before "replacement" text to be included in SSG-26 has been developed. To address this concern, TTEG-C proposed to develop the SSG-26 text prior to TRANSSC 47. Japan accepted this proposal."				
Step 9/ UK-12	676	~~This paragraph was deleted.~~ Where the chemical or physical form, isotopic composition, mass or concentration, moderation ratio or density, or geometric configuration is not known, the assessments of paras 680–685 shall be performed assuming that each parameter that is not known has the value that gives the maximum neutron multiplication consistent with the known conditions and parameters in these assessments..	Retain original para 659. Significant concerns that the removal of this text without the associated SSG-26 text being available for review will introduce confusion and the potential for a period of time where the regulation does not exist and suitable guidance replacing it does not exist. SSG-26 text was due to be presented in advance of TRANSSC-47 to address this, however has not been made available.	X	See Step 9/ GER-38		

			The existing guidance text in SSG-26 Para 676.2 was only added in the previous revision cycle, unsure as to what has changed since then to require deletion of the requirement and new guidance text to be created.				
Step 9/ UK-13	681	It shall be assumed that the ~~package is confinement~~ containment system is closely reflected by at least 20 cm of water~~.~~ or such greater reflection as may additionally be provided by the surrounding material of the packaging. However, when it can be demonstrated that the ~~confinement~~ containment system remains within the packaging following the tests prescribed in para. 685(b), close reflection of the package by at least 20 cm of water may be assumed in para. 682(c).	The proposed change moves from an engineered safety basis to an unspecified administrative safety basis. The proposal would result in the situation that an undamaged containment vessel that can be removed from the package would become critical simply by water reflection (for example by a human body). In effect where a containment system can leave the packaging it can become critical simply by a first responder or customs agent walking up to it under this proposal. It seems unlikely that such a large reduction in safety margins is justified, which is a pre-requisite of a change to IAEA regulations. Consequential need to modify para 731 change.			X	Step 9/UK-13 did not use the text in para. 681 that was in the draft of SSR-6 that was posted at Step 8. The text for para. 681 that was posted at Step 8 was only: “It shall be assumed that the *package* is reflected by at least 20 cm of water.” The proposed text of this comment is not in line with the recommendation from TTEG-C on proposal S-13: *The TTEG-C agrees that reflection of the package is sufficient and appropriate in this paragraph, without considering water reflection of parts of that package.* TTEG-C recommendation was accepted at TRANSSC-45.

Step 9/ IRN-9	681	It shall be assumed that the package is reflected (neutron) by at least 20 cm of water.	Editorial Modification 683 (a) 683. For packages to be transported by air: (a) The package shall be subcritical under conditions consistent with the Type C package tests specified in para. 734, assuming neutron reflection by at least 20 cm of water but no water in-leakage	X	Para. 681 should be revised as follows: "It shall be assumed that neutrons that are emitted from the package are reflected by at least 20 cm of water."		
Step 9/ CDN-11	686	The value of the *CSI* shall not be rounded down except that a value of 0.05 or less for any *package*~~, which~~ may be considered as zero.	Improved clarity.	X			
Step 9/ GER-39	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* shall not be rounded down ~~except that a value of~~**unless it is** 0.05 or less for any *package*, which may be considered as zero.	The wording of of the last sentence seems to be incorrect. The proposed wording is analogous to the wording of paras 523(c) and 524(c).			X	See Step 9/ CDN-11
Step 9/ FR-48	Title before 701	ASSESSMENT OF WHETHER DESIGN AND PERFORMANCE REQUIREMENTS ARE MET, INCLUDING TEST PROCEDURES	**Test are not the only tool to demonstrate compliance with design requirements**			X	New proposal. Furthermore, all tools are listed under the title DEMONSTRATION OF COMPLIANCE. Also, all tools are related to the test.

