RESOLUTION MEPC.55(33)

adopted on 30 October 1992

ADOPTION OF AMENDMENTS TO THE INTERNATIONAL CODE FOR THE CONSTRUCTION AND EQUIPMENT OF SHIPS CARRYING DANGEROUS CHEMICALS IN BULK (IBC CODE)

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

RECALLING Article 38(a) of the Convention on the International Maritime Organization concerning the function of the Committee conferred upon it by international conventions for the prevention and control of marine pollution,

NOTING article 16 of the International Convention for the Prevention of Pollution from Ships, 1973 (hereinafter referred to as the "1973 Convention") and article VI of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973 (hereinafter referred to as the "1978 Protocol") which together specify the amendment procedure of the 1978 Protocol and confers upon the appropriate body of the Organization the function of considering and adopting amendments to the 1973 Convention, as modified by the 1978 Protocol (MARPOL 73/78),

RECOGNIZING that the liquid chemical wastes, where it concerns transport by sea, should be carried in accordance with the relevant international recommendations or convention,

NOTING ALSO that it is highly desirable for the provisions of the IBC Code which are mandatory under MARPOL 73/78 and the 1974 SOLAS Convention to remain identical under both conventions,

HAVING CONSIDERED, at its thirty-third session, the amendments to the Code proposed by the Sub-Committee on Bulk Chemicals at its twenty-first session and circulated in accordance with article 16(2)(a) of the 1973 Convention,

1. ADOPTS in accordance with article 16(2)(d) of the 1973 Convention amendments to the IBC Code, the texts of which are set out in the annex to the present resolution;

2. DETERMINES, in accordance with article 16(2)(f)(iii) of the 1973 Convention, that the amendments shall be deemed to have been accepted on 1 January 1994, or the date determined by the MSC on which corresponding amendments for the purposes of SOLAS 74 are deemed to have been accepted in accordance with article VIII(b)(vi)(2) thereof, whichever occurs later, unless prior to that date, not less than one third of the Parties or the Parties, the combined merchant fleets of which constitute not less than fifty per cent of the gross tonnage of the world's merchant fleet, have communicated to the Organization their objections to the amendments;

3. INVITES the Maritime Safety Committee to consider the adoption of corresponding amendments to the IBC Code (resolution MSC.4(48), as amended), in accordance with the provisions of article VIII of the 1974 SOLAS Convention;

4. INVITES the Parties to note that in accordance with article 16(2)(g)(ii) of the 1973 Convention the amendments shall enter into force six months after their acceptance in accordance with paragraph 2 above;

5. REQUESTS the Secretary-General, in conformity with article 16(2)(e) of the 1973 Convention, to transmit to all Parties to the 1978 Protocol certified copies of the present resolution and the text of the amendments contained in the annex;

6. REQUESTS FURTHER the Secretary-General to transmit to the Members of the Organization which are not Parties to the 1978 Protocol copies of the resolution and its annex.

ANNEX

TEXT OF AMENDMENTS TO THE IBC CODE

The last sentence of 1.1.1 is replaced by the following:

Products that have been reviewed and determined not to present safety and pollution hazards to such an extent as to warrant the application of the Code are found in chapter 18.

The following sentence is added to the existing text of 1.1.3:

For the evaluation of the pollution hazard of such a product and assignment of its pollution category, the procedure specified in regulation 3(4) of Annex II of MARPOL 73/78 must be followed.

The existing text of chapter 8 is replaced by the following:

CHAPTER 8 - CARGO TANK VENTING AND GAS-FREEING ARRANGEMENTS

8.1 Application

8.1.1 This chapter applies to ships constructed on or after 1 January 1994.

8.1.2 Ships constructed before 1 January 1994 should comply with the requirements of chapter 8 of this Code which were in force prior to the said date.

8.1.3 For the purpose of this regulation, the term "ship constructed" is as defined in regulation 11-1/1.3.1 of the 1974 SOLAS Convention as amended.

8.1.4 Ships constructed on or after 1 July 1986 but before 1 January 1994 which fully comply with the requirements of the Code applicable at that time may be regarded as complying with the requirements of regulation 11-2/59 of SOLAS 74.

8.1.5 For ships to which the Code applies, the requirements of this chapter should apply in lieu of regulation 11-2/59.1 and 59.2 of the 1974 SOLAS Convention, as amended.

