



Secretariat

**Distr.
GENERAL**

**ST/SG/AC.10/1998/22
24 September 1998**

Original: ENGLISH

**COMMITTEE OF EXPERTS ON THE
TRANSPORT OF DANGEROUS GOODS**

**(Twentieth session,
Geneva, 7-16 December 1998,
agenda item 2 (c)(ii))**

**WORK OF THE SUB-COMMITTEE OF EXPERTS
ON THE TRANSPORT OF DANGEROUS GOODS**

Draft amendments to the Recommendations on the Transport of Dangerous Goods

Model Regulations on the Transport of Dangerous Goods

Radioactive material with other dangerous properties

Note by the Secretariat

1. In the third draft for Class 7 submitted by IAEA to the Sub-Committee (ST/SG/AC.10/C.3/1998/44), the first sentence of paragraph 2.0.3.2, corresponding to paragraph 507 of the IAEA Regulations for the Safe Transport of Radioactive Material (ST-1), was deleted. This sentence read as follows:

“In addition to the radioactive and fissile properties, any other dangerous properties of the contents of the package, such as explosiveness, flammability, pyrophoricity, chemical toxicity and corrosiveness, shall be taken into account in the packing, labelling, marking, placarding, storage and transport in order to be in compliance with the relevant transport regulations for dangerous goods of each of the countries through or into which the materials will be transported, and, where applicable, with the regulations of the cognizant transport organizations, as well as these Regulations.”

2. The only remaining sentence of paragraph 2.0.3.2 (see ST/SG/AC.10/C.3/30/Add.3) reads as follows:

“Radioactive material having other hazardous properties shall always be classified in Class 7 and the additional hazards shall also be identified.”

3. The first sentence did not concern classification and was not at the right place in 2.0.3.2. However, it seems that this sentence has not been reflected elsewhere. Furthermore, the subsidiary risk column in the Dangerous Goods List does not provide information on subsidiary risks for Class 7, and existing special provision 172 has been deleted. The only place where paragraph 507 seems to be taken into account is paragraph 4.1.7.1.5. In the absence of indication in the Dangerous Goods List, it will not be clear whether or not radioactive material with subsidiary risks have to bear subsidiary risk labels (5.2.2.1.2 and 5.2.2.1.3 clearly refer to the specifications of the Dangerous Goods List for applying the subsidiary risk label).

Proposals

General:

4. The secretariat proposes to add the following section in Part 1:

“1.1.2.5 Radioactive material possessing other dangerous properties

1.1.2.5.1 In addition to the radioactive and fissile properties, any other dangerous properties of the contents of a package, such as explosiveness, flammability, pyrophoricity, chemical toxicity and corrosiveness, shall also be taken into account in the [documentation], packing, labelling, marking, placarding, stowage, segregation and transport, in order to be in compliance with all relevant provisions for dangerous goods of these Model Regulations.”

Justification:

To reflect the principle of para. 507 of the IAEA Regulations.

Refer also to the existing IMDG Code, para. 1.2.2 of the introduction to class 7 (which contains additional reference to documentation).

5. Some explanations on this paragraph are given in the IAEA Explanatory Material (ST-2) (see paragraphs 507.4 and 507.5, with the example of toluene with a specific activity of 10^{-5} A₂/g, transported as LSA-II under exclusive use. However, the real interpretation of paragraph 507 remains unclear as to how to apply this paragraph to [documentation], packing, labelling, marking, placarding, stowage, segregation and transport. Therefore, the secretariat suggests that appropriate requirements should be included in the relevant parts of the Model Regulations to clarify the interpretation.

Classification/labelling/placarding

6. It is suggested to re-introduce SP 172 in chapter 3.3, amended to read as follows:

“Unless packed in limited quantities in accordance with chapter 3.4, radioactive material with a subsidiary risk shall:

- (a) be labelled with subsidiary risk labels corresponding to each non-radioactive hazard exhibited by the material; corresponding placards shall be affixed to transport units in accordance with the relevant provisions of 5.3.1;
- (b) be allocated to Packing Groups I, II or III, as and if appropriate, by application of the grouping criteria provided in Part 2 corresponding to the nature of the predominant subsidiary risk.”

