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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)

**Draft Amendments to the UN Recommendations**

**Prepared by the secretariat**

**Introduction**

Reference is made to documents ST/SG/AC.10/C.3/2003/2 and ST/SG/AC.10/C.3/2003/3. The secretariat has prepared a draft list of changes to the Model Regulations corresponding to the changes to the IAEA Regulations for the Safe Transport of Radioactive Material, for review by the Sub-Committee.

**Proposed changes**

- 1.1.2.2.4      Replace “to ensure restriction of their exposure” with “to control their occupational exposure”.
- 1.1.2.2.5      In the French version, replace “dose effective” with “dose efficace”.
- 1.1.2.2.5      Delete indent (a) and renumber (b) and (c) as (a) and (b).
- 1.1.2.4.2      Delete “international”, in the last sentence.
- 1.2.1            In the definition of “*Consignor*”, add at the end:  
“, and is named as *consignor* in the transport documents;”
- 2.7.1.2        (e) Replace "the values specified in 2.7.7.2. " with "the values specified in 2.7.7.2.1 (b), or calculated in accordance with 2.7.7.2.2 to 2.7.7.2.6"

2.7.2 ...

“Approval

*Multilateral approval* means approval by the relevant competent authority both of the country of origin of the design or shipment and ~~of each country through or into which the consignment is to be transported~~ **also, where the design or shipment is to be transported through or into any other country, approval by the competent authority of that country.** The term "through or into" specifically excludes "over", i.e. the approval ~~and notification~~ requirements ..." (rest unchanged).

“*Fissile material* means ~~uranium-233, uranium-235, plutonium-239, plutonium-241, or any combination of these radionuclides.~~ **the fissile nuclides uranium-233, uranium-235, plutonium-239 or plutonium-241, contained in any material.** Excepted...” (rest unchanged).

“*Freight container in the case of radioactive material transport* means an article ... without intermediate reloading **which is. It shall be of a permanent enclosed character,...**” (rest unchanged)

In the definition of *Package*, insert:

- (i) *Type H(U) package;*
- (j) *Type H(M) package.*”

In the definition of “*Specific activity of a radionuclide*”, delete: “or volume “

“*Uranium - natural, depleted, enriched* means the following:

*Natural uranium* means **uranium (which may be chemically separated)** containing the naturally occurring distribution of uranium ..." (rest unchanged).

Delete at the end: “In all cases, a very small mass percentage of uranium-234 is present.”

2.7.3.2 (a) (ii) Amend to read: “Natural uranium, depleted uranium, natural thorium or their compounds or mixtures, providing they are unirradiated and in solid or liquid form;”

2.7.4.6 (a) Amend to read:

- “(a) The tests prescribed in 2.7.4.5 (a) and 2.7.4.5 (b) provided the mass of the special form radioactive material
  - (i) is less than 200 g and they are alternatively subjected to the Class 4 impact test prescribed in ISO 2919:1990 "Radiation protection - Sealed radioactive sources - General requirements and classification"; **or**
  - (ii) **is less than 500 g and they are alternately subjected to the Class 5 impact test prescribed in the International Organization for Standardization document ISO 2919: “Sealed Radioactive Sources – Classification”, and”**

2.7.7.1.5.2 Insert a new (b):

“(b) for *special form Co-60 – 30000 A<sub>1</sub>*; “

Renumber (b) and (c) as (c) and (d).

2.7.7.1.8 Amend the first sentence:

“The mass of uranium hexafluoride in a package **shall be within limits set in the certificate of approval, and** shall not exceed a value ...”(rest unchanged).

**Table 2.7.7.2.1** Footnote (a) and (b); amend as follows:

“(a)  $A_1$  and/or  $A_2$  values for these parent radionuclides include contributions from daughter radionuclides with half-lives less than 10 days, as listed in the following:

