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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
(Twenty-third session, 30 June -4 July 2003, agenda item 8)

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

Minor changes to TS-R-1 approved for the 2005 edition of the IAEA Transport Regulations

Transmitted by the International Atomic Energy Agency (IAEA)

The secretariat reproduces hereafter a proposal from IAEA for harmonizing the Model Regulations on the Transport of Dangerous Goods with the IAEA Regulations for the Safe Transport of Radioactive Material.

Approved Minor Changes to TS-R-1

This paper summarizes the minor changes that were approved by the 2-6 September 2002 Review Panel meeting in Vienna for the 2005 edition of the IAEA Transport Regulations. The approved changes are presented in a table, in paragraph order. The current text and the new text are presented side by side in order to easily identify what change has been approved. Where the change involves a deletion of text from the current regulations the part to be deleted is marked in **bold** in the current text. Where the approved change involves new or revised text the new or revised part is marked in **bold** in the new text.

The notation "SCH" in the para column means that the change is in the Schedules. The notation "IND" in the para column means that the change is in the index of the regulations.

Minor Changes to TS-R-1, approved for the 2005 edition of the IAEA Transport Regulations
Comparison of Existing and Proposed Text

Proposal/ UN para.	**Existing Para. Or Sub-Para of TS-R-1 (2003 Edition)**	**New Para. Or Sub-Para of TS-R-1 (2005 Edition)**
UK/02/02 2.7.1.2	107. The Regulations do not apply to: … (e) natural material and ores containing naturally-occurring radionuclides which are either in their natural state, or have only been processed for purposes other than for extraction of the radionuclides, and which are not intended to be processed for use of these radionuclides, provided the activity concentration of the material does not exceed 10 times the values specified in paras 401–406; … …	107. The Regulations do not apply to: … (e) natural material and ores containing naturally-occurring radionuclides which are either in their natural state, or have only been processed for purposes other than for extraction of the radionuclides, and which are not intended to be processed for use of these radionuclides, provided the activity concentration of the material does not exceed 10 times the values specified in **paras 401(b), or calculated in accordance with paras 402–406;** … …
UK/02/03 **[The same correction applies in paras. 555, 559, 831, and 832]** 5.4.1.5.7.2 5.1.5.2.4 (d) 6.4.23.12 6.4.23.13	108. These Regulations do not specify controls such as routing or physical protection which may be instituted for reasons other than radiological safety. Any such controls shall take into account radiological and non-radiological hazards, and shall not detract from the standards of safety which these Regulations are intended to provide.	108. These Regulations do not specify controls such as **routeing** or physical protection which may be instituted for reasons other than radiological safety. Any such controls shall take into account radiological and non-radiological hazards, and shall not detract from the standards of safety which these Regulations are intended to provide.
UK/02/07 2.7.2	223. *Freight container* shall mean an article of transport equipment designed to facilitate the transport of goods, either packaged or unpackaged, by one or more modes of transport without intermediate reloading. It shall be of a permanent enclosed character, rigid and strong enough for repeated use, and must be fitted with devices facilitating its handling, particularly in transfer between *conveyances* and from one mode of transport to another. A small *freight container* is that which has either any overall outer dimension less than 1.5 m, or an internal volume of not more than 3 m^3. Any other *freight container* is considered to be a large *freight container*.	223. *Freight container* shall mean an article of transport equipment designed to facilitate the transport of goods, either packaged or unpackaged, 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 in transfer between *conveyances* and from one mode of transport to another. A small *freight container* is that which has either any overall outer dimension less than 1.5 m, or an internal volume of not more than 3 m^3. Any other *freight container* is considered to be a large *freight container*.

