SHIPPING

Treaty Series No. 63 (1999)

1994 Amendments

to the

International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code) (Resolution MSC.32(63))

(Adopted in accordance with article VIII of the International Convention for the Safety of Life at Sea, 1974)

London, 23 May 1994

[The Amendments entered into force on 1 July 1998]

Presented to Parliament
by the Secretary of State for Foreign and Commonwealth Affairs
by Command of Her Majesty
October 1999

Cm 4453

£1·60

ADOPTION OF AMENDMENTS TO THE INTERNATIONAL CODE FOR THE CONSTRUCTION AND EQUIPMENT OF SHIPS CARRYING LIQUEFIED GASES IN BULK (IGC CODE)

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING ALSO resolution MSC.5(48), by which the Committee adopted the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code),

RECALLING FURTHER article VIII(b) and regulation VII/II.1 of the International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended, concerning the procedure for amending the IGC Code,

BEING DESIROUS of keeping the IGC Code up to date,

HAVING CONSIDERED, at its sixty-third session, amendments to the Code proposed and circulated in accordance with article VIII(b)(i) of the SOLAS Convention,

1. ADOPTS, in accordance with article VIII(b)(iv) of the SOLAS Convention, amendments to the Code, the text of which is set out in the Annex to the present resolution;

2. DETERMINES, in accordance with article VIII(b)(vi) (2)(bb) of the SOLAS Convention, that the amendments shall be deemed to have been accepted on 1 January 1998 unless, prior to that date, more than one third of the Contracting Governments to the SOLAS Convention, or Contracting Governments the combined merchant fleets of which constitute not less than fifty per cent of the gross tonnage of the world's merchant fleet, have notified their objections to the amendments;

3. INVITES Contracting Governments to note that, in accordance with article VIII(b) (vii) (2) of the SOLAS Convention, the amendments shall enter into force on 1 July 1998 upon their acceptance in accordance with paragraph 2 above;

4. REQUESTS the Secretary-General, in conformity with article VIII(b) (v) of the SOLAS Convention, to transmit certified copies of the present resolution and the text of the amendments contained in the Annex to all Contracting Governments to the SOLAS Convention;

5. FURTHER REQUESTS the Secretary-General to transmit copies of the resolution and its Annex to Members of the Organization which are not Contracting Governments to the SOLAS Convention.

RESOLUTION MSC.32(63)
(adopted on 23 May 1994)
ADOPTION OF AMENDMENTS TO THE INTERNATIONAL CODE FOR THE CONSTRUCTION AND EQUIPMENT OF SHIPS CARRYING LIQUEFIED GASES IN BULK (IGC CODE)[1]

Amendments related to application

1 Existing paragraphs 1.1.2 and 1.1.3 are replaced by the following:

"1.1.2 Unless expressly provided otherwise, the Code applies to ships the keels of which are laid or which are at a stage at which:

.1 construction identifiable with the ship begins; and

.2 assembly of that ship has commenced comprising at least 50 tonnes or 1% of the estimated mass of all structural material, whichever is the less;

on or after 1 July 1998. Ships constructed before 1 July 1998 are to comply with resolution MSC.5(48) adopted on 17 June 1983[2] subject to amendments by resolution MSC.30(61) adopted on 11 December 1992.[3]

1.1.3 A ship, irrespective of the date of construction, which is converted to a gas carrier on or after 1 July 1998, should be treated as a gas carrier constructed on the date on which such conversion commences."

Amendments related to filling limits

2 The existing chapter 15 is replaced by the following:

"CHAPTER 15

FILLING LIMITS FOR CARGO TANKS

15.1 General

15.1.1 No cargo tanks should have a higher filling limit (FL) than 98% at the reference temperature, except as permitted by 15.1.3.

15.1.2 The maximum loading limit (LL) to which a cargo tank may be loaded should be determined by the following formula:

$$LL = FL \frac{\rho_R}{\rho_L}$$

where:

LL = loading limit expressed as a percentage, being the maximum allowable liquid volume relative to the tank volume to which the tank may be loaded;

FL = filling limit as specified in 15.1.1 or 15.1.3;

ρ_R = relative density of cargo at the reference temperature; and

ρ_L = relative density of cargo at the loading temperature and pressure.

---

[1]Treaty Series No. 15 (1998) Cm 3928.
[2]Ibid.
[3]Treaty Series No. 62 (1999) Cm 4452.

15.1.3 The Administration may allow a higher filling limit (FL) than the limit of 98% specified in 15.1.1 at the reference temperature, taking into account the shape of the tank, arrangements of pressure relief valves, accuracy of level and temperature gauging and the difference between the loading temperature and the temperature corresponding to the vapour pressure of the cargo at the set pressure of the pressure relief valves, provided the conditions specified in 8.2.17 are maintained.

