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No.SS/MISC(19)/2013

Date:04.03.2014

DGS Order No. 01 of 2014

Sub: Notification for Construction, Survey, Certification and Operation of Indian Coastal Vessels.

Recognizing that transportation of cargo using Coastal Ships will play a major role in the growth of Indian economy and provide an alternative means of quick discharge and dispersal of cargo by the sea route to various ports along the Indian coast;

Considering the reservations expressed by the Coastal Shipping Industry with regard to the prevailing Merchant Shipping legislations applicable to coastal ships which make coastal shipping uneconomical due to high cost of construction and operation;

Realizing that high construction and operating cost of ships is a major impediment for the expansion of coastal shipping in India;

Anticipating that reduction in the operational and construction cost of coastal vessels by moderating the rules applicable for such vessels, without compromising the safety, would encourage coastal shipping transport and trade as well as ship building and thus promote the growth of the maritime sector.

Further recognizing that construction and safety standards, which are currently applicable to coastal ships under the M.S. Rules, can be moderated without affecting the safety of the ship, which could reduce the cost of construction and operation of vessels engaged in the coastal trade;

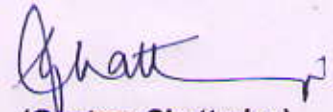
Further considering that many maritime nations in the world have taken similar measures to promote coastal shipping in order to encourage a modal shift in transportation of cargo from road and rail to sea, considering the economic benefits, reduction in environmental pollution and reduction in traffic congestion on roads;

Now the Director General of Shipping, in exercise of the powers vested in him under the provisions of Section 456 of the M.S Act 1958, read together with S.O. 3144 dated 17.12.1960 hereby exempts a set of ships, more specifically defined under Rule 1.1.1 of Annexure-1 to this Order, operating along the Indian coast and within 20 miles from the coast of India, from the following provisions of the M. S. Act, 1958 as amended, and dispenses with the requirements to observe the M.S. Act provisions contained in the Sections listed here-to-below, provided, strict compliance is shown to the requirements and stipulations as detailed in Annexes I to XIII of this Order.

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2.	Section-76	Certificates of Competency to be held by officers of ships	Annex-II*
3.	Sections-284 & 311	Cargo Ship Safety Construction & Survey	Annex-III*
4.	Section-285	Prevention of Collision	Annex-IV*
5.	Sections-288, 289 & 290	Life Saving Appliances	Annex-V*
6.	Section- 289 & 290	Fire Fighting Appliances	Annex-VI*
7.	Section-291	Radio Communication Requirements	Annex-VII*
8.	Section -356	Safety of Navigation	Annex-VIII*
9.	Sections-299A, 300, 303, 307(2), 307(3) & 318	Surveys and Certifications	Annex-IX*
10.	Sections-356C, 356E & 356F	Prevention of Pollution	Annex-X*
11.	M.S((Management for the Safe Operation of Ships) Rules	Domestic Safety Management	Annex-XI*
12.	Section 344O, 344Q & 344R	Ship Security measures	Annex-XII*
13.	Section 331, 332	Carriage of Cargoes	Annex-XIII*

* Annex to the above DGS Order is available at DGS's Official Website (www.dgshipping.gov.in).



(Gautam Chatterjee)
Director General of Shipping

To,

1. All Indian Shipping Companies.
2. INSA, Mumbai
3. ICC Shipping Association
4. FOSMA/MASSA, Mumbai
5. All Mercantile Marine Departments.
6. All Major Port Trusts.
7. All Classification Societies.

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Coastal Vessel Rules Notification 2014

(Annex to DG Shipping Order 01 of 2014)



DIRECTORATE GENERAL OF SHIPPING
MUMBAI

04-March-2014

Coastal RULES NOTIFICATION 2014

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ANNEX : 1 Preamble and General Provisions

1.1 Application

- 1.1.1 Unless expressly provided otherwise, the Notification for Construction, Survey, Certification and Operation of Indian Coastal Vessels applies only to cargo ships that are:
- engaged exclusively on Indian Coastal voyages within 20 nautical miles from the nearest land; and,
 - less than 6000 GT in the case of cargo ships, except those specifically listed below;
 - i. less than 10000 GT in the case of dredgers; and
 - ii. less than 3000 GT in the case of Tankers.
 - less than 8000 kW main propulsion power in the case of cargo ships, except those specifically listed below;
 - i. less than 10000 kW main propulsion power in the case of dredgers; and
 - ii. less than 3000 kW main propulsion power in the case of Tankers.
 - not carrying bulk chemicals or gas in any form (packaged or otherwise) other than vegetable oils listed in this notification;
 - not fishing vessels;
 - not military and government ships not used for commercial purposes.
- 1.1.2 The gross tonnage and/or main propulsion power limitations prescribed in paragraph 1.1.1 may be relaxed by the Administration in the case of novel / innovative designs.

1.2 Definitions

- 1.2.1 For the purpose of the Notification for Construction, Survey, Certification and Operation of Indian Coastal Vessels, unless expressly provided otherwise:
- (a) *Administration* means the Directorate General of Shipping.
 - (b) *Approved* means approved by the Administration or a recognized organization acting on its behalf.
 - (c) *BIS* means the Bureau of Indian Standards.
 - (d) *Cargo ship* is any ship which is not a passenger ship. This includes vessels such as tugs, dredgers, etc.
 - (e) *Coastal vessel under this Notification* means ships that are registered under Merchant Shipping Act, adopting the provisions of this Notification, and which operate from a port or place in India to any port or place in India, such that the vessel does not operate beyond 20 nautical miles from the nearest land. Provided that such vessel shall not cease to be a coastal vessel merely by reason of the fact that the vessel crosses during the voyage the Gulf of Kutch or Khambat. Provided also that Coastal Vessel under this notification may go around Srilanka without calling any port in Srilanka or entering the territorial waters of Srilanka.

- (f) *Coastal Tanker* is a coastal vessel constructed or adapted for the carriage in bulk of petroleum oil cargoes with a flashpoint exceeding 60° C and vegetable oils listed in Annex-13.
 - (g) *Director General or the Directorate* means the Director General of Shipping or a person authorized by him.
 - (h) *Existing vessel* means a vessel constructed before the date of notification of the DG Shipping Order 01 of 2014 (dated 04.03.2014).
 - (i) *Fair weather* means wind force and sea state not exceeding that corresponding to Beaufort Scale 4.
 - (j) *Favourable weather forecast* means a weather forecast wherein fair weather is predicted for 24 hours from the commencement of a voyage.
 - (k) *Gross Tonnage (GT) and Net Tonnage (NT)* are the tonnages determined in accordance with the MS (Tonnage measurement of Ships) rules, 1987 as amended.
 - (l) *I.V. Act* means the Inland Vessels Act, 1917, as amended.
 - (m) *MARPOL* means the International Convention for Prevention of Pollution from Ships, 1973/78, as amended.
 - (n) *M.S. Act* means the Merchant Shipping Act, 1958, as amended.
 - (o) *New Coastal vessel* means a Coastal vessel the keel of which is laid or which is at a similar stage of construction on or after the date of this notification.
 - (p) *Notification* means the Notification for Construction, Survey, Certification and Operation of Indian Coastal Vessels as issued vide DG Shipping Order No. 01 of 2014 dated 04.03.2014.
 - (q) *Passenger ship* is a ship which carries more than 12 passengers.
 - (r) *Recognised Organization (RO)* means any organization duly authorised by the Administration to perform statutory work on behalf of the Administration in terms of certification and survey functions connected with the issuance of the certificates envisaged under this Notification.
 - (s) *Ship* shall have the same meaning as Coastal vessel under this Notification
 - (t) *SOLAS* means the International Convention for the Safety of Life at Sea, 1974, as amended.
 - (u) *Vessel* shall have the same meaning as Coastal vessel under this Notification
 - (v) *Weather forecast* means the weather forecast applicable for the port(s) under consideration, given by the meteorological department of the Government of India or any other competent authority.
- 1.2.2 Words and expressions used and not defined in this notification but defined in the M.S.Act shall have meanings respectively assigned to them in the M.S.Act.

1.3 Notification Review

- 1.3.1 The Notification shall come into effect by means of appropriate DGS Order

- 1.3.2 The Notification shall be periodically reviewed for its effectiveness and amendments that may be required from time to time.