Step 9/ UK-14	701 (d)	701. Demonstration of compliance with the performance standards required in Section VI shall be accomplished by any of the following methods listed below or by a combination thereof: … (d) Calculation, or reasoned argument, when the calculations are demonstrated *in accordance with para 640*.	Clarification to align the requirement to "demonstrate" with the requirement for design to be carried out in accordance with para 640.			X	New proposal. Furthermore, para. 701 applies to all of the "performance standards required in Section VI". The text proposed by UK-14 would narrow the scope of para. 701(d) to para. 640. The development of appropriate text to address this should be considered for inclusion in SSG-26.
SWE-3	709		In reference to classes in ISO 2919; Class 4 impact test if SFRM less than 200 g and Class 5 impact test if SFRM more than 200 g. What about exactly 200 g? I realize it can never be exactly 200 g, but on paper it can. Is it a conservative choice or a free choice?			X	New proposal. Furthermore, no text has been proposed.
Step 9/ GER-40	712	A specimen that comprises or simulates *low dispersible radioactive material* shall be subjected to the enhanced thermal test specified in para. 736 and the impact test specified in para. 737. A different specimen may be used for each of the tests. Following each test, the specimen shall be subjected to the leach**ing** test specified in para. 703. After each test it shall be determined if the applicable requirements of para. 605 have been met.	Minor editorial correction to be consistent with the terminology used in para. 603(c) and in the heading to para. 703.	X			

Step 9/ GER-41	714	The *containment system* of the *package* shall be clearly specified.	Full stop at the end of the sentence is missing.	X			
Step 9/ IRN-6	Title Before para. 725	Also: **Additional tests for Type A packages designed ~~for~~ to contain liquids and gases**	Editorial Modification	X			This change should be made for consistency with para. 651.
Step 9/ GER-42	727	… (c) For drop III, the specimen shall be subjected to a dynamic crush test by positioning the specimen on the target so as to suffer maximum damage by the drop of a 500 kg mass from 9 m onto the specimen. The mass shall consist of a solid mild steel plate **with dimensions of** 1 m × 1 m and shall fall in a horizontal attitude. …	For linguistic reasons, the original sentence should be amended as proposed. With this insertion, the sentence sounds much better.	X			
Step 9/ JAM-5	733	*altitude*	(Page 102) In this paragraph, the word "attitude" is used. Based on the context of the sentence and the intended meaning, "attitude" should be amended to "altitude".			X	"Attitude" is correct.
Step 9/ CH-6	803(f)	The working life limit(s) according to ageing considerations	The approval for special form radioactive material should be amended by the definition of the working life limit. The working life limit should be consistent with the ageing justifications provided for para 604A. For different kinds of use, different working life			X	New proposal. Concept of working life with respect to special form was rejected at TRANSSC 45. NB: While it does not use the term "working life limit", para. 604A requires that the design of special form radioactive material shall take into account aging mechanisms.

			limits may be mentioned in the approval. This should be complemented by advisory text to be provided in SSG-26.				
Step 9/ FR-49	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.	**The Competent authority may conclude that the certificate cannot be granted.**			X	New proposal. Furthermore, it is unnecessary.
Step 9/ FR-50	806	After being satisfied that the applicable requirements are met, 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.	**The Competent authority may conclude that the certificate cannot be granted.**			X	New proposal. Furthermore, it is unnecessary.
Step 9/ FR-51	807 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.	**The Competent authority may conclude that the certificate cannot be granted.**			X	New proposal. Furthermore, it is unnecessary.
Step 9/ CDN-12	809(d)	"…packaging, including the ~~performance of~~ dose rate calculations performed prior to the loading of the radioactive contents…"	Clearer phrasing.	X			

Step 9/ CH-7	809(d)	The proposal is to keep the paragraph from SSR-6 (Rev. 1).	The new paragraph requires obligatory dose rate calculations prior to loading for each Type B(U) package. That is not applicable for gamma radiography devices, for instance. They have usually standardized sources, and the dose rate analysis is done in the safety file directly. Additional shielding is not only added to a package. It can also be fixed to the freight container walls to keep the vehicle limits. It is difficult for the applicant of a package to consider all possible transport configurations on vehicles for different modes in advance. This is subject to dose rate measurements and can be controlled by authority inspections. Sufficient shielding is ensured by the dose rate limits already required in the regulations.	X			NB: The topic of the proposed addition of text to para. 809(d) is already covered by para. 617. Additional guidance on this topic should be considered for SSG-26.

