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**COMMITTEE OF EXPERTS ON THE TRANSPORT OF
DANGEROUS GOODS AND ON THE GLOBALLY
HARMONIZED SYSTEM OF CLASSIFICATION
AND LABELLING OF CHEMICALS**

Sub-Committee of Experts on the
Transport of Dangerous Goods

Thirty-fourth session
Geneva, 1-9 December 2008
Item 8 of the provisional agenda

**HARMONIZATION WITH THE INTERNATIONAL ATOMIC ENERGY AGENCY (IAEA)
REGULATIONS FOR THE TRANSPORT OF RADIOACTIVE MATERIAL**

Harmonization with the draft 2009 edition of the IAEA Regulations

Note by the secretariat¹

1. The last edition of the IAEA Regulations was published in 2005, and the corresponding provisions were also included in the 2005 edition of the UN Model Regulations on the Transport of Dangerous Goods (see also documents ST/SG/AC.10/C.3/2004/11, ST/SG/AC.10/C.3/50, paras 100-103 and ST/SG/AC.10/C.3/50/Add.1, annex 1).
2. Since then, the IAEA has discussed and adopted draft amendments to its Regulations, that should be reflected in the 2009 edition of the IAEA Regulations for the Transport of Radioactive Material (TS-R-1), subject to approval by the IAEA Board of Governors before end 2008.
3. The list of changes to the 2005 edition of the IAEA Regulations was brought to the attention of the Sub-Committee at its 33rd session in informal document

¹ In accordance with the programme of work of the Sub-Committee for 2007-2008 approved by the Committee at its third session (refer to ST/SG/AC.10/C.3/60, para. 100 and ST/SG/AC.10/34, para. 14).

UN/SCETDG//33/INF.80. The secretariat has consolidated the corresponding changes that should be made to the 15th revised edition of the UN Recommendations on the Transport of Dangerous Goods, Model Regulations, in the annex to this document. The left column indicates the paragraph number of the UN Model Regulations, as well as the corresponding paragraph of the draft 2009 edition of the IAEA Regulations.

4. The Sub-Committee may wish to consider and adopt the proposed changes for the sake of harmonization.

Annex**Proposed changes to the UN Model Regulations on the Transport of Dangerous Goods for harmonization with the draft 2009 edition of the IAEA Regulations for the Transport of Radioactive Material (TS-R-1)**

- 1.1.1.4
[IAEA 105] In the first sentence,

Replace “who are either members of the public or workers, is” by “and protection or property and the environment are”.
- 1.2.1 At the end of the definition of “tank”, replace “substances of class 2” by “gases as defined in 2.2.1.1”.

[Reasoning: Some gases meeting the definition of Class 2 are classified in Class 7]
- 1.2.1
[IAEA 203] Under “Approval”, in the definition of “Multilateral approval”, delete the last sentence.
- 1.2.1
[IAEA 243] Add a new definition to read as follows:

“*Through or into* means through or into the countries in which a consignment is transported but specifically excludes countries “over” which a consignment is carried by air, provided that there are no scheduled stops in those countries”.
- 1.4.3.2.3
[IAEA,
Annex I,
footnote 5] Amend the end of the sentence to read:

“ ... when the provisions of the Convention on the Physical Protection of Nuclear Material* and the IAEA circular on “The Physical Protection of Nuclear Material and Nuclear Facilities**”.
- Add the following footnotes:
- “* IAEACIRC/274/Rev.1, IAEA, Vienna (1980)
- ** IAEACIRC/225/Rev.4 (Corrected), IAEA, Vienna (1999). See also “Guidance and Considerations for the Implementation of INFCIRC/225/Rev.4, the Physical Protection of Nuclear Material and Nuclear Facilities, IAEA-TECDOC-967/Rev.1”.