1.4 Registration & Classification

- 1.4.1 Coastal vessels under this Notification shall be registered under the Merchant Shipping Act, 1958 (as amended).
- 1.4.2 Coastal vessels under this Notification shall comply with the requirements of all the Annexes of this Notification

1.5 Exemptions

The Director General may exempt any coastal vessel which embodies features of a novel kind from any of the provisions of these rules, provided that any such ship complies with safety requirements which, in the opinion of the Director General, are adequate for the service for which it is intended and are such as to ensure the overall safety of the ship.

ANNEX : 2 Safe Manning

2.1 Equivalence

Pursuant to the exemption of Coastal vessels from provisions of Section 76 of the M.S. Act, the regulations contained in this Annex provide an alternative safety standard acceptable to the Administration

2.2 Application

The provisions under this Annex shall apply to the coastal vessels covered in Annex 1.

2.3 Definitions

For the purpose of this Annex, *Harbour operations* means plying within the notified port limits, with occasional operation within six nautical miles of port jurisdiction

2.4 Deck-side minimum safe manning requirements

2.4.1 Coastal vessels shall be manned by:

	GT < 500		500 ≤ GT < 1600		1600 ≤ GT < 3000		3000 ≤ GT < 6000 * (upto 10000 GT in case of dredgers)	
Capacity	Nos.	Min. Grade	Nos.	Min. Grade	Nos	Min. Grade	Nos	Min. Grade
Master	1	Master (NCV < 500 GT) OR Mate (NCV) with 6 months experience	1	Master (NCV) OR Mate (NCV) with 1 year experience	1	Master (NCV)	1	Master (NCV)
Chief Officer	1	NWKO (NCV) OR Inland Master 1 st Class	1	NWKO (NCV) with 1 year experience	1	NWKO (NCV) with 1 year experience	1	Mate (NCV)
Second Officer	-		1	NWKO (NCV) OR Inland Master 2 nd Class	1	NWKO (NCV) OR Inland Master 2 nd Class	1	NWKO (NCV)
AB Seaman	1	Rating forming part of navigation watch	2	Rating forming part of navigation watch	2	Rating forming part of navigation watch	2	Rating forming part of navigation watch
OS	1	Basic STCW (Ch VI) Courses	1	GP rating	1	GP rating	2	GP Rating
Cook	1	Basic STCW (Ch VI) Courses	1	Basic STCW (Ch VI) Courses	1	Basic STCW (Ch VI) Courses	1	Basic STCW (Ch VI) Courses
Cadet (optional)			1	Basic STCW (Ch VI) Courses	1	Basic STCW (Ch VI) Courses	1	Basic STCW (Ch VI) Courses
Total	5		8		8		9	

2.4.2 In the case of cargo vessels above 6000 GT (10000 GT in the case of dredgers) and coastal tankers of above 3000 GT, the safe manning requirements including D.C.E. qualification for Indian coastal area operation as specified in the Circulars issued by DG Shipping for M.S. Act vessels would apply.

2.4.3 In vessels of 3000 GT and above, when the duration of the voyage, (or port operations in the case of dredgers) is of more than 72 hrs, an additional watch-keeping Officer, i.e. NWKO (NCV) is required.

2.5 Engine-side minimum safe manning requirements

2.5.1 Coastal vessels shall be manned by:

	kW < 750		750 ≤ kW < 1500		1500 ≤ kW < 3000		3000 ≤ kW < 8000 * (upto 10000 kW in case of dredgers)	
Capacity	Nos.	Min. Grade	Nos.	Min. Grade	Nos.	Min. Grade	Nos.	Min. Grade
Chief Engineer	1	MEO CI IV (NCV) with 12 months experience	1	MEO CI III (NCV SEO) with 12 months experience	1	MEO CI III (NCV CEO)	1	MEO CI III (NCV-CEO) with OSV endorsement OR MEO CI III (NCV CEO) with 12 months experience
Second Engineer	1	Marine Engineer Officer Class IV (NCV) Part A	1	MEO CI IV (NCV) With 12 months experience	1	MEO CI III (NCV-SEO)	1	MEO CI III (NCV-CEO) OR MEO CI III (NCV-SEO) with 12 months experience
Third Engineer			1	MEO CI IV (NCV) Part A	1	MEO CI IV (NCV) Part A	1	MEO CI IV (NCV)
Motorman	-		-		1	Rating forming part of engineering watch	2	Rating forming part of engineering watch
Oilman	2	GP Rating	1	GP Rating	1	GP Rating	1	GP Rating
Total	4		4		5		6	

2.6 Additional requirements to serve on Coastal Tankers

- 2.6.1 All crew serving on board Coastal Tankers should have a valid Level 1 Dangerous Cargo endorsement in compliance with STCW Chapter V – Regulation 1.1.
- 2.6.2 Officers serving in the capacity of Master, Chief Officer and Chief Engineer on board Coastal Tankers should, as a minimum, have a valid Level 2 Dangerous Cargo endorsement in compliance with STCW Chapter V – Regulation 1.2
- 2.6.3 For a period of 18 months from the issuance of this Notification, the requirement of Level 2 Dangerous Cargo endorsement for officers sailing in the capacity of Master, Chief officer, Chief Engineer and Second engineer on board Coastal tankers may be relaxed to require only compliance with shore-training requirements i.e. Advanced Tanker safety course as set out in STCW Chapter V – Regulation 1.2

2.7 Harbour operations

A coastal vessel while engaged in harbour operations may be manned as per the requirements of Type 4 River Sea vessels for such operations according to the DGS Order 18 of 2013 (River sea vessel notification 2013).

2.8 Sea time

Officers and crew sailing on board coastal vessels shall be entitled to receive full sea time in respect of eligibility and service requirements towards NCV certificates in line with applicable MS (STCW) Rules.

2.9 Medical Examination

All crew sailing on board Coastal Vessels shall possess a valid Medical Fitness Certificate issued by a medical examiner approved by the Administration.

ANNEX : 3 Construction Rules

(Stipulations in exemption of Section 284 and 311 of M.S. Act and rules made there under)

3.1 General

- 3.1.1 These requirements are applicable for coastal vessels under this notification with respect to Structural, Strength, Freeboard and Stability, Machinery, Bilge Systems, and Electrical Installations
- 3.1.2 All Coastal vessels under this notification shall be designed, constructed and maintained in compliance with the structural, mechanical and electrical requirements of a classification society for the intended operation. Vessels shall be classed with a Classification Society authorized by the Government of India.
- 3.1.3 In the case of vessels with length 80m and above, single long cargo holds are not permitted and at least two cargo holds shall be provided.
- 3.1.4 Usage of materials containing asbestos is prohibited on ships.

3.2 Freeboard and Stability

- 3.2.1 Freeboard
The Load Line shall be assigned in accordance to Merchant Shipping (Load Line) Rules, 1979 as amended.
- 3.2.2 Intact Stability
Subject to the provisions of paragraphs 3.2.3 the vessels shall comply with the intact stability requirements for cargo vessels specified in the Intact Stability Code 2008 (2008 IS Code), adopted by the International Maritime Organization by MSC Res. 267(85) as amended / M.S. (Load Line) Rules.
- 3.2.3 Inclining test
 - 3.2.3.1 Every coastal vessel shall undergo an inclining test upon its completion and the actual displacement and position of the center of gravity shall be determined for the lightship condition.
 - 3.2.3.2 Where alterations are made to a coastal vessel affecting its lightship condition and the position of the centre of gravity, the vessel shall, where the Administration considers this necessary, be re inclined and the stability information amended.
 - 3.2.3.3 The Directorate may allow the inclining test of a vessel to be dispensed with provided basic stability data is available from the inclining test of a sister vessel and it is shown to the satisfaction of the Directorate that reliable stability information for that vessel can be obtained from such basic data.
- 3.2.4 Damage Stability
 - 3.2.4.1 Coastal vessels other than tankers having subdivision length of 80 m and upwards shall also comply with the damage stability requirements of Part B-1, Chapter II-1 of SOLAS as amended.