Mg 28	Al 28
Ar 42	K 42
Ca 47	Sc 47
Ti 44	Sc 44
Fe 52	Mn 52m
Fe 60	Co 60m
Zn 69m	Zn 69
Ge 68	Ga 68
Rb 83	Kr 83m
Sr 82	Rb 82
Sr 90	Y 90
Sr 91	Y 91m
Sr 92	Y 92
Y 87	Sr 87m
Zr 95	Nb 95m
Zr 97	Nb 97m, Nb 97
Mo 99	Tc 99m
Tc 95m	Tc 95
Tc 96m	Tc 96
Ru 103	Rh 103m
Ru 106	Rh 106
Pd 103	Rh 103m
Ag 108m	Ag 108
Ag 110m	Ag 110
Cd 115	In 115m
In 114m	In 114
Sn 113	In 113m
Sn 121m	Sn 121
Sn 126	Sb 126m
Te 118	Sb 118
Te 127m	Te 127
Te 129m	Te 129
Te 131m	Te 131
Te 132	I 132
I 135	Xe 135m
Xe 122	I 122
Cs 137	Ba 137m
Ba 131	Cs 131
Ba 140	La 140
Ce 144	Pr 144m, Pr 144
Pm 148m	Pm 148

Gd 146	Eu 146
Dy 166	Ho 166
Hf 172	Lu 172
W 178	Ta 178
W 188	Re 188
Re 189	Os 189m
Os 194	Ir 194
Ir 189	Os 189m
Pt 188	Ir 188
Hg 194	Au 194
Hg 195m	Hg 195
Pb 210	Bi 210
Pb 212	Bi 212, Tl 208, Po 212
Bi 210m	Tl 206
Bi 212	Tl 208, Po 212
At 211	Po 211
Rn 222	Po 218, Pb 214, At 218, Bi 214, Po 214
Ra 223	Rn 219, Po 215, Pb 211, Bi 211, Po 211, Tl 207
Ra 224	Rn 220, Po 216, Pb 212, Bi 212, Tl 208, Po 212
Ra 225	Ac 225, Fr 221, At 217, Bi 213, Tl 209, Po 213, Pb 209
Ra 226	Rn 222, Po 218, Pb 214, At 218, Bi 214, Po 214
Ra 228	Ac 228
Ac 225	Fr 221, At 217, Bi 213, Tl 209, Po 213, Pb 209
Ac 227	Fr 223
Th 228	Ra 224, Rn 220, Po 216, Pb 212, Bi 212, Tl 208, Po 212
Th 234	Pa 234m, Pa 234
Pa 230	Ac 226, Th 226, Fr 222, Ra 222, Rn 218, Po 214
U 230	Th 226, Ra 222, Rn 218, Po 214
U 235	Th 231
Pu 241	U 237
Pu 244	U 240, Np 240m
Am 242m	Am 242, Np 238
Am 243	Np 239
Cm 247	Pu 243
Bk 249	Am 245
Cf 253	Cm 249

(b) Insert “Ag-108m Ag-108” after: ”Ru-106 Rh-106”.

Delete the entries for: Ce-134, Rn-220, Th-226 and U-240.

#### 2.7.7.2.2

Amend as follows: “For individual radionuclides which are not listed in Table 2.7.7.2.1 the determination of the basic radionuclide values referred to in 2.7.7.2.1 shall require competent authority approval or, for international transport, multilateral approval. ~~Where the chemical form of each radionuclide is known, it~~ **It** is permissible to use the A<sub>2</sub> value related to its solubility class as recommended by the International Commission on Radiological Protection, if the chemical forms **of each radionuclide** under both normal...”...”(rest unchanged).

**Table 2.7.7.2.2:** Amend the second entry in the first column to read:

“*Alpha emitting nuclides without emitting neutrons in greater than  $10^{-2}$  of their decays* are known to be present”

4.1.9.1.3 Amend to read:

“A package shall not contain any other items **unless there is no interaction between them and the packaging or its radioactive contents, or that would reduce the safety of the package.**”

4.1.9.2.2 Amend to read:

“**For LSA material and SCO which is or contains fissile material shall meet the applicable requirements of 6.4.11.1, 7.1.7.4.1 and 7.1.7.4.2 shall be met.**”

5.1.5.1.2 (c) Amend to read:

“(c) For each *Type B(U)*, *Type B(M)* and *Type C package* and for each *package - containing fissile material, or 0.1 kg or more of uranium hexafluoride*, it shall be ensured that all the requirements specified in the approval certificates have been satisfied;”

5.1.5.2.2 (c) Amend to read:

“The shipment of packages containing fissile materials if the sum of the - criticality safety indexes of the packages **in a freight container or in any group aboard a conveyance exceeds 50 as provided in 7.1.7.3.3 (d)**; and”

5.1.5.2.4 (d) (ii) Replace “routing” with “routeing”.

