

# **IMO REQUIREMENTS RELATED TO THE MARITIME TRANSPORT OF NUCLEAR MATERIALS, IN PARTICULAR DEVELOPMENTS RELATED TO RADIOACTIVE WASTE, STATUS AND FUTURE ACTIVITIES**

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The transport of dangerous goods by sea is governed by Chapter VII of the Convention on the Safety of Life at Sea (SOLAS) 1974, as amended, and the International Maritime Dangerous Goods (IMDG) Code. The latter, being of recommendatory nature, closely follows the United Nations Recommendations on the Transport of Dangerous Goods (UN Recommendations), as the Model Regulation for all transport modes and, as far as the transport of class 7 (radioactive substances) is concerned, the IAEA Regulations for the Safe Transport of Radioactive Material (ST-1).

The IMDG Code features a separate chapter (7.8) on the safe transport of hazardous waste, which covers all hazardous waste other than radioactive waste. This effectively means that substances, solutions, mixtures or articles containing or contaminated with radioactive materials are subject to the applicable provisions for radioactive materials of class 7 of the IMDG Code and are not considered as waste for the purpose of safe transport of waste by sea.

The provisions of 1974 SOLAS Chapter VII are supplemented by special requirements, e.g. fire protection equipment for the transport of dangerous goods by sea. Only for class 7, radioactive materials, are there no specific requirements. This is very important to note in order to understand the need for the development of the Code for the Safe Carriage of Irradiated Nuclear Fuel, Plutonium and High-Level Radioactive Waste in Flasks on Board Ships (INF Code). To solve this problem by simply including class 7 in the relevant chapters of SOLAS was not considered adequate. It was preferred to include such requirements in a recommended code of practice rather than to amend SOLAS.

To supplement the transport of dangerous goods provisions of the SOLAS Convention and the IMDG Code, and in particular also with regard to the transport of radioactive waste by sea, the INF Code was developed and adopted by IMO Assembly resolution A.748(18) in November 1993 as a voluntary code of practice for application by IMO Member States. This paper concentrates and reports on the historical development and background of the INF Code and the latest activities in IMO on its review and augmentation, as requested by the eighteenth session of the IMO Assembly and reiterated by its nineteenth session in November 1995.

The twentieth session of the IMO Assembly (1997) considered the progress report on the review of the INF Code and, commending the relevant IMO bodies for their expeditious work, adopted the Assembly resolutions on amendments to the INF Code and on the guidelines for the development of shipboard emergency plans for vessels carrying material subject to the INF Code.

The Maritime Safety Committee, 69th Session (MSC 69) and the Marine Environment Protection Committee, 41st Session (MEPC 41) (1998) agreed that there was no need to pursue the issue of prior notification any further at present, as such a requirement might result in contravention of the United Nations Convention on the Law of the Sea (UNCLOS) and the Convention on Protection of Nuclear Material and might lead to an undesired precedent for the transport of dangerous goods and notification might lead to interference by terrorists.

MEPC 41 also agreed that there was no need to:

1. include in the INF Code any additional specific requirements for shore-based emergency response plans; and
2. further discuss shipboard emergency plans being made available to coastal States concerned.

MSC 71 (May 1999) adopted amendments to SOLAS and the INF Code aiming at making the latter mandatory by resolutions MSC 87(71) and MSC 88 (71) respectively, for entry into force on 1 January 2001.

The twenty-first session of the Assembly (1999) adopted resolution A.893(21) on voyage planning (for all ships, not only for ships carrying nuclear materials).

The IAEA has co-operated closely with IMO on these matters and has finalized the co-ordinated research programme (CRP) on accident severity at sea during transport of radioactive material and the revision of its Emergency Response Planning and Preparedness for Transport Accidents Involving Radioactive Material (SS 87), currently being prepared for publication as TS-G-1.1 (ST-3).

Little work on other matters complementary to the INF Code remains to be done.

An inter-agency group with the initial task of conducting a literature review has been established between the IAEA, IMO and the United Nations Environment Programme (UNEP). Its work is completed and a report is being prepared for publication (expected late 2000).

The International Convention on Pollution Preparedness, Response and Co-operation (OPRC) Working Group is still considering a new chapter to the Manual on Chemical Pollution on locating and identifying sunken ships or flasks and procuring suitable salvage equipment and expertise for their recovery.

In addition to the regular biennial updating, the extensive work on the reformatting of the IMDG Code in order to bring it into harmony with requirements for the other modes of transport and to assist Member States to implement it globally and inter-modally, has recently been finalized. The reformatted code, including its provisions for the transport of hazardous waste and its revised

schedules for radioactive materials, will come into force as Amendment 30-00 on 1 January 2001, with a one-year transition period.

To supplement the efforts in assuring the safe transport of nuclear materials and, in particular radioactive waste, the new mandatory INF Code has been developed and will enter into force on 1 January 2001, simultaneously with the reformatted IMDG Code. The INF Code is considered a major contribution towards the environmentally safe transport of these materials by sea. Having finalized this extensive work on the development, improvement and augmentation of the INF Code, IMO Member States expect full compliance with all the relevant IMO and IAEA requirements, including the INF Code, to ensure that the shipment of INF Code materials by sea continues to be accomplished safely. The INF Code will, as required by resolution A. 748(18), be kept under regular review and amended, as necessary, in accordance with SOLAS, Article VIII.