3.2.5 Stability information

- 3.2.5.1 The approved stability information shall always be available on the vessels to enable the master to assess with ease and certainty the stability of the vessel under various operating conditions. Such information shall include specific advice to the master warning him of those operating conditions, which could adversely affect either stability or the trim of the vessel. In particular, the information recommended in the relevant IMO Instruments referred above shall be included as appropriate.
- 3.2.5.2 The approved stability information shall be kept on board, readily accessible at all times and its availability shall be verified during every annual/renewal surveys of the vessel.
- 3.2.5.3 Where alterations are made to a vessel affecting its stability, revised stability calculations shall be prepared and submitted to the recognised organisation for approval. Where the Directorate or the recognised organisation decides that the stability information must be revised, the new information shall be supplied to the master and the superseded information be removed from the vessel.

3.2.6 Loading Conditions to be considered for the Stability data.

- Homogeneous loading conditions at maximum draught
- Ballast conditions
- Special loading conditions [e.g. container or light load conditions at less than maximum draught, heavy cargo, empty holds or non-homogeneous cargo conditions, deck cargo conditions etc., where applicable]
- Docking condition afloat
- Loading and unloading transitory conditions, where applicable

3.3 Structural Fire Protection

3.3.1 Constructional fire safety measures

- 3.3.1.1 The hull, superstructure, structural bulkheads, decks and deckhouses of coastal vessel under this Notification shall be constructed of steel or other equivalent material. Material other than steel, in case used shall be insulated to the same fire retardant properties as steel. In case alternate arrangements are proposed, the same shall be submitted to the Administration or recognized organization for approval, along with details and calculation substantiating the equivalence of the material used.
- 3.3.1.2 For coastal vessels under this Notification of less than 1600 GT, the bulkheads and decks separating the engine room from the accommodation spaces and the wheelhouse and accommodation spaces shall be constructed of steel suitably insulated by fire retardant material as per IRS / IS standards.
- 3.3.1.3 For coastal vessels under this Notification of 1600 GT and above and less than 3000 GT, the bulkheads and decks separating the machinery spaces from control stations, corridors, accommodation spaces, stairways, service spaces and cargo spaces shall be so constructed as

to be capable of preventing the spread of fire to the unexposed side. A general guidance as indicated in the table below shall be followed between adjacent bulkheads and decks:

	1	2	3	4	5
Control Stations (1)	A0	A60	A60	A60	A0
Accommodation spaces (2)		C	A0	A60	A0
Service Spaces (3)			A0	A60	*
Machinery Spaces (4)				*	A0
Other Spaces (5)					*

Where and * appears in the tables the division requires to be steel or other equivalent material but is not required to be of "A" class standard.

3.3.1.4 Interior stairways below the weather deck shall be of steel or other material having acceptable fire resisting properties.

3.3.2 Insulation materials

Insulation materials in accommodation spaces, service spaces (except domestic refrigeration compartments), control stations and machinery spaces shall be non-combustible. Vapour barriers and adhesives used in conjunction with insulation, as well as insulation of pipes fittings, for cold service systems, need not be of non-combustible materials, but they shall be kept to the minimum quantity practicable and their exposed surfaces shall have qualities of resistance to the propagation of flame to the satisfaction of Administration.

3.3.3 Restricted use of combustible material

3.3.3.1 All exposed surfaces in corridors and stairway enclosures and surfaces including decks in concealed or inaccessible spaces in accommodation spaces, service spaces and control stations shall have low flame-spread characteristics. Exposed surfaces of ceilings in accommodation spaces, service spaces and control stations shall have low flame-spread characteristics.

3.3.3.2 Paints, varnishes and other finishes used on exposed interior surfaces shall not offer an undue fire hazard in the judgment of the Administration and shall not be capable of producing excessive quantities of smoke.

3.3.4 Means of escape

3.3.4.1 Stairways and ladders shall be so arranged as to provide, from accommodation spaces, service spaces, control stations, machinery spaces and other spaces in which the crew is normally employed, ready means of escape to the open deck and thence to the survival craft.

3.3.4.2 Two means of escape shall be provided from every machinery space that shall be as widely separated as possible. Vertical escapes shall be by means of steel ladders or other means may be accepted as suitable alternatives. Where the size of such machinery space makes it impracticable, one of these means of escape may be dispensed with provided that the means provided is to the satisfaction of the Administration.

3.4 Special Arrangements for machinery spaces

3.4.1 The following provisions shall apply to machinery spaces.

- (i) Means shall be provided for opening and closure of skylights, opening and closure of windows in machinery space boundaries, closure of openings in funnels, which normally allow exhaust ventilation, and closure of ventilator dampers.
- (ii) Means shall be provided for permitting the release of smoke.
- (iii) The means required in (i) and (ii) shall be located outside the space concerned where they will not be cut off in the event of fire in the space they serve.
- (iv) Windows shall not be fitted in machinery space boundaries. This does not preclude the use of glass in control rooms within the machinery space.
- (v) Doors fitted in machinery space boundaries shall as far as practicable be equivalent in resisting fire to the divisions forming such boundaries. Where such doors are not weather tight or watertight doors, they shall be self-closing.

3.4.2 Ventilation systems

3.4.2.1 Ventilation systems of each of the following groups of spaces shall be entirely separated from each other:

- (i) machinery spaces;
- (ii) galleys;
- (iii) cargo spaces; and
- (iv) accommodation spaces and control stations.

3.4.2.2 The arrangement of each ventilation system shall be such that fire in one space shall not readily spread to the other spaces.

3.4.2.3 The main inlets and outlets of all ventilation systems shall be capable of being closed from outside the spaces being ventilated.

3.4.3 Ventilation of tanks, cofferdams.

All tanks carrying cargo, cofferdams and other enclosed spaces shall be provided with effective means for ventilation and access to the satisfaction of the Administration, having regard to the intended services.

3.4.4 Miscellaneous items

3.4.4.1 Where bulkheads, decks, ceiling or linings are penetrated for the passage of electric cables, pipes, trunk, etc., or for the fitting of ventilation terminals, lighting fixtures and similar devices, or for girders, beams or other structural members, arrangements shall be made to ensure that the fire integrity is not impaired.

3.4.4.2 Where the Administration may permit the conveying of oil and combustible liquid through accommodation and service spaces, the pipes conveying oil or combustible liquids shall –

- (i) be of a material approved by the Administration, having regard to the fire risk;

- (ii) not be concealed; and
- (iii) carry only low-pressure liquids and not normally be used at sea.

3.4.4.3 Materials readily rendered ineffective by heat shall not be used for overboard scuppers, sanitary discharges and other outlets which are close to the waterline and where the failure of the material in the event of fire would give rise to danger of flooding.

3.4.5 Arrangement for oil fuel, lubricating oil and other flammable oils

3.4.5.1 Limitations in the use of oil as fuel

The following limitations shall apply to the use of oil as fuel:

- (i) Except as otherwise permitted by this paragraph; no oil fuel with a flashpoint of less than 60°C shall be used.
- (ii) For diesel engines in emergency applications oil fuel with a flashpoint of not less than 43°C is permitted to be used, provided the oil storage tank is outside the main machinery space and subject to such additional precautions as it may consider necessary and on condition that the ambient temperature of the space in which such oil fuel is stored or used shall not be allowed to rise to within 10°C below the flashpoint of the oil fuel. In emergency generators oil fuel with a flashpoint of not less than 43°C shall be used.

3.4.5.2 Oil fuel arrangements

3.4.5.2.1 The arrangements for the storage distribution and utilization of the oil fuel shall be such as to ensure the safety of the vessel and persons on board and shall at least comply with the following provisions:

3.4.5.2.2 As far as practicable, parts of the oil fuel systems containing heated oil under pressure exceeding 0.18 N/mm² shall not be placed in a concealed position such that defects and leakage cannot readily be observed. The machinery spaces in way of such parts of the oil fuel systems shall be adequately illuminated. As far as practicable, oil fuel tanks shall be part of the vessel's structure and shall be located outside machinery spaces of Category-A (Machinery space of category A is defined as are those spaces and trunks to such spaces which contain a) internal combustion machinery used for main propulsion; or b) internal combustion machinery used for purposes other than main propulsion where such machinery has in the aggregate a total power output of not less than 375 [kW]; or c) any oil-fired boiler or oil fuel unit, or any oil-fired equipment other than boilers, such as inert gas generators, incinerators, etc.)