- 1.5.1.1
[IAEA 101] In the second sentence, replace “2005” by “2009” (twice).
- In the last sentence delete “on the 1996 edition of TS-R-1”, insert “(2005 Edition)” after “Advisory Material for the IAEA Regulations for the Safe Transport of Radioactive Material” and replace “Vienna (2002)” by “Vienna (2009)”
- [Add the end, add “The prime responsibility for safety shall rest with the person or organization responsible for facilities and activities that give rise to radiation risk.”.]
- 1.5.1.2
[IAEA 104] Amend the first sentence to read:
- “The objective of these Regulations is to establish requirements that must be satisfied to ensure safety and to protect persons, property and the environment from the effects of radiation in the transport of radioactive material.”.
- 1.5.1.3
[IAEA 106] In the third sentence, before sub-paragraphs (a), (b) and (c), replace “that is characterized” by “that are characterized”.
- 1.5.2.3
[IAEA 302] At the end of the second sentence, add “and 7.1.8.1.1”
- 2.7.1.3
[IAEA 222] In the definition of “Fissile material”, amend the first sentence and the beginning of the second sentence to read:
- “*Fissile nuclides* means uranium – 233, uranium – 235, plutonium – 239 and plutonium – 241. *Fissile material* means a material containing any of the fissile nuclides. Excluded from the definition of fissile material are: ... (remainder unchanged)”.
- 2.7.2.2.1 (Table)
[IAEA 401,
Table 1] Under “Krypton (36)” insert the following line:
- | | | | | |
|--------|-------------------|-------------------|-------------------|---------------------|
| “Kr-79 | 4x10 ⁰ | 2x10 ⁰ | 1x10 ³ | 1x10 ⁵ ” |
|--------|-------------------|-------------------|-------------------|---------------------|
- 2.7.2.3.1.2
[IAEA 409] In sub-paragraph (a) (ii), replace “providing they” by “that”.
- In sub-paragraphs (a) (iii) and (iv), amend the end of the sentence to read “excluding fissile material not excepted under 2.7.2.3.5; or”.
- In sub-paragraph (c), at the beginning, after “excluding powders” insert “, meeting the requirements of 2.7.2.3.1.3.”.

- 2.7.2.3.5
[IAEA 417]
[Proposal by the secretariat]
- Replace the introductory sentence by the following:
- “Packages containing fissile radionuclides shall be classified under the relevant entry of Table 2.7.2.1.1, the description of which includes the words “FISSILE” or “fissile-excepted”. Classification as “fissile-excepted” is allowed only if one of the conditions (a) to (d) of this paragraph is met. Only one type of exception is allowed per consignment (see also 6.4.7.2).”.
- 2.7.2.3.5 (a)
[IAEA 417 (a)]
- After “A mass limit per consignment”, insert “, provided that the smallest external dimension of each package is not less than 10 cm,”.
- After “where X and Y are the mass limits defined in Table 2.7.2.3.5, provided that”, delete “the smallest external dimension of each package is not less than 10 cm and”.
- In sub-paragraphs (i) and (iii), replace “fissile material” by “fissile nuclides”.
- Amend the last sentence to read:
- “Beryllium shall not be present in quantities exceeding 1 % of the applicable consignment mass limits provided in Table 2.7.2.3.5 except where the concentration of beryllium in the material does not exceed 1 gramme beryllium in any 1000 grammes.
Deuterium shall also not be present in quantities exceeding 1 % of the applicable consignment mass limits provided in Table 2.7.2.3.5 except where deuterium occurs up to natural concentration in hydrogen.”.
- 2.7.2.3.5 (b)
[IAEA 417 (b)]
- Replace “fissile material is” by “fissile nuclides are”.
- 2.7.2.3.5 (d)
[IAEA 417 (d)]
- Amend to read:
- “Plutonium containing not more than 20 % of fissile nuclides by mass up to a maximum of 1 kg of plutonium per consignment. Shipments under this exception shall be under exclusive use.”.
- 2.7.2.4.1.1 (b) and (d) [IAEA 422]
- At the end, insert: “as specified in Table 2.7.2.4.1.2”.
- 2.7.2.4.1.4
[IAEA 424]
- Amend the beginning of the paragraph to read:
- “Radioactive material in forms other than as specified in 2.7.2.4.1.3 and with an activity not exceeding the limits specified in ... “ (remainder unchanged).