5.2.1.5.4 (c) Insert: “an *IP-1*,” before “an *IP-2*”.

Replace “and the name of the manufacturers” with “and the name of the **designer of the package**”.

5.2.1.5.5 (c) Insert before “and”: “In the case of a *Type H(U)* or *Type H(M)* design, with “*Type H(U)*” or “*Type H(M)*” unless under these regulations another certification type mark is applicable;”.

5.2.1.5.6 Amend the beginning: “Each package which conforms to a *Type H(U)*, *Type H(M)*, *Type B(U)*, ... (rest unchanged).”

5.2.2.1.12.2 (b) Insert “symbol” after “SI prefix”.

5.2.2.1.12.3 Add at the end: “or as calculated in accordance with 2.7.7.1.6 (bis) (a).”.

5.3.1.1.5.1 Replace: “which conform with the model 7D” with “which conform **to** the model 7D”.

6.4.5.2 (b) Insert “maximum” before “radiation level”.

{ Alternate proposal:

“(b) loss of shielding integrity which would result in more than a 20% increase in the **transport index** of the *package*”

[Consequential changes in 6.4.5.4.1, 6.4.5.4.2, 6.4.5.4.4, 6.4.5.4.5, 6.4.7.14].

6.4.7.16 Amend the beginning as follows: “A Type A package designed to contain ~~liquids~~ **liquid radioactive material** shall, in addition:”.

6.4.8.3 Amend to read:

“~~Except as required in 6.4.3.1 for a package transported by air, a~~ A package shall be so designed that, under the ambient condition specified in 6.4.8.4 **and in the absence of insolation**, the temperature of the accessible surfaces of a package shall not exceed 50 °C, unless the package is transported under exclusive use.”

6.4.8.13 Move this paragraph and replace with **6.4.8.3 (bis)** as follows:

“6.4.8.3 (bis) Except as required in 6.4.3.1 for a package transported by air, the maximum temperature of any surface readily accessible during transport of a package **under exclusive use** shall not exceed 85 °C in the absence of insolation under the ambient conditions specified in 6.4.8.4. ~~The package shall be carried under exclusive use, as specified in 6.4.8.3, if this maximum temperature exceeds 50 °C.~~ Account may be taken of barriers or screens intended to give protection to persons without the need for the barriers or screens being subject to any test.”

6.4.11.1 Amend the beginning to read:

“Packages designed for the carriage of *fissile material* shall;”

(b) (iii) Delete: “unless excepted by 6.4.11.2”.

6.4.11.2 Amend as follows:

“**Packages containing fissile material, other than packages approved for the carriage of fissile material, and provided that the smallest external dimension of each package is not less than 10 cm, shall meet one of the provisions (a)–(d).** Only one type of exception is allowed per *consignment*.

(a) A mass limit per *consignment* such that:

$$\text{CSI} = \frac{\text{mass of uranium-235 (g)}}{X} + \frac{\text{mass of other fissile material (g)}}{Y} * 50$$

where X and Y are the mass limits defined in **Table 2.7.7.1.6 (bis)**, provided that either:

- (i) each individual package contains not more than 15 g of fissile material; for unpackaged material, this quantity limitation shall apply to the consignment being carried in or on the conveyance, or

(ii)...

- (iii) there **are** not more than 5 g of *fissile material* in any 10 litre volume of material.

Neither beryllium nor deuterium in hydrogenous material enriched in deuterium shall be present in quantities exceeding 1% of the applicable consignment mass limits provided in **Table 2.7.7.1.6 (bis)**, **except for deuterium in natural concentration in hydrogen.**

(b) 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 material* is distributed essentially homogeneously throughout the material. In addition, if uranium-235 is present in metallic, oxide or carbide forms, it shall not form a lattice arrangement.

(c) Liquid solutions of uranyl nitrate enriched in uranium-235 to a maximum of 2% by mass, with a total plutonium and uranium-233 content not exceeding 0.002% of the mass of uranium, and with a minimum nitrogen to uranium atomic ratio (N/U) of 2.