15.1.4 For the purposes of this chapter only, "reference temperature" means:

.1 the temperature corresponding to the vapour pressure of the cargo at the set pressure of the pressure relief valves when no cargo vapour pressure/ temperature control as referred to in chapter 7 is provided;

.2 the temperature of the cargo upon termination of loading, during transport, or at unloading, whichever is the greatest, when a cargo vapour pressure/ temperature control as referred to in chapter 7 is provided. If this reference temperature would result in the cargo tank becoming liquid full before the cargo reaches a temperature corresponding to the vapour pressure of the cargo at the set pressure of the relief valves required in 8.2, an additional pressure relieving system complying with 8.3 should be fitted.

15.1.5 The Administration may allow type C tanks to be loaded according to the following formula, provided that the tank vent system has been approved in accordance with 8.2.18:

$$LL = FL \frac{p_R}{p_L}$$

where:

LL = loading limit as specified in 15.1.2;

FL = filling limit as specified in 15.1.1 or 15.1.3;

p_R = relative density of cargo at the highest temperature which the cargo may reach upon termination of loading, during transport, or at unloading, under the ambient design temperature conditions described in 7.1.2; and

p_L = as specified in 15.1.2.

This paragraph does not apply to products requiring a type 1G ship.

15.2 Information to be provided to the master.

The maximum allowable loading limits for each cargo tank should be indicated for each product which may be carried, for each loading temperature which may be applied and for the applicable maximum reference temperature, on a list to be approved by the Administration. Pressures at which the pressure relief valves, including those valves required by 8.3, have been set should also be stated on the list. A copy of the list should be kept permanently on board by the master.

15.3 Chapter 15 applies to all ships regardless of the date of construction."

3 The following words are added at the end of existing paragraph 8.2.17:

"at the maximum allowable filling limit (FL)".

4 The following new paragraph 8.2.18 is added after existing paragraph 8.2.17:

"8.2.18 The adequacy of the vent system fitted on tanks loaded in accordance with 15.1.5 is to be demonstrated using the guidelines developed by the Organization. A relevant certificate should be permanently kept on board the ship. For the purposes of this paragraph, vent system means:

.1 the tank outlet and the piping to the pressure relief valve;

.2 the pressure relief valve;

.3 the piping from the pressure relief valve to the location of discharge to the atmosphere and including any interconnections and piping which joins other tanks.

This paragraph may apply to all ships regardless of the date of construction."

Amendments related to cargo tank vent systems

5 The existing paragraph 8.2.3 is replaced by the following:

"8.2.3 In general, the setting of the pressure relief valves should not be higher than the vapour pressure which has been used in the design of the tank. However, where two or more pressure relief valves are fitted, valves comprising not more than 50% of the total relieving capacity may be set at a pressure up to 5% above MARVS."

6 The following sentences are added to existing paragraph 8.2.4:

"Valves should be constructed of materials with a melting point above 925°C. Consideration should be given to lower melting point materials for internal parts and seals if their use will yield a significant improvement in the general operation of the valve."

7 The existing paragraph 8.2.9 is replaced by the following:

"8.2.9 Each pressure relief valve installed on a cargo tank should be connected to a venting system, which should be so constructed that the discharge of gas will be unimpeded and directed vertically upwards at the exit, and so arranged as to minimize the possibility of water or snow entering the vent system. The height of vent exits should not be less than B/3 or 6m, whichever is the greater, above the weather deck and 6m above the working area, the fore and aft gangway, deck storage tanks and cargo liquid lines."

8 The following sentences are added to existing paragraph 8.2.16:

"The pressure drop in the vent line from the tank to the pressure relief valve inlet should not exceed 3% of the valve set pressure. For unbalanced pressure relief valves the back pressure in the discharge line should not exceed 10% of the gauge pressure at the relief valve inlet with the vent lines under fire exposure as referred to in 8.5.2."

Printed in the UK by The Stationery Office Limited on behalf of
the Controller of Her Majesty's Stationery Office
360568 10/99 19585

The Stationery Office

Published by The Stationery Office Limited
and available from:

The Publications Centre
(Mail, telephone and fax orders only)
PO Box 276, London SW8 5DT
General enquiries 0870 600 55 22
Order through the Parliamentary Hotline *Lo-call* 0345 02 34 74
Fax orders 0171 873 8200

The Stationery Office Bookshops
123 Kingsway, London WC2B 6PQ
0171 242 6393 Fax 0171 242 6394
68–69 Bull Street, Birmingham B4 6AD
0121 236 9696 Fax 0121 236 9699
33 Wine Street, Bristol BS1 2BQ
0117 9264306 Fax 0117 9294515
9–21 Princess Street, Manchester M60 8AS
0161 834 7201 Fax 0161 833 0634
16 Arthur Street, Belfast BT1 4GD
01232 238451 Fax 01232 235401
The Stationery Office Oriel Bookshop
18–19 High Street, Cardiff CF1 2BZ
01222 395548 Fax 01222 384347
71 Lothian Road, Edinburgh EH3 9AZ
0870 606 55 66 Fax 0870 606 55 88

Accredited Agents
(see Yellow Pages)

and through good booksellers

ISBN 0-10-144532-6

9 780101 445320