8.2 Cargo tank venting

8.2.1 All cargo tanks should be provided with a venting system appropriate to the cargo being carried and these systems should be independent of the air pipes and venting systems of all other compartments of the ship. Tank venting systems should be designed so as to minimize the possibility of cargo vapour accumulating about the decks, entering accommodation, service and machinery spaces and control stations and in the case of flammable vapours entering or collecting in spaces or areas containing sources of ignition. Tank venting systems should be arranged to prevent entrance of water into the cargo tanks and at the same time, vent outlets should direct the vapour discharge upwards in the form of unimpeded jets.

8.2.2 The venting systems should be connected to the top of each cargo tank and as far as practicable the cargo vent lines should be self-draining back to the cargo tanks under all normal operational conditions of list and trim. Where it is necessary to drain venting systems above the level of any pressure/vacuum valve, capped or plugged drain cocks should be provided.

8.2.3 Provision should be made to ensure that the liquid head in any tank does not exceed the design head of the tank. Suitable high-level alarms, overflow control systems or spill valves, together with gauging and tank filling procedures may be accepted for this purpose. Where the means of limiting cargo tank overpressure includes an automatic closing valve, the valve should comply with the appropriate provisions of 15.19.

8.2.4 Tank venting systems should be designed and operated so as to ensure that neither pressure nor vacuum created in the cargo tanks during loading or unloading exceeds tank design parameters. The main factors to be considered in the sizing of a tank venting system are as follows:

.1 design loading and unloading rate;

.2 gas evolution during loading: this should be taken account of by multiplying the maximum loading rate by a factor of at least 1.25;

.3 density of the cargo vapour mixture;

.4 pressure loss in vent piping and across valves and fittings;

.5 pressure/vacuum settings of relief devices.

8.2.5 Tank vent piping connected to cargo tanks of corrosion resistant material, or to tanks which are lined or coated to handle special cargoes as required by the Code, should be similarly lined or coated or constructed of corrosion resistant material.

8.2.6 The master should be provided with the maximum permissible loading and unloading rates for each tank or group of tanks consistent with design of the venting systems.

8.3 Types of tank venting systems

8.3.1 An open tank venting system is a system which offers no restriction except for friction losses to the free flow of cargo vapours to and from the cargo tanks during normal operations. An open venting system may consist of individual vents from each tank, or such individual vents may be combined into a common header or headers, with due regard to cargo segregation. In no case should shut-off valves be fitted either to the individual vents or to the header.

8.3.2 A controlled tank venting system is a system in which pressure and vacuum relief valves or pressure/vacuum valves are fitted to each tank to limit the pressure or vacuum in the tank. A controlled venting system may consist of individual vents from each tank or such individual vents on the pressure side only as may be combined into a common header or headers with due regard to cargo segregation. In no case should shut-off valves be fitted either above or below pressure or vacuum relief valves or pressure/vacuum valves. provision may be made for bypassing a pressure or vacuum valve or pressure/vacuum valve under certain operating conditions provided that the requirement of 8.3.5 is maintained and that there is suitable indication to show whether or not the valve is bypassed.

8.3.3 The position of vent outlets of a controlled tank venting system should be arranged:

.1 at a height of not less than 6 m above the weather deck or above a raised walkway if fitted within 4 m of the raised walkway;

.2 at a distance of at least 10 m measured horizontally from the nearest air intake or opening to accommodation, service and machinery spaces and ignition sources.

8.3.4 The vent outlet height referred to in 8.3.3.1 may be reduced to 3 m above the deck or a raised walkway, as applicable, provided that high velocity venting valves of a type approved by the Administration directing the vapour/air mixture upwards in an unimpeded jet with an exit velocity of at least 30 m/s are fitted.

8.3.5 Controlled tank venting systems fitted to tanks to be used for cargoes having a flashpoint not exceeding 60°C (closed cup test) should be provided with devices to prevent the passage of flame into the cargo tanks. The design, testing and locating of the devices should comply with the requirements of the Administration which should contain at least the standards adopted by the Organization.*

* Reference is made to the Revised Standards for the Design, Testing and Locating of Devices to Prevent the Passage of Flame into Cargo Tanks in Tankers (MSC/Circ.373/Rev.l).