Step 9/ UK-15	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~~.	Consider this to be a very specific and niche point to be adding to the regulations – if this then why not every other sub set of operation and maintenance? Doesn't meet the original intent of the F-54 proposal which was for the designer to assess the dose rate at 2m for the package as designed with maximum content, and if required provide operational controls for measurement/shielding. Concerned that putting in place a fixed methodology from the designer would not be able to address the many possible ways a package could be loaded onto a vehicle – or the interactions with other packages in the same shipment. This text would be better placed in SSG-26.	X			

Step 9/ RUS-7	809(d)	**Text of DS543:** 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 sections 566(b) or 573 are not exceeded after the package(s) are loaded into the freight container or onto the vehicle, respectively, as applicable. **Proposed new text:** The operating and maintenance instructions for the use of the packaging The operating and maintenance instructions for the use of the packaging,	It is proposed to amend the text as follows	X			
Step 9/ FR-52	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.**			X	New proposal. Furthermore, it is unnecessary.
Step 9/ GER-43	812	… (a) A list of the requirements specified in paras 639, ~~653–657~~ **653–655, 657** and 660–666 with which the package does not conform;	Paragraph 656 was deleted in the current revision.	X			

Step 9/ FR-53	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.**			X	New proposal. Furthermore, it is unnecessary.
Step 9/ FR-54	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.**			X	New proposal. Furthermore, it is unnecessary.
Step 9/ FR-55	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.**			X	New proposal. Furthermore, it is unnecessary.
Step 9/ FR-57	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~~0.	**A 10-year duration for the application of Section IV is too long safety-wise. 7 years was suggested at STEP 7, while 5 years was mentioned in the WG A_1/A_2 report rev. 1.0 and during TRANSSC 46.**			X	A transition period of 10 years was accepted at TRANSSC 47.
Step 9/ UK-16	819(a)(ii)(3); 820(a)(iii); 820(b)(iii) etc	(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.~~ (iii) The activity limits and	10 years transition for changes to A1/A2 values is excessive considering changes are safety related. Previous transitional arrangements have required immediate application of current A1/A2 values even			X	A transition period of 10 years was accepted at TRANSSC 47.

		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~~	when they have been changed. No identified specific cases where significant detriment have been provided to justify a 10 year transition period. Concern that in effect the proposal allows either the same package with the same content to be labelled as different UN numbers. In general Transitional arrangements are intended to permit the continued use of expensive equipment in a safe manner, they are not intended to permit continued use of old operational/administrative controls.				
Step 9/ JPN-24	Para. 819 (a)(ii)(3)	[Comment] Japan requests that new Table 2 shall be applied, for example, after 10 years from the publication of SSR-6 (Rev.2) (January 2026), i.e., only the values in Table 2 of the Transport Regulations 2018 Edition shall be applied until 31 December 2035.	The current draft would cause confusion as users would be free to use the old or new values whichever they prefer without any restrictions. In past revisions, there is a precedent in which the 1996 version was			X	Not practical in that it would require two Table 2s to be entered in SSR-6 which would be even more confusing to the reader than having a transitional arrangement. TRANSSC should consider the development of guidance with regard to

		[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.~~	applied all at once from 2001 (after five years from the publication).			X	the implementation of this transitional arrangement. A transition period of 10 years was accepted at TRANSSC 47. The proposed text does not allow for a transitional period.
Step 9/ JPN-25	Para. 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.~~;	See Step 9/ JPN-24.			X	See Step 9/ JPN-24
Step 9/ JPN-26	Para. 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	See Step 9/ JPN-24.			X	See Step 9/ JPN-24

		(3) The packaging was not manufactured or modified after 31 December 2035.					
Step 9/ JPN-27	Para. 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.~~	See Step 9/ JPN-24.			X	See Step 9/ JPN-24
Step 9/ JPN-28	Para. 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.~~	See Step 9/ JPN-24.			X	See Step 9/ JPN-24
Step 9/ JPN-29	Para. 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.	See Step 9/ JPN-24.			X	See Step 9/ JPN-24

Step 9/ JPN-30	Para. 821B	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 2035~~8.~~	See Step 9/ JPN-24.			X	A date of 31 December 2038 was accepted at TRANSSC 47.
Step 9/ RUS-8	821B	**Text of DS543**: 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. **Proposed new text:** 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 2035.	Date 31 December 2035 correspond to provision of section 820(b)(ii) for limit date of using values of A_1/A_2 Section IV of the 2018 Edition. The limits of A_1/A_2 are the important factor (criteria) of package design. From the text of DS543 it is not clear what values of A_1/A_2 can be used for package manufactured between 31 December 2035 and 31 December 2038.			X	See Step 9/ JPN-30.
Step 9/ GER-44	819	**Packages not requiring competent authority approval of design 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** *Packages* not requiring *competent authority approval* of *design* (*excepted*	Packages that meet the conditions of para. 819(a)(ii)(1)-(5) should be able to be used without any time limit. A management system that complies with current regulations (para. 306) must be used for these packages. This also includes an ageing management			X	New proposal. Furthermore, there are no requirements in SSR-6 for such a multilateral approval. And, there are no criteria specified concerning the assessment of the safety of the shipment for such a case. The