- 2.7.2.4.1.5
[IAEA 520] In the first sentence, delete “with an activity not exceeding the limit specified in column 4 of Table 2.7.2.4.1.2” and replace “provided that” by “only if”.
- 2.7.2.4.1.6
[IAEA 409] Replace the words “provided that” by “only if”.
- 2.7.2.4.2
[IAEA 408] Amend the end of the sentence to read:
“... if the definition of 2.7.1.3 and the conditions of 2.7.2.3.1, 4.1.9.2 and 7.1.8.2 are met.”.
- 2.7.2.4.3
[IAEA 412] Amend the end of the sentence to read:
“... if the definition of 2.7.1.3 and the conditions of 2.7.2.3.1, 4.1.9.2 and 7.1.8.2 are met.”.
- 4.1.9.3 (a)
[IAEA 418 (a)] After “a mass of fissile material”, insert the words “(or mass of each fissile nuclide for mixtures when appropriate)”.
- 5.1.5.1.4 (b)
[IAEA 555] After “shall notify”, insert “the competent authority of the country or origin of the shipment and”.
- 5.1.5.1.4 (d) (v)
[IAEA 560 (e)] After “the mass of fissile material”, insert “(or of each fissile nuclide for mixtures, when appropriate)”.
- 5.1.5.4 (a)
[IAEA 554] After “have been submitted to” insert “the competent authority of the country of origin of the shipment and to”.
- 5.2.2.1.12.2 (b)
[IAEA 538] In the second sentence, after “the mass of fissile material”, insert “or mass of each fissile nuclide for mixtures when appropriate”.
- 5.4.1.5.7.1 (c)
[IAEA 544 (f)] In the second sentence, after “the mass of fissile material”, insert “(or mass of each fissile nuclide for mixtures when appropriate)”.
- 5.4.1.5.7.1 (j)
[IAEA 544 (m)] At the end, add: “For radioactive material for which the A_2 value to unlimited, the multiple of A_2 shall be zero.”.
- 6.4.2.9
[IAEA 614] Delete the word “otherwise”.
- 6.4.5.4.4
[IAEA 627] Replace “of a permanent enclosed character” by “with the characteristics of of a permanent enclosure”.
In sub-paragraph (c), after “Part 1 – General Cargo Containers, insert “and subsequent amendments 1:1993, 2:1998, 3:2005, 4:2006 and 5:2006,”.

- 6.4.6.1 [IAEA Reference [12]] Replace “ISO 7195:1993 ‘Packaging of uranium hexafluoride (UF₆) for transport’” by “ISO-7195:2005 Nuclear Energy – Packaging of uranium hexafluoride (UF₆) for transport”.
- 6.4.6.4 (a) [IAEA, Reference [12]] Replace “ISO 7195:1993” by “ISO 7195:2005”.
- 6.4.7.16 (b) (ii) [IAEA 648 (b) (ii)] Replace “designed to ensure retention of the liquid contents” by “designed to enclose the liquid contents completely and ensure their retention”.
- 6.4.11.5 [IAEA 675] Replace “must” with “shall” and amend the rest of the sentence to read:
“(a) preserve the minimum overall outside dimensions of the package to at least 10 cm; and
(b) prevent the entry of a 10 cm cube.”.
- 6.4.11.7 (a) [IAEA 677 (a)] Replace “each of which” by “not less than two of which”.
- 6.4.13 (c) [IAEA 716 (c)] Replace “6.4.11.1 to 6.4.11.12” by “6.4.11.1 to 6.4.11.13”.
- 6.4.15.5 (a) [IAEA 723 (a)] Amend to read:
“(a) A total weight equal to 5 times the maximum weight of the package; and”.
- 6.4.23.12 (j) [IAEA 831 (j)]
6.4.23.13 (j) [IAEA 832 (j)]
6.4.23.14 (l) [IAEA 833 (l)] Replace “(for fissile material)” by “(for fissile material or for each fissile nuclide when appropriate)”.
- 7.1.8.1.2 [IAEA 525] Replace “inland water craft” by “inland waterway craft”.
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