8.3.6 In designing venting systems and in the selection of devices to prevent the passage of flame for incorporation into the tank venting system, due attention should be paid to the possibility of the blockage of these systems and fittings by, for example, the freezing of cargo system, due attention should be paid to the possibility of the blockage of these systems and fittings by, for example, the freezing of cargo vapour, polymer build up, atmospheric dust or icing up in adverse weather conditions. In this context it should be noted that flame arresters and flame screens are more susceptible to blockage. Provisions should be made such that the system and fittings may be inspected, operationally checked, cleaned or renewed as applicable.

8.3.7 Reference in 8.3.1 and 8.3.2 to the use of shut-off valves in the venting lines should be interpreted to extend to all other means of stoppage including spectacle blanks and blank flanges.

8.4 Venting requirements for individual products

Venting requirements for individual products are shown in column "g" and additional requirements in column "0" in the table of chapter 17.

8.5 Cargo tank gas-freeing*

* Reference is made to the Revised Factors to be taken into Consideration when Designing Cargo Tanks Venting and Gas-Freeing Arrangements (MSC/Circ.450/Rev.l) and to the Revised Standards for the Design, Testing and Locating of Devices to Prevent the Passage of Flame into Cargo Tanks in Tankers (MSC/Circ.373/Rev.l).

8.5.1 The arrangements for gas-freeing cargo tanks used for cargoes other than those for which open venting is permitted should be such as to minimize the hazards due to the dispersal of flammable or toxic vapours in the atmosphere and to flammable or toxic vapour mixtures in a cargo tank. Accordingly, gas-freeing operations should be carried out such that vapour is initially discharged:

.1 through the vent outlets specified in 8.3.3 and 8.3.4; or

.2 through outlets at least 2 m above the cargo tank deck level with a vertical efflux velocity of at least 30 m/s maintained during the gas freeing operation; or

.3 through outlets at least 2 m above the cargo tank deck level with a vertical efflux velocity of at least 20 m/s which are protected by suitable devices to prevent the passage of flame.

When the flammable vapour concentration at the outlets has been reduced to 30% of the lower flammable limit and in the case of a toxic product the vapour concentration does not present a significant health hazard, gas freeing may thereafter be continued at cargo tank deck level.

8.5.2 The outlets referred to in 8.5.1.2 and 8.5.1.3 may be fixed or portable pipes.

8.5.3 In designing a gas-freeing system in conformity with 8.5.1 particularly in order to achieve the required exit velocities of 8.5.1.2 and 8.5.1.3, due consideration should be given to the following:

.1 materials of construction of system;

.2 time to gas-free;

.3 flow characteristics of fans to be used;

.4 the pressure losses created by ducting, piping, cargo tank inlets and outlets;

.5 the pressure achievable in the fan driving medium (e.g. water or compressed air);

.6 the densities of the cargo vapour/air mixtures for the range of cargoes to be carried.

In the existing text of 11.1. 2 the words "Caustic potash solution. phosphoric acid or sodium hydroxide solution" are replaced by the following words:

"products which are non-flammable (entry NF in column 'i' of the table of minimum requirements)".

New paragraph 11.1.3 is added as follows:

For ships engaged solely in the carriage of products with flashpoint above 60°C (entry "yes" in column 'i' of the table of minimum requirements) requirements of chapter 11-2 of the 1983 SOLAS amendments may apply as specified in regulation 11-2/55.4 in lieu of the provisions of this chapter.

At the end of the existing text of the introductory paragraph of chapter 12 Mechanical ventilation in the cargo area the following sentence is added:

However, for products addressed under paragraphs 11.1.2 and 11.1.3, except acids and products for which paragraph 15.17 apply, regulation 11-2/59.3 of the 1983 SOLAS Amendments may apply in lieu of the provisions of this chapter.

The existing text of 14.2.8.1 is replaced by the following: filter type respiratory protection is unacceptable;

The existing text of 15.13 is amended to read as follows:

15.13 Cargoes protected by additives

15.13.1 Certain cargoes with a reference in column '0' in the table of chapter 17 by the nature of their chemical make-up tend, under certain conditions of temperature, exposure to air or contact with a catalyst, to undergo polymerization, decomposition, oxidation or other chemical changes. Mitigation of this tendency is carried out by introducing small amounts of chemical additives into the liquid cargo or by controlling the cargo tank environment.