		packages, *Type IP-1*, *Type IP-2*, *Type IP-3* and *Type A packages*) shall meet this edition of these Regulations in full, except that: (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 are applied. Section IV of the 2018 Edition of these Regulations may be used until 31 December 2035. **After 31 December 2030, shipments of packages applying Section IV of the 2018 Edition of these**	system. Therefore, safety concerns due to the age of the packages cannot be seen. The transitional period for the application of Section IV of the 2018 Edition until 31 December 2035 appears too long in view of the underestimation of the risk from transporting some nuclides for which recalculation has led to lower A_1 or A_2 values. After a shorter transitional period, the safety of the shipments still applying the values of Table 2 of the 2018 Edition should be individually assessed by the consignor and be approved by the competent authority. This approach would still enable the potentially lengthy development of new packagings, but at the same time limit the risk. It is therefore proposed that a shipment approval becomes mandatory after 31 December 2030, if Chapter IV of the 2018 edition of the regulations is used. The current draft of the regulations does not contain significant new				proposed new multilateral approval is the basic idea in GER-44 for most proposed changes in 819, 820 and 825; therefore, all of them are proposed to be rejected. The introduction of an end date for 1985 or 1985 (As Amended 1990) packages in para. 819(a)(ii) was agreed during Step 7/TRANSSC47 in accordance with Step 7/F-29. A transition period of 10 years was accepted at TRANSSC 47.

		Regulations are subject to shipment approval. … (b) *Packages* that meet the requirements of the 1996 Edition, 1996 Edition (Revised), 1996 (As Amended 2003), 2005, 2009 or 2012 Editions of these Regulations: … (ii) … (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. **After 31 December 2030, shipments of packages applying Section IV of the 2018 Edition of these Regulations are subject to shipment approval**; … (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~~ **may** continue to be used, provided that all the following conditions are met:	provisions for package design in comparison to the 2018 Edition. However, the requirements of para. 306 of the latest edition of the Regulations should be applied. Additional restrictions other than applicability of sections IV and V for the use of packages that meet the requirements of the 2018 Edition are not justified.				The restrictions on packages meeting the requirements of the 2018 Edition was a decision at Step 7/TRANSSC 47. See Step 7/CDN/TRANSSC-01, Step7/WNTI-22, and Step 7/WNTI-38. This decision is also justified because the

		(i) The applicable requirements of para. 306 of this edition of these Regulations are applied; ~~(1)~~**(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**. After 31 December 2030, shipments of packages applying Section IV of the 2018 Edition of these Regulations are subject to shipment approval**; **and** ~~(2)~~**(iii)** The requirements and controls for transport in Section V of this edition of these Regulations are applied.~~; and~~ ~~(3) The *packaging* was not manufactured or modified after 31 December 2035.~~					new A1/A2 values are considered to be significant enough for package designs in comparison to the 2018 Edition.
	820	**Package designs approved 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**					

		Packages requiring *competent authority approval* of the *design* shall meet this edition of these Regulations in full except that: … (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.~~ **The applicable requirements of para. 306 of this edition of these Regulations are applied.** (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. **After 31 December 2030, shipments of packages applying Section IV of the 2018 Edition of these Regulations are subject to shipment approval.** (iii) The requirements and controls for transport in Section V of this edition of these Regulations are applied.				