3.4.5.2.3 Where oil fuel tanks, other than double bottom tanks, are necessarily located adjacent to, or with in, machinery spaces of category A, at least one of their vertical sides shall be contiguous to the machinery space boundaries, and shall preferably have a common boundary with the double bottom tanks, where fitted, and the area of the tank boundary common with the machinery spaces shall be kept to the minimum. Where such tanks are situated within

the boundaries of machinery spaces of category A, they shall not contain oil fuel having a flashpoint of less than 60°C. In general, the use of freestanding oil fuel tanks shall be avoided. Where permitted, they shall be provided with an oil tight spill tray of suitable size having a drainpipe leading to a safe place to the satisfaction of the Administration.

- 3.4.5.2.4 Oil fuel storage, settling or daily service tanks situated above the double bottom shall be fitted with a cock or valve constructed of similar material to that of the tank, directly on the tank capable of being closed from a safe position outside the space concerned in the event of a fire occurring in the space in which such tanks are situated. Such tanks of not more than 250 L capacity need not comply with this paragraph.
- 3.4.5.2.5 Safe and efficient means of ascertaining the amount of oil fuel contained in any oil fuel tank shall be provided. Sounding pipes shall not terminate in any space where the risk of ignition of spillage from the sounding pipe might arise. In particular, they shall not terminate in accommodation spaces. Other means of ascertaining the amount of oil contained in any oil fuel tank shall be provided. Sounding pipes shall not terminate in any space where the risk of ignition of spillage from the sounding pipe might arise. In particular, they shall not terminate in accommodation spaces. Other means of ascertaining the amount of oil fuel contained in any fuel tank may be permitted, provided that the failure of such means or overfilling of the tanks will not permit release of fuel. The Administration may permit the use of oil level gauges with flat glasses and self-closing valves between the gauge glasses and the oil tanks. Cylindrical gauge glasses may also be permitted in freestanding oil fuel tanks provided that they are suitably protected and fitted with self-closing valves to the satisfaction of the Administration.
- 3.4.5.2.6 Provisions shall be made to prevent overpressure in any oil tank or in any part of the oil fuel system including the filling pipes. Relief valves and air or over-flow pipes shall discharge to a position, which in the opinion of the Administration is safe. The open ends of air pipes shall be fitted with wire mesh.
- 3.4.5.2.7 The ventilation of machinery spaces shall be sufficient under all normal conditions to prevent accumulation of oil vapour.
- 3.4.5.2.8 Auxiliary boiler need not be provided for heating of Fuel oils. Electrical heating arrangements along with exhaust gas economizer is acceptable for this purpose.

- 3.4.6 Lubricating oil arrangements:
The arrangements for storage, distribution and utilisation of oil used in pressure lubricating systems shall be such as to ensure the safety of the Coastal vessel and persons on board, and such arrangements in machinery spaces shall at least comply with the provisions of paragraph 3.4.5.2.2,

3.4.5.2.3, 3.4.5.2.5, 3.4.5.2.6 and 3.4.5.2.7 except that this does not preclude the use of sight flow glasses in lubricating systems.

3.4.7 Arrangements for other flammable oils

- 3.4.7.1 The arrangements for storage, distribution and utilization of other flammable oils employed under pressure in power transmission systems, control and activation systems and heating systems shall be such as to ensure the safety of the Coastal vessel and persons on board. In locations where means of ignition are present, such arrangements shall at least comply with the provisions of paragraph 3.4.5.2.1 and 3.4.5.2.2.
- 3.4.7.2 No oil fuel tank or lubricating oil tank or any other flammable oil tank shall be situated where spillage or leakage there from can constitute a hazard by falling on heating surfaces. Precautions shall be taken to prevent any oil that may escape under pressure or oil leakage from any pump, filter, piping system or heat exchanger from coming into contact with heated surfaces or enter into machinery air intakes. Where necessary, a suitable spill tray or gutter screen or other suitable arrangement shall be provided to allow oil to drain to a safe place in the event of spillage or leakage of oil from such an oil tank, machinery, equipment or system. The number of joints in piping systems shall be kept to a minimum practicable.
- 3.4.7.3 Pipes, fittings and valves handling fuel oil, lubricating oil and other flammable oils shall be of the steel or other approved material, except that restricted use of flexible pipes shall be permissible in positions where the Administration is satisfied that they are necessary. Such flexible pipes and end attachments shall be of approved fire-resisting materials of adequate strength and shall be constructed to the satisfaction of the Administration.
- 3.4.7.4 Oil fuel, lubricating oil or other liquid substances flammable or harmful to the marine environment shall not be carried in forepeak tanks.
- 3.4.7.5 Any oil or other substances flammable or harmful to the marine environment shall not be carried in other tanks or spaces, which are not specially approved by the Administration for such purposes.

3.4.8 Carriage of oxygen and acetylene cylinders

Carriage of oxygen and acetylene cylinders of use on board while sailing shall not be permitted unless an approved "work permit" system is in place.

3.5 Cooking areas

In case of a small cooking area less than 8 m² that is common with the accommodation, the area shall be suitably made hazard proof by employing electric hot plate of maximum 3 kW capacity. The use of deep fat fryers, tandoors, barbeques shall not be permitted.

3.6 Vessels of 3000 GT and above

The requirements of fire protection of SOLAS Ch II-2 (other than fire detection and fire fighting which are covered in Annex 6 of this notification) are to be complied with.

3.7 Carriage of cargo

3.7.1 Bulk Cargo

Coastal Vessels shall comply with the requirements of Annex-13 of this notification as applicable to the cargo being carried.

3.8 Additional requirements for Coastal oil Tankers

3.8.1 General

- 3.8.1.1 These Rules apply to vessels which are intended to carry liquid cargoes having flash point above 60 degree Celsius, as specified in Annex 13.
- 3.8.1.2 Tankers of 600 tons deadweight and above carrying petroleum oils shall be provided with a double bottom having height not less than $B/15$ (with minimum value 1.0 m and minimum distance from shell 0.76 m at the turn of bilge) and tankers above 5000 tons deadweight shall be provided with a double hull, according to the requirements of MARPOL Annex I Reg.19.
- 3.8.1.3 In tankers of less than 5000 tons deadweight, where the capacity of any cargo tank exceeds 700 m³, wing tanks or spaces shall be provided in accordance with MARPOL Annex I Reg 19.
- 3.8.1.4 Tankers of 600 tons deadweight and above carrying heavy grade oil as cargo shall be provided with double hull according to the requirements of MARPOL Annex I Reg.21.
- 3.8.1.5 The machinery shall be arranged aft of the cargo tanks and the slop tank / pump room.
- 3.8.1.6 Where the tank breadth exceeds 70% of the breadth of the vessel, cargo tanks shall be provided with centre longitudinal bulkheads. Where the tank breadth is greater than above and centre longitudinal bulkheads are not fitted, proof of sufficient stability need to be documented.

3.8.2 Hull Scantlings, strength

- 3.8.2.1 The hull scantlings shall be determined as per the rules of a recognised classification society for the intended operation.
- 3.8.2.2 When liquids carried in tanks require heating and the temperature is more than 90 degree Celsius, calculations of thermal stresses are required. The calculations are to be carried out for the actual carriage temperature and the specified limit temperature.

3.8.3 Access and Ventilation

- 3.8.3.1 All cargo zone areas are to be well ventilated and accessible for surveys and maintenance.

3.8.3.2 Access to double bottom and side tanks

Manholes shall provide convenient access to all parts of the double bottom and side tanks.

3.8.3.3 Access to cargo tanks

As far as practicable, permanent or movable means of access stored on board are to be provided to ensure proper survey and maintenance of cargo tanks.

3.8.4 Damage Stability

Coastal tankers assigned freeboards less than type B of ILLC-66 shall comply with the damage stability requirements of ILLC Reg.27. MARPOL Annex I damage stability is to be applied for vessels carrying petroleum oils as cargo.

IBC Code Type 3 vessel damage stability is to be applied for vessels carrying vegetable oils specified in Annex I.