15.13.2 No change.

15.13.3 Care should be taken to ensure that these cargoes are sufficiently protected to prevent deleterious chemical change at all times during the voyage. Ships carrying such cargoes should be provided with a certificate of protection from the manufacturer and kept during the voyage specifying:

.1 the name and amount of additive present;

.2 whether the additive is oxygen dependent;

.3 date additive was put in the product and duration of effectiveness;

.4 any temperature limitations qualifying the additives' effective lifetime; and

.5 the action to be taken should the length of voyage exceed the effective lifetime of the additives.

15.13.4 Ships using the exclusion of air as the method of preventing oxidation of the cargo should comply with 9.1.3.

15.13.5 A product containing an oxygen dependent additive should be carried without inertion (in tanks of a size not greater than 3,000 m3). Such cargoes should not be carried in a tank requiring inertion under the requirements of SOLAS chapter 11-2.

15.13.6 As existing 15.13.5.

15.13.7 As existing 15.13.6.

The existing text of 15.15 is replaced by the word:

"Deleted"

In the existing text of 15.8.29 the following words are inserted after the second sentence:

Remote manual operation should be arranged such that remote starting of pumps supplying the water spray system and remote operation of any normally closed valves in the system can be carried out from a suitable location outside the cargo area, adjacent to the accommodation spaces and readily accessible and operable in the even of fire in the areas protected.

A new 15.21 is added as follows:

15.21 Temperature sensors

Temperature sensors should be used to monitor the cargo pump temperature to detect overheating due to pump failures.

The existing text of chapter 17 is replaced by the following:

☒ Go! Chapter 17 was not included in this Res.MEPC.55(33) due to the reason of outdated information.

The existing text of chapter 18 is replaced by the following:

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New chapter 20 is added as follows:

CHAPTER 20 - TRANSPORT OF LIQUID CHEMICAL WASTES

20.1 Preamble

20.1.1 Maritime transport of liquid chemical wastes could present a threat to human health and to the environment.

20.1.2 Liquid chemical wastes should, therefore, be transported in accordance with relevant international conventions and recommendations and, in particular, where it concerns maritime transport in bulk, with the requirements of this Code.

20.2 Definitions

For the purpose of this chapter:

20.2.1 "Liquid chemical wastes" are substances, solutions or mixtures, offered for shipment, containing or contaminated with one or more constituents which are subject to the requirements of this Code and for which no direct use is envisaged but which are carried for dumping, incineration or other methods of disposal other than at sea.

20.2.2 "Transboundary movement" means maritime transport of wastes from an area under the national jurisdiction of one country to or through an area under the national jurisdiction of another country, or to or through an area not under the national jurisdiction of any country, provided at least two countries are concerned by the movement.

20.3 Applicability

20.3.1 The requirements of this chapter are applicable to the transboundary movement of liquid chemical wastes in bulk by seagoing ships and should be considered in conjunction with all other requirements of this Code.

20.3.2 The requirements of this chapter do not apply to:

.1 wastes derived from shipboard operations which are covered by the requirements of MARPOL 73/78;

.2 liquid chemical wastes carried by ships engaged in the incineration of such wastes at sea which are covered by chapter 19 of this Code; and

.3 substances, solutions or mixtures containing or contaminated with radioactive materials which are subject to the applicable requirements for radioactive materials.

20.4 Permitted shipments

20.4.1 Transboundary movement of wastes is permitted to commence only when:

.1 notification has been sent by the competent authority of the country of origin, or by the generator or exporter through the channel of the competent authority of the country of origin, to the country of final destination; and

.2 the competent authority of the country of origin, having received the written consent of the country of final destination stating that the wastes will be safety incinerated or treated by other methods of disposal, has given authorization to the movement.

20.5 Documentation

20.5.1 In addition to the documentation specified in 16.2 of this Code ships engaged intransboundary movement of liquid chemical wastes should carry on board a waste movement document issued by the competent authority of the country of origin.

20.6 Classification of liquid chemical wastes

20.6.1 For the purpose of the protection of the marine environment all liquid chemical wastes transported in bulk should be treated as Category A noxious liquid substances, irrespective of the actual evaluated category.

20.7 Carriage and handling of liquid chemical wastes

20.7.1 Liquid chemical wastes should be carried in ships and cargo tanks in accordance with the minimum requirements for liquid chemical wastes specified in chapter 17, unless there are clear grounds indicating that the hazards of the wastes would warrant:

.1 carriage in accordance with the ship type 1 requirements; or

.2 any additional requirements of this Code applicable to the substance or, in case of a mixture, its constituent presenting the predominant hazard.

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