	825	*Multilateral approval* shall be required for: … **(f) The *shipment* of *packages* after 31 December 2030 for which Section IV of the 2018 Edition of these Regulations is used.**					
Step 9/ WNTI-15	Para. 819	819. *Packages* not requiring *competent authority approval* of *design* (*excepted packages*, *Type IP-1*, *Type IP-2*, *Type IP-3* and *Type A packages*) shall meet this edition of these Regulations in full, except that: (a) *Packages* that meet the requirements of the 1985 or 1985 (As Amended 1990) Editions of these Regulations: (i) (…); or (ii) May continue to be used until 31 December 2035, provided that all the following conditions are met: (1) (...). (2) (...). (3) The activity limits and classification in Section IV of this edition of these Regulations**, or alternatively of the 2018 Edition of these Regulations,** are applied. ~~Section IV of the 2018 Edition of~~	Editorial – Sub-paragraph 819 (a) (ii) (3) does not flow very well, as the deadline 31 December 2035 in this sub-paragraph is already quoted in the parent paragraph 819 (a) (ii). The proposal aims at streamlining the provision.	X			

		~~these Regulations may be used until 31 December 2035.~~ (…).					
Step 9/ GER-45	821 B	~~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.~~	The current draft of the regulations does not contain significant new provisions for package design in comparison to the 2018 Edition. Therefore, a date after which the manufacturing of packagings that conform to the 2018 Edition of the Regulations is not justified and should be deleted.			X	TRANSSC 47 approved the current text for no new manufacture after 31 December 2038.
Step 9/ JPN-30	Para. 821B	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 2035~~8.~~	See Step 9/ JPN-25.			X	See Step 9/ GER-45.
Step 9/ JPN-31	Para. 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	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			X	New proposal.

		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.	according to the date of publication of the Regulation.				
Step 9/ FR-56	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.**			X	New proposal. Furthermore, such details on how a requirement should be implemented should not be included in the text.
Step 9/ UK-17	827(b)	(b) The radioactive contents, the modes of transport, the type of conveyance and the probable or proposed route;	The removal of the "probable or proposed" text would mean that if the route changed for security or other logistic reasons the shipment approval would be invalid. This change could occur mid transport and in	X			

			accordance with security/emergency plans.				
Step 9/ PAK-16	Para 834, Page 114	(m) Any emergency arrangement deemed necessary by the Competent Authority	Addition of point to make certificate more comprehensive			X	New proposal. Furthermore, not applicable to a special form certificate.
Step 9/ GER-46	836	… (p) A statement regarding the ambient conditions assumed for purposes of *design* if these are not in accordance with those specified in paras ~~653–657~~ **653–655, 657** and 666, as applicable.	Paragraph 656 was deleted in the current revision.	X			
Step 9/ ISR-3	836(m)	In this paragraph, addressing certificates of approval for special arrangement, we suggest considering, in part (m) of the paragraph, requirement to include the reasons for the special arrangement in all the cases – and not only if *deemed appropriate by the competent authority*.	Clarity and Completeness			X	New proposal. However, this proposal should be considered for inclusion in future revisions of SSR-6.
Step 9/ GER-47	838	… (o) For *Type B(M) packages*, a statement specifying those prescriptions of paras 639, ~~653–657~~ **653–655, 657** and 660–666 with which the *package* does not conform …"	Paragraph 656 was deleted in the current revision.	X			
Step 9/ GER-48	838	… (p) For *package designs* subject to para. 820, a statement specifying those requirements of the current regulations with which the ~~package~~ ***package*** does not conform.	Editorial correction – the term 'package' should be set in italics, as it is defined in para. 231.	X			

Step 9/ GER-49	838	… (t) A statement regarding the ambient conditions assumed for purposes of *design*, if these are not in accordance with those specified in paras ~~656,~~ 657 and 666, as applicable.”	Paragraph 656 was deleted in the current revision.	X	Text proposed to be revised as follows: “… those specified in paras 653–655, 657 and 666, as applicable …”		
Step 9/ UK-18	838 (t)	(t) A statement regarding the ambient conditions assumed for purposes of design, if these are not in accordance with those specified in paras ~~656,~~ 657 and 666, as applicable.	States “656”. Should this be quoted here as this paragraph has been deleted.	X	See Step 9/ GER-49		
Step 9/ USA-7	838(t)	Reword: A statement regarding the ambient conditions assumed for purposes of design, if these are not in accordance with those specified in paras **656, 657** Table 12 and 666, as applicable.	Text from paragraph 656 was deleted but not removed from 838(t). 657 is a simple reference to Table 12 and direct reference is clearer.	X	See Step 9/ GER-49, which does not include a direct reference to Table 12, but instead, para. 657.		
Step 9/ IRN-7	838(t)	(t) A statement regarding the ambient conditions assumed for purposes of design, if these are not in accordance with those specified in paras ~~656~~, 657 and 666, as applicable.	Referencing The paragraph 656 has been deleted	X			This change was already made in response to a Step 8 comment.
Step 9/ FR-58	**General**	**It would be beneficial to create a specific section, after section VIII, for the transitional arrangements (para 819 and following).**	**It is unusual to have transitional arrangements in other IAEA Safety Requirements,** but this could be justified by transboundary shipments. For domestic shipment, the Government or Regulatory Body should have the leeway to decide on any transitional arrangements….			X	New proposal. Furthermore, transitional arrangements are already included in a specific section.