(d) Packages containing, individually, a total plutonium mass not more than 1 kg, of which not more than 20% by mass may consist of plutonium-239, plutonium-241 or any combination of those radionuclides.”

[NOTE. Current 6.4.11.2, as modified, becomes new 2.7.7.1.6 (bis)]

[Consequential changes: change reference to 6.4.11.2 in: 2.7.3.2 (a) (iii), (iv), 2.7.9.1 (c), 5.1.5.3.1 (a), (iv), 5.2.2.1.12.1, 5.4.1.5.7.1 (f), 6.4.22.4]

**Table 6.4.11.2** Move and renumber as **Table 2.7.7.1.6 (bis)**

[6.4.11.2 (Other proposal to 6.4.11.2)

(a) Replace with:

“(a) The contents of each individual package contain 15 grams or less of the combination of uranium-233, uranium-235, and plutonium-239, provided there are more than 200 grams of non-fissile, non-combustible, insoluble-in-water contents per gram of *fissile material*; or the contents of each individual package contain 350 grams or less of the combination of uranium-233, uranium-235, and plutonium-239, provided there are more than 2000 grams of non-fissile, non-combustible, insoluble-in-water contents per gram of *fissile material*. All other radionuclides listed in 2.7.2 shall not be present in quantities exceeding 1% by mass of the *fissile material*. Beryllium, graphite, and hydrogenous material enriched in deuterium may be present in the package, but shall not be included in determining the mass ratio for the package. The material can be packaged or unpackaged according to 4.1.9.2.3”

(b) Read at the end: “...provided that beryllium, graphite, and hydrogenous material enriched in deuterium constitute less than 1% of the fissile mass. “

(c) Add at the end: “The package shall meet the requirements of 6.4.7.14.”

(d) Read at the end: “or any combination of those **two** radionuclides.”]

6.4.11.7 (b) Amend the beginning to read: “For packages containing uranium hexafluoride **with enrichment of 5 mass percent uranium-235 or less:**”

6.4.15.4 (a) Insert before the last sentence:

“For packages with a dimension exceeding 1.2 m, the height of drop measured for any point from its theoretical position considering the package laying on the target (with the orientation it has in routine conditions of transport or handling) and its position in the specimen before drop shall not exceed 1.2 m plus the distance specified in Table 6.4.15.4 for the applicable mass.”

6.4.22.1 (a) and (b) Amend as follows:

**“[(a) Each design that meets the requirements of 6.4.6.4 shall require multilateral approval.**

**(b) Each design that meets the requirement of 6.4.6.1 to 6.4.6.3 shall require unilateral approval by the competent authority of the country of origin of the design, unless multilateral approval is otherwise required by these regulations.]”;** or

Other alternative:

**“[(a) After 31 December 2000, each *design* that meets the requirements of 6.4.6.4 or contains fissile material shall require *multilateral approval*;**

**(b) After 31 December 2003, each *design* that meets the requirements of 6.4.6.1 to 6.4.6.3, except for those containing fissile material, shall require *unilateral approval* by the *competent authority* of the country of origin of the *design*;]”.**

6.4.22.2 (b) Amend as follows:

[(b) A Type B(U) package design for low dispersible radioactive material shall require multilateral approval **for carriage by air.**]

Other alternative:

Delete (b).

6.4.22.6 (New) Add as follows:

**“Approval of radionuclides values**

6.4.22.6 Each calculation of radionuclide values that are not listed in Table I shall require *multilateral approval*.



- 6.4.22.6.1 An application for approval shall include:
- (a) The effective dose rate coefficient for external dose due to photons calculated at 1m (Sv.Bq-1.h-1);
  - (b) The effective dose rate coefficient for external dose due to beta emission calculated at 1m (Sv.Bq-1.h-1);
  - (c) The effective dose coefficient for the inhalation of a 5 µm aerosol of the radionuclide by workers, in the most restrictive lung absorption category (Sv.Bq-1);
  - (d) The skin dose coefficient for skin contamination (Sv.m2.TBq-1.s-1);
  - (e) If the radionuclide is a noble gas, the effective dose coefficient for submersion dose (Sv.Bq-1.s-1.m3); and
  - (f) The calculated values for A1 and A2 in TBq, the activity concentration for exempt material in Bq/g; and the activity limits for exempt *consignments* in Bq.
- 6.4.22.6.2 The *competent authority* shall establish an approval stating that the calculated radionuclide values are approved. ”
- 6.4.23.3 (a) Replace “the consignment” with “the shipment”.
- 6.4.23.8 Insert a new paragraph (d) as follows:
- “(d) A quantitative statement of any time-dependent features of a special form *design* likely to affect its ability to meet the requirements for *special form radioactive material* in 2.7.4.1 and 2.7.4.2.”
- Renumber (d) and (e) as (e) and (f).
- 6.4.23.9 (d) Replace all occurrences of “96” with “05”.
- 6.4.23.10 Replace all occurrences of “96” with “05”.
- 6.4.23.12 (e) Replace “routing” with “routeing”.
- 6.4.23.14 Insert new paragraphs (j) (bis) and (n) ( bis) and renumber accordingly:
- “(j) ( bis) Description(s) of the *containment system* (2.7.2) and, for packages containing fissile material that are not excepted by 6.4.11.2, the *confinement system* (2.7.2)”
- “(n) (bis) For *packages* containing more than 0.1 kg of uranium hexafluoride, a statement specifying those prescriptions of 6.4.6.2 and 6.4.6.3 with which the *package* does not conform and any amplifying information which may be useful to other competent authorities.”
- 6.4.23.15 Delete the last sentence.

6.4.23.16(bis) Insert a new paragraph as follows:

“6.4.23.16(bis) Change(s) to a *design*, as defined in 5.1.5.3.1, for which *competent authority approval(s)* exist may be approved depending upon their effects upon safety without affecting the validity of the existing *package approval*. Each change shall include a statement as to its effects upon the nuclear safety of the *radioactive contents* of the *package*.

- (a) In the first instance the change(s) shall be submitted to the *competent authority* of the country of origin of the *design* for *approval*.
- (b) All changes that affect the nuclear safety of the *radioactive contents* of a *package* shall require *multilateral approval*.
- (c) The relevant *competent authority* both of the country of origin of the *design* or shipment and of each country through or into which the *consignment* is to be transported, as defined in 2.7.2, shall be notified of all changes.”

**6.4.24** Insert in the title: “ **and 1996 (revised and amended 2005)**”

6.4.24.1 In the second indent, delete: “or manufactured after 31 December 2003,”.

Other alternative:

[ 6.4.24.1 Excepted packages, Industrial packages Types IP-1, IP-2 and IP-3 and Type A packages which did not require approval of design by the competent authority and which meet the requirements of **an Edition of the Regulations specified in column 1 of Table 6.4.24.1** may continue to be **prepared, or such packagings may continue to be manufactured, until the corresponding date specified in column 3 of Table 6.4.24.1**. Packages prepared for transport not later than the **date specified in column 3 of Table 6.4.24.1 for the corresponding Edition of the Regulations specified in column 1**, may continue in transport **until the corresponding date specified in column 4 of Table 6.4.24.1**. **Except as allowed in this paragraph, manufacture of packagings and use of packages shall be subject to the mandatory programme of quality assurance in accordance with the requirements of 1.1.2.3.1; and the activity limits and material restrictions of 2.7.7, the requirements and controls for transport of 2.7.9, 4.1.9.2, 5.1.5.1, 6.4.3 to 6.4.5 [IAEA, section V]; for a package containing fissile material, the requirements of 2.7.7.1.6 (bis) and for a package containing fissile material transported by air, the requirements of 6.4.11.10.”]**

**Table 6.4.24.1:** Add a new table as follows:

**“Table 6.4.24.1 : Packages not requiring competent authority approval of design**

<b>Edition of the IAEA regulation*</b>	<b>Design or modification until</b>	<b>Manufacture and prepare until</b>	<b>End of transport</b>
1985	Dec. 31, 2003 <sup>+</sup>	Dec. 31, 2003 <sup>+</sup>	2028
1996	Dec. 31, 2006	Dec. 31, 2010	2034

\* Includes Revised Editions and Amended Editions

<sup>+</sup>dates which are already mandatory according to edition that have been in force ( 6.4.24.1 corresponding to para 815 of the IAEA 1996 edition)