3.8.5 Applicable MARPOL requirements for tank arrangements and stability

The following MARPOL Annex I requirements with respect to the arrangement of the spaces within the cargo region and stability are to be applied to vessels carrying petroleum products

Feature	Regulation
a) Protection of cargo tank region with double bottom and wing ballast tank/spaces	19
b) Segregated ballast tank (SBT)	18
c) Protective location of SBT	18
d) Oil tankers carrying heavy grade oil as cargo	21
e) Segregation of fuel oil/ballast water	16
f) Slop tanks and oil/water interface detectors	29
g) Sludge tank for fuel oil	12
h) Minimization of retention of oil on board	30(4) & (5)
i) Tank size limitation / Accidental oil outflow performance	23
j) Subdivision and damage stability	Reg.19, Reg.24 and Reg.28
k) Intact stability	27
l) Pump room bottom protection	22

3.8.6 Structural Fire Protection

3.8.6.1 For coastal tankers of 500 GT and above and less than 1600 GT, the requirements of paragraph 3.3.1.3 above for cargo vessels are to be complied with.

3.8.6.2 For coastal tankers of 1600 GT and above, the requirements for fire protection as given in SOLAS Ch II-2 (other than fire detection and fire fighting which are covered in Annex 6 of this notification) are to be complied with.

3.8.7 Cargo pump rooms

- 3.8.7.1 Separate pump rooms are not required for cargo pumps. But, if provided, they shall have direct access from open deck and be adequately ventilated to prevent accumulation of oil vapour.
- 3.8.7.2 In cargo pump rooms any drain pipes from steam or exhaust pipes or from the steam cylinders of the pumps are to terminate well above the level of the bilges.
- 3.8.7.3 Renewable flame screens are to be provided in ventilation ducts,
- 3.8.7.4 Cargo pump rooms are to have a drainage system connected to pumps or bilge ejectors. The cargo pumps may be used for this purpose provided each bilge suction pipe is fitted with a screw-down non-return valve and an additional valve/cock is fitted to the pipe connection between the pump and the non-return valve
- 3.8.7.5 On tankers of less than 500 gross tons, the pump rooms may be drained by means of hand pumps with a suction diameter of not less than 50 mm.
- 3.8.7.6 All pump rooms are to be provided with bilge level monitoring devices together with audio-visual alarms in the wheel house, pump control station and other appropriate locations.

3.8.8 Piping systems for bilge, ballast, oil fuel etc.

- 3.8.8.1 Cofferdams and void spaces located within the cargo area and not intended to be filled with water ballast are to be fitted with suitable means of drainage.
- 3.8.8.2 Ballast piping is not to pass through cargo tanks as far as possible and is not to be connected to cargo oil piping. Provision may, however, be made for emergency discharge of water ballast by means of a portable spool connection to a cargo oil pump and where this is arranged, a non-return valve is to be fitted in the ballast suction to the cargo oil pump. The portable spool piece is to be mounted in a conspicuous position in the pump room and a permanent notice restricting its use is to be prominently displayed adjacent to it. Shut-off valves shall be provided to shut-off the cargo and ballast lines before the spool piece is removed.
- 3.8.8.3 Ballast piping passing through cargo tanks and cargo oil pipes passing through segregated ballast tanks, where permitted by MARPOL Annex I Reg. 19, are to be of heavy gauge steel with welded or heavy flanged joints the number of which is to be kept to a minimum. Only expansion bends (not glands) are permitted in these lines within cargo tanks for serving the ballast tanks and within the ballast tanks for serving the cargo tanks.
- 3.8.8.4 The system of storage, transfer, combustion and air pipes for fuel oil for ship's use shall be entirely separate from system of loading, un-loading and air pipes for cargo oil.

3.8.9 Cargo Handling Systems

- 3.8.9.1 A complete system of piping and pumps is to be fitted for dealing with the cargo. Standby means for pumping out each cargo tank are to be provided.
- 3.8.9.2 Where cargo tanks are provided with single deep well pumps, or submerged pumps, it will be necessary to provide alternative means for emptying the tanks in the event of failure of a pump. Portable submersible pumps may be provided on board for this purpose, but the arrangements are to be such that a portable pump could be safely introduced in to a full or part full tank. Details of the arrangements are to be submitted for approval.
- 3.8.9.3 A stop valve and a relief valve of adequate capacity are to be fitted on the delivery side of each pump. Relief valves are to be fitted in close-circuit, i.e. discharging to the suction side of the pumps. Relief valve may be omitted in case of centrifugal pumps, which are so designed that the discharge pressure cannot exceed the design pressure.
- 3.8.9.4 A pressure gauge is to be fitted on the delivery side of each pump. Where the pump is driven by a prime mover, which is installed in a space other than the pump room, an additional pressure gauge is to be fitted at a suitable position visible from the controlling position of the prime mover.
- 3.8.9.5 Where cargo pumps are driven by hydraulic motors which are located inside cargo tanks, the design is to be such that the contamination of the operating media and cargo oil cannot take place under normal operating conditions.
- 3.8.9.6 Means are to be provided for stopping the cargo oil pumps from a position outside the pump rooms, as well as at the pumps.
- 3.8.9.7 Terminal pipes, valves and other fittings in the cargo loading and discharge lines to which shore installation hoses are directly connected, are to be of steel or approved ductile material. They are to be strongly supported. A manually operated shut-off valve is to be fitted to each shore loading/discharging connection.
- 3.8.9.8 Where cargo suction and/or filling lines are led through cargo tanks, or through other spaces situated below the weather deck, the connection to each tank is to be provided with a valve situated inside the tank, and capable of being operated from the deck
- 3.8.9.9 Provision is to be made to ensure that the liquid head in any tank does not exceed the test head of the tank; suitable high level alarms, together with gauging devices and tank filling procedures, may be accepted for this purpose.

3.8.10 Special Requirements for vessels carrying vegetable oil

- 3.8.10.1 Vessels carrying vegetable oils listed in Annex-13 shall comply with the requirements of the classification society for this vessel type.

3.8.10.2 The entire cargo length shall be protected by ballast tanks or spaces other than that for carrying oil as follows:

- a) Wing tanks or spaces shall be arranged such that cargo tanks are located inboard of the moulded line of the side shell plating nowhere less than 760 mm.
- b) Double bottom tanks or spaces shall be arranged such that the distance between the bottom of the cargo tanks and the moulded line of the bottom shell plating measured at right angles to the bottom shell plating is not less than $B/15$ [m] or 2.0 m at the centerline, whichever is the lesser. The minimum distance shall be 1.0 m.

3.8.10.3 Cargo tanks are to be fitted with a visual and audible high level alarm which indicates when the liquid level in the cargo tank approaches the normal full condition. The alarm is to be capable of being tested prior to loading.

3.9 Special requirements for Chemical Tankers and Gas carriers

3.9.1 Chemical tankers and gas carriers shall comply with the requirements of IBC Code and IGC Code respectively.

ANNEX : 4 Prevention of Collisions

4.1 Equivalence

Pursuant to the exemption of Coastal vessels from provisions of Section 285 of the M.S. Act and M.S (Prevention of Collisions) Rules, 1987 (as amended), the regulations contained in this Annex provide an alternative safety standard in the conduct of maritime navigation, acceptable to the Administration.

4.2 Application

This Annex shall apply to coastal vessels specified in Annex I.

4.3 Prevention of Collisions

- 4.3.1 Coastal vessels of 500 GT and above shall comply with the requirements of the International Regulation for Prevention of Collisions at Sea (COLREG), 1972, as amended and as enacted / legislated in the M.S.Act, 1958 and relevant rules framed therein.
- 4.3.2 Coastal vessels of less than 500 GT shall comply with the requirements of the International Regulation for Prevention of Collisions at Sea (COLREG), 1972, as amended, as enacted or legislated in the M.S. Act and relevant rules framed therein except that the positioning of lights shall be as follows:
 - 4.3.2.1 Forward mast light shall be at a height of 4 m above the hull for vessels of 20 m length and 6 m for vessels of length 50 m and above. In the case of intermediate lengths the height may be interpolated.
 - 4.3.2.2 All other lights shall be positioned accordingly (as a function of the height of the forward mast light or beam, whichever is higher)
- 4.3.3 All equipment provided onboard coastal vessels shall be of approved type as per relevant IMO Resolution.

ANNEX : 5 Life Saving Appliances

5.1 Equivalence

Pursuant to the exemption of Coastal vessels from provisions of Section 288 of the M.S. Act and M.S. (Life Saving Appliances Rules) 1991 (as amended), the regulations contained in this Annex provide an alternative safety standard acceptable to the Administration.