Step 9/ GER-50	References	[7] INTERNATIONAL ATOMIC ENERGY AGENCY, **INTERNATIONAL CIVIL AVIATION ORGANIZATION, INTERNATIONAL MARITIME ORGANIZATION,** Preparedness and Response for a Nuclear or Radiological Emergency Involving the Transport of Radioactive Material, IAEA Safety Standards Series No. SSG-65, IAEA, Vienna (2022)."	In addition to the IAEA, Safety Guide SSG-65 was co-sponsored by another 2 international organizations (ICAO and IMO) which need to be added in Ref. [7].	X			
Step 9/ ISO-01	Para. 603 Para. 711 REFERENCES	Reference [18] – ISO 9978 (…) Radi~~ation~~**ological** ~~P~~**p**rotection — Sealed ~~R~~**r**adioactive ~~S~~**s**ources — Leakage ~~T~~**t**est ~~M~~**m**ethods (…)	Editorial – Consistency with the title and the formatting of the ISO standard.	X			
Step 9/ WNTI-17	Para. 603 Para. 711 REFERENCES	Reference [18] – ISO 9978 (…) Radi~~ation~~**ological** ~~P~~**p**rotection — Sealed ~~R~~**r**adioactive ~~S~~**s**ources — Leakage ~~T~~**t**est ~~M~~**m**ethods (…)	Editorial – Consistency with the title and the formatting of the ISO standard.	X			
Step 9/ WNTI-20	REFERENCES	[19] UNITED NATIONS, Recommendations on the Transport of Dangerous Goods, Model Regulations, ST/SG/AC.10/1/Rev.~~22~~**23**, 2 vols, United Nations, New York and Geneva (20~~19~~**23**).	Editorial – The latest edition should be considered.	X			

Step 9/ ISO-02	Para. 629 REFERENCES	Reference [20] – ISO 1496-1 (…) Series 1 ~~F~~freight ~~C~~containers — Specifications and ~~T~~testing — Part 1: General ~~C~~cargo ~~C~~containers for ~~G~~general ~~P~~purposes (…)	Editorial – Consistency with the formatting of the ISO standard.	X			
Step 9/ WNTI-18	Para. 629 REFERENCES	Reference [20] – ISO 1496-1 (…) Series 1 ~~F~~freight ~~C~~containers — Specifications and ~~T~~testing — Part 1: General ~~C~~cargo ~~C~~containers for ~~G~~general ~~P~~purposes (…)	Editorial – Consistency with the formatting of the ISO standard.	X			
Step 9/ ISO-03	Para.709 REFERENCES	Reference [21] – ISO 2919 (…) Radi~~ation~~ological ~~P~~protection — Sealed ~~R~~radioactive ~~S~~sources — General ~~R~~requirements and ~~C~~classification (…)	Editorial – Consistency with the title and the formatting of the ISO standard.	X			
Step 9/ WNTI-19	Para.709 REFERENCES	Reference [21] – ISO 2919 (…) Radi~~ation~~ological ~~P~~protection — Sealed ~~R~~radioactive ~~S~~sources — General ~~R~~requirements and ~~C~~classification (…)	Editorial – Consistency with the title and the formatting of the ISO standard.	X			

Step 9/ IRN-1	Footnote 1 page123	In particular, additional measures are taken to provide appropriate physical protection in the transport of nuclear material ~~and to prevent acts without lawful authority that constitute the receipt, possession, use, transfer, alteration, disposal or dispersal of nuclear material and which cause or are likely to cause, death or serious injury to any person or substantial damage to property~~ and to protect this material from malicious acts that could result in radiological consequences to persons, property, society and the environment. (Or) In particular, additional measures are taken to provide appropriate physical protection in the transport of nuclear material and to prevent acts without lawful authority that constitute the receipt, possession, use, transfer, alteration, disposal or dispersal of nuclear material and which cause or are likely to cause, death or serious injury to any person or substantial damage to property or to the environment.	to harmonize with text in the Nuclear Security Series. Add the phrase of "or to the environment." At the end of the sentence	X	Add the phrase "or to the environment" to the end of footnote 1. [second option] Jinho Chung (Division of Nuclear Security) has provided input on this change. Change is consistent with para. 1.(a) of Article 7 of the Amendment to the CPPNM.		
Step 9/ FR-59	Annex I	~~Delete annex II~~	**Information only.** This is just another way of presenting the (complex) requirements. To be transferred to guidance.			X	New Proposal.