[6.4.24.1 (bis) Excepted packages, Industrial packages Types IP-1, IP-2 and IP-3 and Type A packages which did not require approval of design by the competent authority **may be modified or continued to be designed until the date specified in column 2 of Table 6.4.24.1 in accordance with the requirements of the corresponding Edition of the Regulations specified in column 1 of Table 6.4.24.1. Except as allowed in this paragraph, modification of packaging and design of packages shall be subject to the mandatory programme of quality assurance in accordance with the requirements of 1.1.2.3.1; and the activity limits and material restrictions of 2.7.7, the requirements and controls for transport of 2.7.9, 4.1.9.2, 5.1.5.1, 6.4.3 to 6.4.5 [IAEA, section V]; for a package containing fissile material, the requirements of 2.7.7.1.6 (bis) and for a package containing fissile material transported by air, the requirements of 6.4.11.10.]**

**Packages approved under the 1973, 1973 (as amended), 1985 and 1985 (as amended 1990) and 1996 (revised and amended 2005) editions of IAEA Safety Series No. 6**

[6.4.24.2. Packagings manufactured to a package design approved by the competent authority as meeting the Edition of the Regulations specified in column 1 of Table 6.4.24.2 may continue to be used until the date specified in column 4 of Table 6.4.24.2 corresponding with the Edition of the Regulations specified in column 1 of Table 6.4.24.2. After this date use may continue, until the corresponding date specified in column 6 of Table 6.4.24.2, subject, additionally, to multilateral approval of package design. A serial number according to the provision of 5.2.1.5.5 shall be assigned to and marked on the outside of each packaging. Except as allowed in this paragraph, use of packagings shall be subject to the mandatory programme of quality assurance in accordance with the requirements of 1.1.2.3.1; and the activity limits and material restrictions of 2.7.7, the requirements and controls for transport of 2.7.9, 4.1.9.2, 5.1.5.1, 6.4.3 to 6.4.5 [IAEA, section V]; for a package containing fissile material, the requirements of 2.7.7.1.6 (bis) and for a package containing fissile material transported by air, the requirements of 6.4.11.10.]

**Table 6.4.24.2:** Add a new table as follows:

**“Table 6.4.24.2: Competent authority approved packages and materials**

Edition of the regulations *	Type	Design or Modification until	Multilateral approval after	Commence manufacture until	End of use
1967	All Packages				Dec. 31, 2001
	Special Form				Dec. 31, 2001
1973	All Packages	Dec. 31,1995 <sup>+</sup>	Dec. 31,1992 <sup>+</sup>	Dec. 31, 1995 <sup>+</sup>	Dec. 31, 2019
	Special Form	Dec. 31,1995 <sup>+</sup>	N/A	Dec. 31, 2003 <sup>++</sup>	Dec. 31, 2019
1985	All Packages	Dec. 31,2001 <sup>**</sup>	Dec. 31,2003 <sup>**</sup>	Dec. 31, 2006 <sup>**</sup>	Dec. 31, 2028
	Special Form	Dec. 31,2001 <sup>**</sup>	N/A	Dec. 31,2003 <sup>++</sup>	Dec. 31, 2028
1996	All Packages	Dec. 31,2012	Dec. 31,2016	Dec. 31, 2018	Dec. 31, 2034
	Special Form	Dec. 31,2008	N/A	Dec. 31,2012	Dec. 31, 2034
	Low Dispersible	Dec. 31,2008	N/A	Dec. 31,2012	Dec. 31, 2034

\* Includes Revised Editions and Amended Editions

**NOTA:** dates which are already mandatory according to edition that have been in force:

+ 6.4.12.3 corresponding to para 714 of the IAEA 1985 edition(?)