5.2 Application

This Annex shall apply to coastal vessels specified in Annex I. The requirements specified in this annex are applicable to cargo vessels of less than 6000 GT, dredgers of less than 10000 GT and tankers of less than 3000 GT. Coastal vessels of higher GT than mentioned above are to comply with the requirements of Chapter III of the SOLAS Convention and the relevant part of M.S. (LSA) Rules.

5.3 Definitions

For the purpose of this Annex:

- (i) **Approved** means approved as per SOLAS, BIS or equivalent ISO standards or as acceptable to the Director General.
- (ii) **Length** shall be defined as 96% of the total length on the waterline at 85% of the least moulded depth measured from the top of the keel, or the length from the fore-side of the stem to the axis of the rudder stock on that waterline, if that be greater. In ships designed with a rake of keel the waterline on which this is measured shall be parallel to the designed waterline.

5.4 Survival craft

- 5.4.1 Every coastal vessel of less than 85 m length and coastal tanker of less than 35 m length shall carry on each side of the vessel one or more inflatable life rafts (SOLAS Pack B) capable of being launched on either side of the vessel and of such aggregate capacity as will accommodate the total number of persons the vessel is certified to carry. However, one or more of such life rafts of such aggregate capacity as will accommodate at least the total number of persons the vessel is certified to carry shall be capable of being readily transferred from their stowage positions to both sides or from one side to the other side of the vessel at open deck level for launching.
- 5.4.2 Every coastal vessel of 85 m and above and every coastal tanker of 35 m length and above shall carry:
 - 5.4.2.1 one or more lifeboats complying with the requirements of applicable M.S. (Life Saving Appliances) Rules in force of such aggregate capacity on each side of the vessel as will accommodate total number of persons on board; and
 - 5.4.2.2 in addition, one or more inflatable life rafts (SOLAS Pack B) capable of being launched on either side of the vessel and of such aggregate capacity as will accommodate the total number of persons the vessel is certified to carry. However, one or more of such life rafts of such

aggregate capacity as will accommodate at least the total number of persons the vessel is certified to carry shall be capable of being readily transferred from their stowage positions to both sides or from one side to the other side of the vessel at open deck level for launching.

- 5.4.3 One of the lifeboats as specified in paragraph 5.4.2.1 may be designated as a rescue boat together with its launching and recovery arrangements and such rescue boat shall be deemed to satisfy the requirements of paragraph 5.5 of this Annex.
- 5.4.4 Coastal vessels where the horizontal distance from the extreme end of the stem or stern of the ship to the nearest end of the closest survival craft is more than 100 m shall carry, in addition to the liferafts required by paragraph 5.4.2.2 above, a liferaft stowed as far forward or aft, or one as forward and another as aft, as is reasonable and practicable. Such liferaft or liferafts may be securely fastened so as to permit manual release and need not be of the type which can be launched from an approved launching device.
- 5.4.5 Every inflatable life raft and hydrostatic release unit shall be serviced:
 - 5.4.5.1 at intervals not exceeding twelve months; however, in cases where it appears proper and reasonable, the Administration may extend this period up to a maximum of seventeen months;
 - 5.4.5.2 at an approved service station, which is competent to service them, maintains proper servicing facilities and uses only properly trained personnel.

5.5 Rescue Boats

- 5.5.1 Coastal Vessels shall be required to carry a rescue boat or equivalent as per the following table:

Length of Vessel	Type of Boat
Less than 24 m	---
24 m – 35 m	1 no. work boat of suitable type that can be lowered and hoisted manually onto the vessel by 2 persons
35 m – 85 m	1 no. [work boat/zodiac] rescue boat of minimum 3 persons capacity with a davit**.
Above 85 m	01 no rescue boat complying with LSA Code requirements***

** The boat and davit shall be exempted from annual load testing requirements. Only operational test to satisfaction of surveyor need be carried out towards periodical surveys. Load test for two + one (injured person) (total 3 persons of 75Kg each) shall be carried out towards renewal survey.

*** Annual servicing to be carried within 12-17 months of operation.

5.6 Lifejackets

- 5.6.1 Lifejackets of approved type shall be provided for every person on board the vessel.
- 5.6.2 In addition, lifejackets shall be carried for persons on watch or duty and for use at remotely located survival craft stations in unlocked and clearly marked dry stowage positions in accordance with the following table:

The number of persons that the vessel is certified to carry	Minimum number of additional lifejackets
More than 16 persons	Not less than 25% of the total number of persons the vessel is certified to carry
16 persons or less	Not less than 4

- 5.6.3 Each lifejacket shall be fitted with a whistle firmly secured by a cord and a light and fitted with retro-reflective material.
- 5.6.4 Child life jackets need not be provided as children are not allowed on board. However, at least 1 No. be placed for survivors rescued at sea

5.7 Lifebuoys

- 5.7.1 Coastal vessels shall carry not less than the number of lifebuoys determined according to the following table:

Length of vessel in metres	Minimum number of lifebuoys
Under 50	6
50 and under 100	8
100 and under 150	10

- 5.7.2 At least half of the number of lifebuoys referred to in 5.7.1 shall be fitted with self-igniting lights.
- 5.7.3 At least one lifebuoy on each side of the vessel shall be fitted with a buoyant lifeline of at least 30 m in length.

5.8 Distress signals

- 5.8.1 Every vessel shall be provided, with not less than 6 Rocket Parachute, 4 Red Hand Flares and 1 Orange Smoke Float Signals with validity of at least 3 years.
- 5.8.2 They shall be stowed on or near the place at which the vessel is normally navigated.
- 5.8.3 They shall be so placed as to be readily accessible and their position shall be plainly indicated.

5.9 Radio life-saving appliances

- 5.9.1 All coastal vessels shall comply with carriage of distress and safety radio communication (DSRC) equipment as stipulated in Annex-7 of this Notification.
- 5.9.2 Vessels of greater than 500 GT but less than 3000 GT shall be provided with at least two (2) two-way VHF radiotelephone apparatus.
- 5.9.3 Vessels of 3000 GT and above shall be provided with at least three (3) two-way VHF radiotelephone apparatus.
- 5.9.4 Vessels of 3000 GT and above shall be provided with at least two (2) radio transponders (SART) which may be those carried in compliance of Annex-7 of this Notification.

5.10 General emergency alarm system

- 5.10.1 Every vessel shall be provided with a general emergency alarm system capable of sounding the general emergency alarm signal consisting of seven or more short blasts followed by one long blast on the vessel's whistle or siren.
- 5.10.2 The system shall be capable of operation from the navigation bridge or control station as appropriate and shall be audible throughout all accommodation and normal working spaces

5.11 Embarkation Ladder

- 5.11.1 Coastal vessels of 3000 GT and above shall be provided with an embarkation ladder of specification prescribed in MS (LSA) Rules on each side of the ship for embarkation

5.12 Line Throwing Appliances

- 5.12.1 Coastal vessels of 1600 GT and above shall be provided with a set of Line throwing appliance (at least 4 Nos.) with validity of at least 3 years.

5.13 Emergency instructions

- 5.13.1 Clear instructions to be followed in the event of an emergency shall be provided and exhibited in conspicuous places throughout the vessel including the navigation bridge, machinery spaces and accommodation spaces.
- 5.13.2 Emergency Training & Drills with regard to familiarity and at least once during the tenure of the crew.

5.14 Operational readiness, maintenance

- 5.14.1 Maintenance of LSA to ensure operational readiness in port and at all times during the voyage.
- 5.14.2 All equipment provided onboard coastal vessels shall be of approved type as per relevant IMO Resolution.

ANNEX : 6 Fire Fighting Appliances

6.1 Equivalence

Pursuant to the exemption of Coastal Vessels from provisions of Section 289 and 290 of the M.S. Act and M.S. (Fire Fighting Appliances) Rules, 1991 (as amended), the regulations contained in this Annex provide an alternative safety standard acceptable to the Administration.

6.2 Definitions

For the purpose of this Annex, **Approved** means approved as per BIS or equivalent ISO standards and suitable for marine use.

Part A

6.3 Coastal tankers of less than 1600 GT and other vessels of less than 3000 GT

6.3.1 Application

This part shall apply to tankers of less than 1600 GT and all other Coastal vessels other than tankers of less than 3000 GT.