Proposal/ UN para.	Existing Para. Or Sub-Para of TS-R-1 (2003 Edition)	New Para. Or Sub-Para of TS-R-1 (2005 Edition)
UK/02/09 2.7.3.2 (a) (ii)	226(a)(ii) Solid unirradiated natural uranium or depleted uranium or natural - thorium or their solid or liquid compounds or mixtures;	226(a)(ii) **Natural uranium, depleted uranium, natural thorium or their compounds or mixtures, providing they are unirradiated and in solid or liquid form;**
Egypt/02/03 **[Also insert lines between the following paras: 305/6, 516/7, 641/2, 669/70, 714/5, 722/3, 734/5, 822/3]** Not relevant to the UN Model Regulations	*Radioactive material* 236. *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 401–406. *Shipment* 237. *Shipment* shall mean the specific movement of a *consignment* from origin to destination.	*Radioactive material* 236. *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 401–406. | *Shipment* 237. *Shipment* shall mean the specific movement of a *consignment* from origin to destination.
UK/02/10 2.7.2	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 **or volume** of the material in which the radionuclides are essentially uniformly distributed.	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.
UK/02/12 2.7.2	246. *Natural uranium* shall mean chemically separated uranium containing the naturally occurring distribution of uranium isotopes (approximately 99.28% uranium-238, and 0.72% uranium-235 by mass). *Depleted uranium* shall mean uranium containing a lesser mass percentage of uranium-235 than in *natural uranium*. *Enriched uranium* shall mean uranium containing a greater mass percentage of uranium-235 than 0.72%. In all cases, a very small mass percentage of uranium-234 is present.	246. *Natural uranium* shall mean **uranium (which may be chemically separated)** containing the naturally occurring distribution of uranium isotopes (approximately 99.28% - uranium-238, and 0.72% uranium-235 by mass). *Depleted uranium* shall mean uranium containing a lesser mass percentage of uranium-235 than in *natural uranium*. *Enriched uranium* shall mean uranium containing a greater mass percentage of uranium-235 than 0.72%. In all cases, a very small mass percentage of uranium-234 is present.
France/02/25 **[N.B. French Edition only]** 1.1.2.2.5	305. …….dose effective…….	305. …….dose efficace…….

Proposal/ UN para.	**Existing Para. Or Sub-Para of TS-R-1 (2003 Edition)**	**New Para. Or Sub-Para of TS-R-1 (2005 Edition)**
Germany/02/04 [In Table I] 2.7.7.2.1	Te-121m $5x10^0$ $3x10^0$ $1x10^2$ $1x10^5$	Te-121m $5x10^0$ $3x10^0$ $1x10^2$ $1x\mathbf{10^6}$
UK/02/24 4.1.9.2.2	522. *LSA material* and *SCO* which is or contains *fissile material* shall meet the applicable requirements of paras 568, 569 and 671.	522. For *LSA material* and *SCO* which is or contains *fissile material* **the applicable requirements** of paras 568, 569 and 671 **shall be met.**
France/02/20 and Germany/02/03 5.2.2.1.12.2	543. …….. (a) …… …….. (b) Activity: The maximum activity of the *radioactive contents* during transport expressed in units of becquerels (Bq) with the appropriate SI prefix (see Annex II). For *fissile material*, the mass of *fissile material* in units of grams (g), or multiples thereof, may be used in place of activity.	543. …….. (a) …… …….. (b) Activity: The maximum activity of the *radioactive contents* during transport expressed in units of becquerels (Bq) with the appropriate SI prefix **symbol** (see Annex II). For *fissile material*, the mass of *fissile material* in units of grams (g), or multiples thereof, may be used in place of activity.
Germany/02/03 and France/02/20 **[Same correction applies to paras. 549(f) and 559(e)]** 5.2.2.1.12.2 5.4.1.5.1 5.1.5.2.4 (d) (v)	543. …….. (a) …… …….. (b) Activity: The maximum activity of the *radioactive contents* during transport expressed in units of becquerels (Bq) with the appropriate SI prefix (see Annex II). For *fissile material*, the mass of *fissile material* in units of grams (g), or multiples thereof, may be used in place of activity. ANNEX II SI PREFIXES	543. …….. (a) …… …….. (b) Activity: The maximum activity of the *radioactive contents* during transport expressed in units of becquerels (Bq) with the appropriate SI prefix **symbol** (see Annex II). For *fissile material*, the mass of *fissile material* in units of grams (g), or multiples thereof, may be used in place of activity. ANNEX II SI PREFIXES **AND SYMBOLS** The decimal multiples and submultiples of a unit may be formed by prefixes or symbols, having the following meanings, placed before the name or symbol of the unit.