\*\* 6.4.24.3 corresponding to para 817 of the 1996 edition

++ 6.4.24.4 corresponding to para 818 of the 1996 edition

[6.4.24.2 (bis) Packagings, for which the package design was approved by a competent authority, may be manufactured until the date specified in column 5 of Table 6.4.24.2 corresponding to the Edition of the Regulations in column 1 of Table 6.4.24.2 to which the package design was approved. After this date no new manufacture shall commence. Except as allowed in this paragraph, manufacture of packagings shall be subject to the mandatory programme of quality assurance in accordance with the requirements of 1.1.2.3.1; and the activity limits and material restrictions of 2.7.7, the requirements and controls for transport of 2.7.9, 4.1.9.2, 5.1.5.1, 6.4.3 to 6.4.5 [IAEA, section V]; for a package containing fissile material, the requirements of 2.7.7.1.6 (bis) and for a package containing fissile material transported by air, the requirements of 6.4.11.10.]

[6.4.24.2 (bis+1) Packages which require competent authority approval of design may continue to be designed until the date specified in column 3 of Table 6.4.24.2, in accordance with the requirements of the corresponding Edition of the Regulations specified in column 1 of Table 6.4.24.2. The commencing of any new design or modification in design which, as determined by the competent authority, would significantly affect safety, shall require the package design to meet this edition of the Regulations in full. Changes in the design or in the nature or quantity of the authorized radioactive contents which, as determined by the competent authority, would not significantly affect safety, may be made after the date specified in column 3 of Table 6.4.24.2 manufactured to a design which had received unilateral approval by the competent authority under an Edition of the Regulations specified in column 1 of Table 6.4.24.2 may continue to be used until the corresponding date specified in column 6 of Table 6.4.24.2. Except as allowed in this paragraph, design and modification of packages shall be subject to the mandatory programme of quality assurance in accordance with the requirements of 1.1.2.3.1; and the activity limits and material restrictions of 2.7.7, the requirements and controls for transport of 2.7.9, 4.1.9.2, 5.1.5.1, 6.4.3 to 6.4.5 [IAEA, section V]; for a package containing fissile material, the requirements of 2.7.7.1.6 (bis) and for a package containing fissile material transported by air, the requirements of 6.4.11.10.]

6.4.24.2 In the first sentence: read:

“may continue to be used ~~until 31 December 2003~~, subject to: **multilateral approval of package design**, the mandatory programme ...”(rest unchanged).

Delete: “After this date use may continue subject, additionally, to multilateral approval of package design. “

6.4.24.3 In the first sentence, read: “...to be used ~~until 31 December 2003~~, subject to: **multilateral approval of package design**, the mandatory programme of *quality assurance* ...”

Delete: “After this date use may continue subject, additionally, to multilateral approval of package design. “

**Special form radioactive material approved under the 1973, 1973 (As Amended), 1985 and 1985 (As Amended 1990) and 1996 (revised and amended 2005) Editions of these Regulations editions of IAEA Safety Series No. 6**

6.4.24.4 Delete: “after 31 December 2003”.

Other alternative:

[6.4.24.4 Special form radioactive material . Except as allowed in this paragraph, use of special form material shall be subject to the mandatory programme of quality assurance in accordance with the requirements of 1.1.2.3.]

[6.4.24.4 (bis) Special form radioactive material may continue to be designed or modified until the date specified in column 3 of Table 6.4.24.2 in accordance with the requirements of the corresponding Edition of the Regulations specified in column 1 of Table 6.4.24.2. Changes in the design which, as determined by the competent authority, would not significantly affect safety, may be made after the date specified in column 3 of Table 6.4.24.2, in accordance with the requirements of the corresponding Edition of the Regulations specified in column 1 of Table 6.4.24.2. Except as allowed in this paragraph, design and modification of special form material shall be subject to the mandatory programme of quality assurance in accordance with the requirements of 1.1.2.3.]

[6.4.24.4(bis+1) Special form radioactive material may be manufactured until the date specified in column 5 of Table 6.4.24.2 corresponding to the Edition of the Regulations in column 1 of Table 6.4.24.2 to which the design is approved. After this date no new manufacture shall commence. Except as allowed in this paragraph, manufacture of special form material shall be subject to the mandatory programme of quality assurance in accordance with the requirements of 1.1.2.3.]

**[Low dispersible radioactive material approved under a previous Edition of these Regulations**

6.4.24.4(bis+2) Low dispersible radioactive material manufactured to a design which had received multilateral approval by the competent authority under the Edition of the Regulations specified in column 1 of Table 6.4.24.2 may continue to be used until the corresponding date all be subject to the mandatory programme of quality assurance in accordance with the requirements of 1.1.2.3.