Step 9/ GER-51	References to Annex I	[I-1] ~~INTERNATIONAL ATOMIC ENERGY AGENCY,~~ Convention on the Physical Protection of Nuclear Material, INFCIRC/274/Rev. 1, IAEA, Vienna (1980).	These are the correct citation details for the CPPNM to be used in IAEA safety standards – see e.g. Ref. [I–1] in SSR-6 (Rev. 1) and Ref. [15] in SSR-26 (Rev. 1). Albeit published by the Agency, INFCIRC documents are not formally authored by the IAEA. Instead, they belong to the State Parties / Contracting Parties to the respective treaty, convention or agreement. As a reference, see also the IAEA Style Manual for Publications and Documents in English, 2005 Edition, Chapter 11: Bibliographical References, Part VIII: Presentation of References, Example [65] (page 59 in the manual).	X			
Step 9/ GER-52	References to Annex I	[I-2] ~~INTERNATIONAL ATOMIC ENERGY AGENCY,~~ Amendment to the Convention on the Physical Protection of Nuclear Material, INFCIRC/274/Rev. 1/Mod. 1 **(Corrected)**, IAEA, Vienna ~~(2016)~~ **(2021)**.	The original document INFCIRC/274/Rev. 1/ Mod. 1 was removed from the IAEA websites and replaced by a corrected version in 2021 (this was just a correction of a typo in Article 8 Paragraph 2 of the original document). With respect to the authorship of this INFCIRC, see German comment No. 51.	X			

Step 9/ GER-53	References to Annex I	[I-4] INTERNATIONAL ATOMIC ENERGY AGENCY, Physical Protection of Nuclear Material and Nuclear Facilities **(Implementation of INFCIRC/225/Revision 5)**, IAEA Nuclear Security Series No. 27-G, IAEA, Vienna (2018).	Completion of the publication title of the Implementing Guide NSS 27-G.	X			
Step 9/ IRN-2	Refs. To Annex 1; I-7	INTERNATIONAL ATOMIC ENERGY AGENCY, Code of Conduct on the Safety and Security of Radioactive Sources, IAEA/CODEOC/2004, IAEA, Vienna (2004).	Referencing	X			
Step 9/ IRN-3	Refs. To Annex 1; I-8	INTERNATIONALATOMIC ENERGY AGENCY, Guidance on the Import and Export of Radioactive Sources, IAEA/CODEOC/IMO EXP/2012, IAEA, Vienna (2012).	Referencing	X			
Step 9/ FR-60	Annex II	~~Delete annex II~~	**Information only** Transfer to guidance if needed	X	Information about conversion factors is proposed to be removed because this type of information is not usually included in an IAEA safety requirements publication. It is also not included in the Orange Book. The information about prefixes and suffixes will be retained because it is referred to in paras. 540, 546 and 559.		

Step 9/ FR-61	Annex III	~~Delete annex III~~	This is just another way of presenting the (complex) requirements. **To be transferred to guidance.**			X	New proposal. Furthermore, this annex supports the practical implementation of SSR-6.
Step 9/ FR-62	Annex III line (k)	(k) Up to 45 g of *fissile nuclides* on a *conveyance*, either packaged or unpackaged, in accordance with the provisions of paras 417(e) and ~~520(d)~~ 570(e).	For the case of fissile material excepted under 417(e) the para 570(e) applies in addition to conveyance limits, **not 520(d).**	X			
Step 9/ WNTI-21	Annex III Line (k)	(k) Up to 45 g of *fissile nuclides* on a *conveyance*, either packaged or unpackaged, in accordance with the provisions of paras 417(e) ~~and~~**,** 520(d) **and 570(e)**.	Editorial – For fissile material excepted under the provisions of para. 417(e), conveyance limits are specified in para. 570(e) applies. This is the key paragraph to be mentioned in this line (k).	X	See Step 9/ FR-62.		
Step 9/ CDN-13	ANNEX III (a)	Unpackaged LSA-I material, SCO-I ~~and~~or SCO-III (see para. 520);	Can be any of these types, not just a combination of these types.			X	Wording is consistent with para. 520.
Step 9/ WNTI-16	General	… industrial ~~*package*~~ **package** …	Editorial – "industrial package" should be considered as a single term. Consequently, it does not seem appropriate to italicize "package" in the term "industrial package". Italicizing "package" in the term "industrial package" slightly change the meaning. "industrial *package*" (where	X	To be consistent with para. 231 where industrial package is included in definitions, it will be italicized throughout SSR-6 for consistency.		