6.3.2 Fire pumps

- 6.3.2.1 Every vessel shall be provided with at least two fire pumps having a total capacity of not less than 70 m³/hour, of which each pump shall be of minimum capacity of 25 m³/hour.
- 6.3.2.2 One of the pumps complying with the requirements of para 6.3.2.1 shall be independently driven.
- 6.3.2.3 Every fire pump shall be arranged to draw water directly from sea and discharge into a fixed fire main.
- 6.3.2.4 Centrifugal pumps or other pumps connected to the fire main through which back flow could occur shall be fitted with non-return valves.
- 6.3.2.5 If a fire in any one compartment could put all the fire pumps out of action, there shall be provided in a position outside such spaces an independently driven emergency fire pump which shall comply with the requirements of paragraph 6.3.2.1 for minimum capacity.
- 6.3.2.6 The emergency fire pump shall be capable of producing at least a jet of water of not less than 6 m from one hydrant and hose through a nozzle complying with the requirements of paragraph 6.3.4.8.
- 6.3.2.7 Where the fire pumps are capable of developing a pressure exceeding the design pressure of the fire mains, water service pipes, hydrants and hoses, relief valves shall be fitted. Such valves shall be so placed and adjusted as to prevent excessive pressure in the fire main system.
- 6.3.2.8 The pumps required for the provision of water for other fire extinguishing systems required by this Annex, their sources of power and their controls shall be installed outside the space or spaces protected by such systems and shall be so arranged that a fire in the space or spaces protected will not put any such system out of action.

6.3.3 Fire main, water service pipes, fire hydrants and fire mains

- 6.3.3.1 In every vessel, a fire main of 65 mm size shall be laid with isolating valve on the weather deck for feeding any or all fire hydrants.
- 6.3.3.2 In every vessel under this Notification, the number and position of hydrants shall be such that at least one jet of water from a single length of hose can reach any part of the vessel normally accessible to the crew while the vessel is being navigated and any part of any cargo space when empty. Furthermore, such hydrants shall be positioned near the accesses to the protected spaces.
- 6.3.3.3 Material readily rendered ineffective by heat shall not be used for fire main and hydrants unless adequately protected. The pipes and hydrants shall be so placed that the fire hoses may be easily coupled to them.
- 6.3.3.4 In vessels where deck cargo may be carried, the position of the hydrants shall be such that they are always accessible and the pipes shall be arranged as far as practicable to avoid risk of damage by such cargo.
- 6.3.3.5 A valve shall be fitted to serve each fire hose so that any fire hose may be removed while the fire pumps are at work.
- 6.3.3.6 The fire mains shall be provided with isolating valves located so as to permit optimum utilization in the event of physical damage to any part of the main. In the case of tankers, isolation valves are to be fitted on the poop front in a protected position and on tank deck at intervals of maximum 40 [m] to preserve the integrity of fire main system in case of fire.
- 6.3.3.7 Fire mains shall have no connections other than those required for fire-fighting, except for the purposes of washing the deck and anchor chains or operating the chain locker bilge ejector.

6.3.4 Fire hoses and nozzles

- 6.3.4.1 Every vessel shall be provided with a minimum of 2 fire hoses.
- 6.3.4.2 Where hydrants are required in any machinery spaces, each hydrant shall be provided with a fire hose. Where practicable fire hoses shall be connected to the hydrants in such machinery spaces.
- 6.3.4.3 A single length of fire hose shall not exceed 18 m.
- 6.3.4.4 Fire hoses shall be oil-resistant and approved for marine use.
- 6.3.4.5 Fire hoses of unlined canvas shall have a diameter of not less than 64 mm. Hoses of at least 45 mm internal diameter having a throughput comparable to that of 64 mm internal diameter unlined canvas at corresponding pressure may be used. Fire hoses of an internal diameter not less than 32 mm may be accepted in the accommodation spaces .

- 6.3.4.6 Fire hoses provided in compliance with these requirements shall not be used for any purpose other than fire fighting or testing of the fire appliances.
- 6.3.4.7 Every fire hose shall be provided with an approved nozzle and the necessary couplings.
- 6.3.4.8 Standard nozzle size shall be 12 mm.

6.3.5 Fire extinguishers

- 6.3.5.1 Fire extinguishers shall be of approved types and designs.
- 6.3.5.2 The capacity of required portable fluid fire extinguishers shall be not more than 13.5 L and not less than 9 L. Other extinguishers shall have a fire extinguishing capability at least equivalent to that of a 9 L fluid fire extinguisher.
- 6.3.5.3 The capacity of required portable carbon dioxide fire extinguishers shall not be less than 3 kg.
- 6.3.5.4 The capacity of required portable dry powder fire extinguishers shall not be less than 4.5 kg.
- 6.3.5.5 All required portable fire extinguishers shall not exceed 23 kg. in weight in a fully charged condition and shall be at least as portable as 13.5 litre fluid fire extinguisher.
- 6.3.5.6 A spare charge shall be provided for every portable fire extinguisher provided in compliance with this Notification, except that for each such fire extinguisher which is of a type that cannot readily be recharged while the vessel is at sea an additional fire extinguisher of the same type, or its equivalent, shall be provided in lieu of a spare charge.
- 6.3.5.7 Fire extinguishers shall be periodically examined and subjected to such tests as follows:
 - i. The condition of the charges of extinguishers other than carbon dioxide extinguishers, shall be checked annually. If on checking there is any indication of deterioration, the charges shall be renewed and, in any case, at least every four years. A record of the annual check shall be fixed to each fire extinguisher. Form fire extinguishers (pre-mixing type) to be recharged every year as per BIS Standards 2190:2010..
 - ii. Carbon dioxide extinguishers and gas propellant cartridges of other extinguishers shall be examined externally for corrosion and for loss of content annually. They shall be recharged or renewed if the loss of gas by weight exceeds 10% of the original charge as stamped on the bottles or cartridge, or have corroded excessively externally.
 - iii. All portable fire extinguishers, other than carbon dioxide extinguishers, shall be tested by hydraulic pressure once every four years and the date of such test legibly marked on the extinguisher. Hyd. test to be done for all portable fire extinguishers at every 3 years except CO₂ as per BIS Standards 2190:2010.
 - iv. New carbon dioxide extinguishers, which do not require to be recharged, shall be tested by hydraulic pressure 10 and 20 years after

manufacture and thereafter every five years. CO₂ portable fire extinguishers to be hyd. pressure tested at every 5 years as per BIS Standards 2190:2010.

- v. Carbon dioxide extinguishers, which require recharging, shall be pressure tested before being recharged if four years have elapsed since the last hydraulic test was carried out.

6.3.5.8 One of the portable fire extinguishers intended for use in any space shall be stowed near an entrance to that space.

6.3.5.9 HALON fire extinguishers shall not be used.

6.3.5.10 Each fire extinguisher shall as far as is practicable be clearly marked on the front with a label of durable material with at least the following information in English:

- i. name of manufacturer;
- ii. type of fire for which the extinguisher is suitable;
- iii. type and quantity of extinguishing medium;
- iv. approval details;
- v. operating instruction supplemented by diagrams;
- vi. intervals for recharging;
- vii. temperature range over which the extinguisher will operate satisfactorily; and
- viii. test pressure.

In addition, the year of manufacture, test pressure and any serial number shall be stamped on the outside of the container.

6.3.5.11 Coastal tankers of 500 GT and above are to be provided with a portable deck foam fire fighting system for the cargo tank deck.

6.3.6 Fire buckets

6.3.6.1 Fire buckets shall be of material, which is not readily flammable. They shall be painted red, clearly marked with the word "FIRE" and provided with lanyards of sufficient length, having regard to the size of the vessel.

6.3.6.2 The capacity of each of the fire buckets referred to in this part shall be at least 9 L.

6.3.6.3 Fire buckets provided in compliance to this part shall not be used for any purpose other than extinguishing fires.

6.3.7 Portable fire extinguishers in accommodation spaces, service spaces and control stations

In every vessel there shall be provided a sufficient number of approved portable fire extinguishers to ensure that at least one extinguisher will be readily available for use in any part of accommodation spaces, service space and control stations. The minimum number of fire extinguishers to be provided in such vessels shall be 3. The arrangement of such fire extinguishers shall be to the satisfaction of the Administration.