This special provision would apply to all radioactive material entries, except UN 2909, UN 2910 and UN 2911.

7. Normally, according to 2.0.3 and existing regulations, class 7 takes precedence over other classes/divisions. However, the case of UN 2910 (Radioactive material, excepted package, limited quantity of material) seems to be an exception in the IMDG Code (para. 1.2.6 in the introduction to class 7) and RID/ADR (marginal 2002 (12) and (13)) where it seems that precedence is given to the subsidiary risk. Therefore, the secretariat suggests to add a new special provision in chapter 3.3 (applicable to UN 2910 only) to read as follows:

“XXX When this material (UN 2910) meets the definitions and criteria of other classes or divisions as defined in Part 2, it shall be classified in accordance with the predominant non-radioactive hazard. Such material shall be declared under the proper shipping name and UN number appropriate for the material in that predominant Class or Division, with the addition of the phrase "Radioactive Material Excepted Package, Limited Quantity of Material" to the proper shipping name, and shall be transported in accordance with the provisions applicable to that UN number. In addition, all other requirements specified in 2.7.9.1 shall apply, except 5.2.1.5.2 and 5.4.1.1.7.1 (c).”

8. In accordance with decisions taken for the IMDG Code (E and T Group, 14-18 September 1998), the secretariat also suggests the following wording for 2.0.3.2:

“Apart from radioactive material in excepted packages (where the other hazardous properties take precedence) radioactive material having other hazardous properties shall always be classified in Class 7 and the additional hazards shall also be identified.”

Account shall be taken of the formation of other dangerous substances that may result from the reaction between the contents of a consignment and the atmosphere or water in the event of breaking of the containment system caused by an accident, e.g. uranium hexafluoride (UF₆) decomposition in a humid atmosphere.

Documentation

9. It is unclear in existing regulations whether or not additional information corresponding to the additional hazards is required in the transport document. This is required in the IMDG Code, but not in IAEA Regulations, para. 507.

If additional information is deemed necessary, the following sentence could be added to SP 172 above:

“The description required in 5.4.1.1.7.1 (e) shall include a description of these subsidiary risks (e.g. "Subsidiary risk: 3, 6.1"), the name of the constituents which most predominantly contribute to this (these) subsidiary risk(s), and where applicable, the packing group.

This special provision would apply to the following UN numbers:

2908, 2912, 2913 (?), 2915, 2916, 2917, 2919, 3321, 3322, 3323, 3324, 3325, 3326, 3327, 3328, 3329, 3330, 3331, 3332, 3333.”

In such a case, para. 507 of the IAEA Regulations should be amended to include a reference to documentation.

Stowage/segregation

10. It does not seem necessary to add anything to Part 7, as such provisions are developed separately by the various modes and would be derived from the classification/labelling/documentation (see also 7.1.2.3 (c)).

Packing

11. The text of paragraph 4.1.7.1.5 is not correct because the concept of packing group does not apply to all classes and divisions. Furthermore, the interpretation of paragraph 507 of the IAEA Regulations, resulting from the last sentence (“It shall also be capable of meeting the appropriate packaging performance criteria for the subsidiary risk”) is much less stringent than the existing requirements of SP 172 and those of the IMDG Code, RID and ADR, where packagings other than type A, type B, type C are required to meet these performance criteria, i.e. to be UN certified packagings. Furthermore, the case of gas receptacles has not been addressed. Therefore the secretariat suggests to replace paragraph 4.1.7.1.5 by a new paragraph based on existing SP 172 slightly amended to read as follows:

“Unless transported in a Type A, Type B or Type C package, radioactive material with a subsidiary risk shall be transported in packagings, IBCs or tanks fully complying with the requirements of chapters 6.1, 6.2, 6.3, 6.5 or 6.6 as appropriate, as well as applicable requirements of chapters 4.1 or 4.2 for that subsidiary risk.

When transported in Type A, Type B or Type C packages, such packages shall be capable of meeting the requirements of chapters 6.1, 6.2, [6.3], 6.5 or 6.6 as appropriate, and the applicable requirements of chapters 4.1 or 4.2 for that subsidiary risk shall be met.”