6.4.24.4 (bis+3) Low dispersible radioactive material may be designed or modified until the date specified in column 3 of Table 6.4.24.2 in accordance with the requirements of the corresponding Edition of the Regulations specified in column 1 of Table 6.4.24.2. Changes in the design which, as determined by the competent authority, would not significantly affect safety, may be made after the date specified in column 3 of Table 6.4.24.2, in accordance with the requirements of the corresponding Edition of the Regulations specified in column 1 of Table 6.4.24.2. Except as allowed in this paragraph, design and modification of low dispersible radioactive material shall be subject to the mandatory programme of quality assurance in accordance with the requirements of 1.1.2.3.]

7.1.7.3.3 (a) Amend the beginning to read:

“Except under the condition of exclusive use, **and for consignments of LSA-I material**, the total number of packages, ...” (rest unchanged)

Delete the last sentence.

(b) To be deleted.

(Renumber (c) and (d) as (b) and (c) ).

**Table 7.1.7.4.2:** In the title, delete: “**containing fissile material**”

**Additional consequential changes due to accepted proposal :**

Current texts often correspond more to the proposed definition than to the current one. Many of the texts that are changed are identical but refer to different paragraphs. Both “fissile materials” and “fissile nuclides” are important terms that should be maintained.

<b>Regulations</b>					
<b>Section, Para. or location (number of occurrences)</b>	<b>Current use of “fissile”</b>		<b>Proposed use of “fissile” (bold type indicates change)</b>		<b>Comment</b> Change without text proposal means “material” is exchanged for “nuclide(s)”
	Material	Nuclide (s)	Material	Nuclide(s)	
<b>Section II</b>					
2.7.2 Definition text	Yes	No	<b>Yes</b>	<b>Yes</b>	<b>Major change</b>
2.7.3.2 (a)(iii) LSA-I def. “excluding FM in quantities not excepted...”	Yes	No	<b>No</b>	<b>Yes</b>	<b>Changed.</b> “excluding FN quantities not excepted ...”
2.7.3.2 (a)(iv) LSA-I def. “excluding FM in quantities not excepted...”	Yes	No	<b>No</b>	<b>Yes</b>	<b>Changed.</b> “excluding FN quantities not excepted ...”
<b>Section IV</b>					
2.7.7.1.7 Contents (3)	Yes	No	<b>Yes</b>	<b>Yes</b>	<b>Change</b> “(a) quantities of FNs not authorized ...” “(b) any radionuclide different from ...”
<b>Section V</b>					
5.2.2.1.12.2 (b) Activity (2)	Yes	No	<b>Yes</b>	<b>Yes</b>	<b>Change</b> “For FM, the mass of fissile nuclides ...”
5.4.1.5.7.1 (c) (2)	Yes	No	<b>Yes</b>	<b>Yes</b>	<b>Change</b> “For FM, the mass of fissile nuclides ...”
5.1.5.2.4 (d) (v) Notification (2)	Yes	No	<b>Yes</b>	<b>Yes</b>	<b>Change</b> “For FM, the mass of fissile nuclides ...”
<b>Section VI</b>					
6.4.11.2 (a) Formula	Yes	No	<b>No</b>	<b>Yes</b>	<b>Change</b>
6.4.11.2 (a)(i) 15 g	Yes	No	<b>No</b>	<b>Yes</b>	<b>Change</b>
6.4.11.2 (a)(iii) 5 g/10 l	Yes	No	<b>No</b>	<b>Yes</b>	<b>Change</b>
6.4.11.2 (b) 1% enrichm.	Yes	No	<b>No</b>	<b>Yes</b>	<b>Change</b>
Table 6.4.11.2, body (3)	Yes	No	<b>No</b>	<b>Yes</b>	<b>Change</b>
<b>Section VIII</b>					
6.4.23.12 (j) Special arr. App. cert. Contents	Yes	No	<b>No</b>	<b>Yes</b>	<b>Change</b>
6.4.23.13 (j) Shipm. Appr.	Yes	No	<b>No</b>	<b>Yes</b>	<b>Change</b>
6.4.23.14 (l) Package design, Contents	Yes	No	<b>No</b>	<b>Yes</b>	<b>Change</b>