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AMENDMENTS TO THE IMDG CODE AND SUPPLEMENTS

Revision of IAEA's [SSR-6 (Rev.1)] regulations for the safe transport of radioactive material

Submitted by the International Atomic Energy Agency (IAEA)
and the World Nuclear Transport Institute (WNTI)

SUMMARY

Executive summary: This document seeks the opinion of the Sub-Committee on Carriage of Cargoes and Containers (CCC) on an additional definition related to maritime transport, which is intended to be included within the next version of the IAEA regulations for the safe transport of radioactive material [SSR-6].

Strategic direction, if applicable: 7

Output: 7.10

Action to be taken: Paragraph 14

Related document: None

Background

1 The IAEA has initiated the process for revision of the regulations for the safe transport of radioactive material [SSR-6 (Rev.1)].

Introduction

2 Within this process, a WNTI proposal for revising tables 10 and 11 of SSR-6 (Rev.1) is under consideration, in order to adapt the transport index (TI) and criticality safety index (CSI) limits to transport of radioactive materials on containerships. The draft revised tables 10 and 11 are set out in the annex to the present document. These proposed two tables now include limits for a "specially designed space in a containership to stow large freight containers, either twenty-foot or forty-foot long, delimited by bulkheads equipped with cell guides", provisionally designated as "Bay".

3 In this context, it is proposed to introduce a new concept, provisionally designated as "Bay", in section II "Definitions" of the IAEA transport regulations [SSR-6].

4 More detailed explanation of the need for updating tables 10 and 11 of SSR-6 (Rev.1) and of the above-referred concept is provided in the following paragraphs.

Space in a containership to stow large freight containers, either twenty-foot or forty-foot long, delimited by bulkheads equipped with cell guides

5 WNTI has identified that container shipping has become the predominant means for the transport by sea of goods, including radioactive materials, whilst it was anecdotic a few decades ago when the regulations for the safe transport of radioactive material were first established and revised.

6 Over this period, the size of containerships and their cargo holds have also significantly increased. Compared to the general cargo ships that were used, modern containerships have commonly fewer holds (and no compartments) whilst providing a significantly higher volume and capacity.

7 The present IAEA transport regulations [SSR-6 (Rev.1)] currently include transport index (TI) and criticality safety index (CSI) limits for the total ship and holds, and with possibility to take credit of subdivisions of a hold into compartments.

8 Limits for "Compartments" are not adapted to containerships, and the only limits that are presently applicable in case of containerships are those for a hold. It is not currently permitted to take credit of subdivisions of a hold into the specially designed and equipped spaces delimited by bulkheads (which may be watertight or not) and used to stow freight containers, either twenty-foot or forty-foot long, on board modern containerships. Nevertheless, these spaces fulfill the same functions for freight containers as the compartments for general cargo, as regards safety of transport of radioactive material.

9 Consequently, when considering the WNTI proposal, and similarly the limits for compartments in a general cargo ship, IAEA reached the conclusion that defining limits for the "specially designed space in a containership to stow large freight containers, either twenty-foot or forty-foot long, delimited by bulkheads equipped with cell guides" would be relevant, as regards safety of transport of radioactive material, and would facilitate transport of radioactive material in freight containers on board containerships.

Terminology

10 To ease implementation of the revised tables 10 and 11 for containerships, by avoiding in each table a long description of the concept of the "specially designed space in a containership to stow large freight containers, either twenty-foot or forty-foot long, delimited by bulkheads equipped with cell guides", it is envisaged to include a new term, with its definition, in the next revision of SSR-6. This concept is provisionally designated in the draft of the next revision of SSR-6 as "Bay".

11 Consequently, it is proposed to add the following definition in the next revision of SSR-6:

"205A. *Bay* shall mean a specially designed space in a containership to stow large freight containers, either twenty-foot or forty-foot long, delimited by bulkheads equipped with cell guides".

Proposal

12 IAEA and WNTI request the advice of IMO on the choice of the word "Bay" to designate the specially designed space in a containership to stow large freight containers, either twenty-foot or forty-foot long, delimited by bulkheads equipped with cell guides. IAEA and WNTI request the advice of IMO on whether the word "Bay" is appropriate, or if another word would be more appropriate, or if SSR-6 should not use a specific word and should use the full description of the concept in the few instances where it is used.

13 The feedback from IMO will be considered as part of the revision process of the IAEA regulations for the safe transport of radioactive material [SSR-6].

Action requested of the Sub-Committee

14 The Sub-Committee is invited to note the information contained in this document and provide advice, as appropriate. The purpose of this advice is to inform future revisions of the IAEA regulations for the safe transport of radioactive material [SSR-6].

ANNEX 1

IAEA's REGULATIONS FOR THE SAFE TRANSPORT OF RADIOACTIVE MATERIALS
[SSR-6 (Rev.1)]

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

Type of <i>freight container</i> or <i>conveyance</i>	Limit on sum of <i>TIs</i> in a <i>freight container</i> or aboard a <i>conveyance</i>
<i>Freight container:</i>	
<i>Small freight container</i>	50
<i>Large freight container</i>	50
<i>Vehicle</i>	50
<i>Aircraft:</i>	
Passenger	50
Cargo	200
<i>Inland waterway craft</i>	50
<i>Sea-going vessel^a:</i>	
(i) Hold, compartment, <i>bay</i> , or defined deck area:	
<i>Packages, overpacks, small freight containers</i>	50
<i>Large freight containers</i>	200
(ii) Total vessel:	
<i>Packages, overpacks, small freight containers</i>	200
<i>Large freight containers</i>	No limit

^a *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*.

ANNEX 2

IAEA's REGULATIONS FOR THE SAFE TRANSPORT OF RADIOACTIVE MATERIALS
[SSR-6 (Rev.1)]

DRAFT REVISED TABLE 11 FOR 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
<i>Freight container:</i>		
Small freight container	50	Not applicable
Large freight container	50	100 ^d
<i>Vehicle</i>	50	100 ^d
<i>Aircraft:</i>		
Passenger	50	Not applicable
Cargo	50	100 ^d
Inland waterway craft	50	100 ^d
<i>Sea-going vessel^a:</i>		
(i) Hold (except when subdivided into bays), bay, compartment, or defined deck area:		
<i>Packages, overpacks, small freight containers</i>	50	100 ^d
<i>Large freight containers</i>	50	100 ^d
(ii) Hold subdivided into bays (applies in addition to the limits in (i) for bays):		
<i>Large freight containers</i>	100 ^b	200 ^{c,d}
(iii) Total vessel:		
<i>Packages, overpacks, small freight containers</i>	200 ^b	200 ^c
<i>Large freight containers</i>	No limit ^b	No limit ^c

^a [...]

^b The consignments 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 such groups with fissile material.

^c The consignments 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 with fissile material or other conveyances carrying radioactive material. The intervening space between groups may be occupied by other cargo in accordance with para. 506.

^d Multilateral approval of shipment shall be required in accordance with para. 825(c), as applicable.