			"package" is italicized and "industrial" is not) may be understood as a standard package used in the industry in general, not as an "industrial package" with the meaning it has in the Regulations for the Safe Transport of Radioactive Material (SSR-6).				
Step/FIN-1	Contributors to drafting and review	Hellstèèin, S. Radiation and Nuclear Safety Authority, Finland	This last name should be spelled Hellstèn without letter i, thanks!	X			
Step 9/ GER-54	Contributors	Endres, A. Federal Ministry for the Environment, Nature Conservation, ~~Building and~~ Nuclear Safety **and Consumer Protection (BMUV)**, Germany **Schulze** Grachtrup, D. ~~Bundesamt für die Sicherheit der nuklearen Entsorgung~~**Federal Office for the Safety of Nuclear Waste Management (BASE)**, Germany ~~Heinrichs, C.~~ ~~Gewissenhaft. Nachhaltig. Sicher, Germany~~ Holländer, L. ~~Bundesamt für die Sicherheit der nuklearen Entsorgung~~**Federal Office for the Safety of Nuclear Waste Management (BASE)**, Germany	Editorial	X			

		Komann, S. ~~Bundesanstalt für Materialforschung und prüfung~~**Federal Institute for Materials Research and Testing (BAM)**, Germany Rathje-Unger, L. ~~Bundesministerium für Digitales und Verkehr~~**Federal Ministry for Digital and Transport (BMDV)**, Germany Reiche, I. ~~Bundesamt für die Sicherheit der nuklearen Entsorgung~~**Federal Office for the Safety of Nuclear Waste Management (BASE)**, Germany Ruprecht, B. ~~Bundesamt für die Sicherheit der nuklearen Entsorgung~~**Federal Office for the Safety of Nuclear Waste Management (BASE)**, Germany Wille, F. ~~Bundesanstalt für Materialforschung und prüfung~~**Federal Institute for Materials Research and Testing (BAM)**, Germany					
Step 9/ JPN-32	CONTRIBUTORS TO DRAFTING AND REVIEW	**Mashimo, K, Nuclear Regulation Authority, Japan**	Suggest to add the participants from Japan to TRANSSC45.	X			
Step 9/ WNTI-22	CONTRIBUTORS TO DRAFTING AND REVIEW	(…) Edwards, W.~~C~~ **S**. (…) Mennerdahl~~s~~, D.	Editorial – Corrections of typos.	X			

		(…)					
Step 9/ -03	Index	~~*Human factors: 316*~~	Para 316 was not retained	X			
Step 9/ JPN-33	INDEX	~~Human factors: 316~~	Editorial. “human factors” was deleted.	X			
Step 9/ WNTI-23	INDEX	~~Human factors: 316~~	Editorial – The wording “human factors” is used neither in para. 316 (which does not exist), nor in any other paragraph.	X			
Step 9/ IRN-8		also: Index Temperature: 229, 420, 503, 616, 619, 620, 639, 649, 654–~~656~~, 666, 670, 673, 679, 703, 708–711, 728, 812, 836, 838	Referencing The paragraph 656 has been deleted	X			This change was already made in response to a Step 8 comment.
Step 9/ UK-19	Index	Spot checking of amendments to index suggests that this has not been updated with latest version. Suggest that this is reviewed and updated by IAEA before next revision stage.	Following errors noted: • Ageing mechanisms: 801A, 801B, 809 listed but paragraphs are not present. • Air Transport; 203A paragraph not present & 221 incorrectly listed as does not mention Air Transport. • Human Factors 316 listed, but no paragraph 316 and human factors not included in update.	X	The Index was reviewed and appropriate changes were made.		

			Note this is just a sample check and not full listing of potential errors in index.				