Proposal/ UN para.	**Existing Para. Or Sub-Para of TS-R-1 (2003 Edition)**	**New Para. Or Sub-Para of TS-R-1 (2005 Edition)**
UK/02/27 5.3.1.1.5.1	546. Large *freight containers* carrying *packages* other than *excepted packages*, and *tanks* shall bear four placards which conform with the model given in Fig. 6. The placards shall be affixed in a vertical orientation to each side wall and each end wall of the large *freight container* or *tank*. Any placards which do not relate to the contents shall be removed. Instead of using both labels and placards, it is permitted as an - alternative to use enlarged labels only, as shown in Fig. 2, Fig. 3, Fig. 4 and Fig. 5 where appropriate, with dimensions of the minimum size shown in Fig. 6.	546. Large *freight containers* carrying *packages* other than *excepted packages*, and *tanks* shall bear four placards which conform **to** the model given in Fig. 6. The placards shall be affixed in a vertical orientation to each side wall and each end wall of the large *freight container* or *tank*. Any placards which do not relate to the contents shall be removed. Instead of using both labels and placards, it is permitted as an - alternative to use enlarged labels only, as shown in Fig. 2, Fig. 3, Fig. 4 and Fig. 5 where appropriate, with dimensions of the minimum size shown in Fig. 6.
Egypt/02/08 6.4.6.4	632. Subject to the approval of the *competent authority*, *packages* designed to - contain 0.1 kg or more of uranium hexafluoride may be transported if: (a) the *packages* are designed to international or national standards other than ISO 7195 provided an equivalent level of safety is maintained; …….	632. Subject to the approval of the *competent authority*, *packages* designed to - contain 0.1 kg or more of uranium hexafluoride may be transported if: (a) the *packages* are designed to international or national standards other than ISO 7195 **[10]** provided an equivalent level of safety is maintained; …….
UK/02/32 6.4.7.16	648. A *Type A package* designed to contain liquids shall, in addition: (a) …….	648. A *Type A package* designed to contain **liquid radioactive material** shall, in addition: (a) ……..
UK/02/34 6.4.11.2	672. …… (a)…… (i)……. (ii)…… (iii) there is not more than 5 g of *fissile material* in any 10 litre volume of material.	672. …… (a)…… (i)……. (ii)…… (iii) there **are** not more than 5 g of *fissile material* in any 10 litre volume of material.
UK/02/46 6.4.23.3	825. ……. (a) A statement of the respects in which, and of the reasons why, the *consignment* cannot be made in full accordance with the applicable requirements; and (b) …….	825. ……. (a) A statement of the respects in which, and of the reasons why, the *shipment* cannot be made in full accordance with the applicable requirements; and (b) …….

Proposal/ UN para.	**Existing Para. Or Sub-Para of TS-R-1 (2003 Edition)**	**New Para. Or Sub-Para of TS-R-1 (2005 Edition)**
UK/02/01 [In Schedules] Not relevant for the UN Model Regulations	COMMON PROVISIONS FOR SCHEDULES 5-14 …….. B.3. MAXIMUM RADIATION LEVELS (a) *Radiation level* limits for *packages* or *overpacks* are: (i) 0.1 mSv/h at 1 m from the external surfaces of the *package* or *overpack*, except when transported under *exclusive use*, and (ii) 2 mSv/h on any external surface of the *package* or *overpack*, except when transported under *exclusive use* by rail or by road, or under exclusive use and *special arrangement* by *vessel* or by air, and (iii) 10 mSv/h on any external surface of a *package* transported under *exclusive use*.	COMMON PROVISIONS FOR SCHEDULES 5-14 …….. B.3. MAXIMUM RADIATION LEVELS **(a) *Radiation level* for *packages* or *overpacks*** shall be limited such that: **(i) Except for *consignments* under *exclusive use*, the *transport index* of any *package* or *overpack* shall** not exceed 10, and **(ii) Except for *packages* or *overpacks* transported under *exclusive use* by rail or by road, or under *exclusive use* and *special arrangement* by *vessel* or by air, the maximum *radiation level* at any point on any external surface of a *package* or *overpack* shall not exceed 2 mSv/h, and** **(iii) The maximum *radiation level* at any point on any external surface of a *package* or *overpack* under *exclusive use* shall not exceed 10 mSv/h.**
Egypt/02/02 and UK/02/11	[In the Index] Criticality Safety Index: 218,528-530, 544, 545, 549, 566-569, 820, 831, 833, **835**	[In the Index] Criticality Safety Index: 218,528-530, 544, 545, 549, 566-569, 820, 831, 833
UK/02/11 and Egypt/02/02	[In the Index] Criticality Safety Index: 218,528-530, 544, 545, 549, 566-569, 820, 831, 833, **835**	[In the Index] Criticality Safety Index: 218,528-530, 544, 545, 549, 566-569, 820, 831, 833 [And also check Index to ensure fully up-to-date.]