6.3.8 Fire extinguishing systems and appliances in the machinery spaces

6.3.8.1 In every vessel, there shall be provided for the protection of any space containing internal combustion type machinery having a total power output of 1500 kW and above:

6.3.8.1.1 one of the following fixed fire-extinguishing systems:

- a) a gas system;
- b) a high expansion foam system or
- c) a pressure water-spraying system

6.3.8.1.2 at least one portable extinguisher suitable for extinguishing oil fires for each 750 kW of engine power output or part thereof, but the total number of such fire extinguishers so supplied shall be not less than two and not exceed six.

6.3.8.2 In vessel, there shall be provided for the protection of any space containing internal combustion type machinery having a total power output less than 1500 kW:

6.3.8.2.1 at least two portable fire extinguishers suitable for extinguishing oil fires, and

6.3.8.2.2 at least one non-portable foam fire extinguisher of least 45 litres capacity or a carbon dioxide extinguisher of 15 kg capacity. In vessels of less than 500 GT, the requirements prescribed above may be substituted by two additional portable fire extinguishers suitable for extinguishing oil fires.

6.3.9 Fireman's outfit

6.3.9.1 Every vessel under this Notification shall be provided with at least one fire-fighter's outfit. Coastal tankers are to be provided with at least two firefighter's outfits.

6.3.9.2 A firefighter's outfit shall consist of:

6.3.9.2.1 personnel equipment comprising:

- protective clothing of material to protect the skin from the heat radiating from the fire and from burns and scalding by steam. The outer surface of protective clothing shall be water-resistant;
- boots and gloves of rubber or other electrically non conducting material;
- a rigid helmet providing effective protection against impact;
- an electric safety lamp (hand lantern) of an approved type with a minimum burning period of three hours; and
- an axe to the satisfaction of the Administration; and

6.3.9.2.2 breathing apparatus of an approved type, which may be either:

- a smoke helmet or smoke mask which shall be provided with a suitable air pump and a length of air hose sufficient to reach from the open deck, well clear of hatch or doorway, to any part of the holds or machinery spaces. Where in order to comply with this paragraph, an air hose exceeding 36 m in length would be necessary, a self-contained breathing apparatus shall be substituted or provided, in addition, as determined by the Administration; or

- a self-contained compressed-air operated breathing apparatus, the volume of air contained in the cylinders of which shall be at least 1,200 L, or other self-contained breathing apparatus which shall be capable of functioning for at least 30 minutes. A number of spare charges, suitable for use with the apparatus provided, shall be available on board to the satisfaction of the Administration.
- 6.3.9.3 For each breathing apparatus a fireproof lifeline of sufficient length and strength shall be provided capable of being attached by means of a snap hook to the harness of the apparatus or to a separate belt in order to prevent the breathing apparatus becoming detached when the lifeline is operated.
- 6.3.9.4 The Administration may require additional sets of personal equipment and breathing apparatus, having due regard to the size and type of the vessel.
- 6.3.9.5 The firefighters' outfits or sets of personal equipment shall be so stored as to be easily accessible and ready for use and where more than one firefighter's outfit or more than one set of personnel equipment is carried, they shall be stored in widely separated positions.
- 6.3.10 Fireman's Axe
Every vessel under this Notification shall be provided with at least one fireman's axe in an easily accessible location outside the machinery, accommodation and service spaces.
- 6.3.11 Fire control plan
In every vessel, there shall be provided a permanently exhibited fire plan displayed conspicuously for use. The fire plan is to be in English or in the language of the vessel, if not English Plan needs to be approved by Administration or RO recognized by GOI.

Part B

6.4 Coastal vessels other than tankers of more than 3000 GT and tankers of 1600-3000 GT

- 6.4.1 Application
This part shall apply to coastal cargo vessels of $3000 \leq GT < 6000$ (10000 GT in case of dredgers (Part 'C') and coastal tankers of $1600 \leq GT < 3000$. . Oil tankers carrying of flash point not exceeding 60 deg C are to comply with the requirements of Ch II – 2 of the SOLAS Convention.
- 6.4.2 Definitions
For the purpose of this Annex, **Approved** means approved as per BIS or equivalent ISO standards and suitable for marine use.
- 6.4.3 Detection and alarm
 - 6.4.3.1 General requirements
All ships should be provided a fixed fire detection and fire alarm system appropriate for the space with manually operated call points for readily

accessible means of notification and fire patrols as effective means of detecting, locating and alerting the navigation bridge.

6.4.3.2 Protection of machinery spaces

6.4.3.2.1 A fixed fire detection and fire alarm system should be installed in periodically unattended machinery spaces and other machinery spaces where automatic or remote control systems have been approved in lieu of continuous manning.

6.4.3.2.2 The detection system so prescribed should not be based only on thermal detectors and be capable of audible and visual alarms distinct in both respects from the alarms of any other system not indicating fire.

6.4.3.3 Protection of accommodation spaces

Smoke detectors of an approved type should be installed in stairways, corridors and escape routes within accommodation spaces.

6.4.4 Containment of fire

See Annex 3 clause 3.3 of this Notification

6.4.5 Fire fighting

6.4.5.1 Fire mains and hydrants

6.4.5.1.1 Materials readily rendered ineffective by heat should not be used for fire mains and hydrants. Isolation valves are to be fitted for all open deck fire main branches used for purposes other than fire fighting.

6.4.5.1.2 In ships where deck cargo may be carried, the position of hydrants shall be such that they are always readily accessible and the pipes shall be arranged as far as practicable to avoid risk of damage by such cargo. The arrangements for ready availability of water supply should be to the satisfaction of the Administration or a recognised organisation acting on its behalf

6.4.5.2 Diameter of fire mains

6.4.5.2.1 The diameter of the fire main and water service pipes should be sufficient for the discharge of 140 m³/h

6.4.5.3 Isolating valves and relief valves

6.4.5.3.1 Isolating valves should be so arranged so that the fire main is not disabled due to fire in the machinery space and such valves are fitted in an easily accessible and tenable position outside machinery spaces. . In the case of tankers, isolation valves are to be fitted on the poop front in a protected position and on tank deck at intervals of maximum 40 [m] to preserve the integrity of fire main system in case of fire.

6.4.5.3.2 A valve shall be fitted to serve each fire hydrant so that any fire hose may be removed while the fire pumps are in operation

6.4.5.3.3 Relief valves should be provided in conjunction with fire pumps if the pumps are capable of developing pressure exceeding the design pressure of the fire main system

- 6.4.5.4 Number and position of hydrants
 - 6.4.5.4.1 The number and position of hydrants should be such that at least two jets of water not emanating from the same hydrant, one of which should be from a single length of hose, may reach any part of the ship normally accessible to the crew while the ship is being navigated and any part of any cargo space when empty.
 - 6.4.5.4.2 Such hydrants should be position near the access to the protected spaces
- 6.4.5.5 Pressure at hydrants
 - 6.4.5.5.1 With the two pumps simultaneously delivering a quantity of water as specified in paragraph 6.4.6.4.1 through any adjacent hydrants, a minimum pressure of 0.25 N/mm² should be maintained at all hydrants, and
 - 6.4.5.5.2 The maximum pressure at any hydrant should be not exceed that at which the effective control of a fire hose can be demonstrated
- 6.4.5.6 International shore connection
 - 6.4.5.6.1 Ships should be provided with at least one international shore connection usable on either side of the ship.
- 6.4.6 Fire pumps
 - 6.4.6.1 Number of fire pumps
 - 6.4.6.1.1 Ships should be provided with at least two independently driven approved fire pumps
 - 6.4.6.2 Arrangement of fire pumps and fire mains
 - 6.4.6.2.1 If a fire in any one compartment could put all the pumps out of action, there should be an alternative means consisting of an approved emergency fire pump with its source of power and sea connection located outside the space where the main fire pumps or their sources of power are located.
 - 6.4.6.2.2 The space containing the emergency fire pump should not be contiguous to the boundaries of the machinery spaces or those spaces containing the two main fire pumps
 - 6.4.6.2.3 No direct access should be permitted between the machinery space and the space containing the emergency fire pump and its source of power. Alternatively, the access may be through a watertight door capable of being operated from a space remote from the machinery space and the space containing the emergency fire pump unlikely to be cut-off in the event of fire in those spaces. In such cases a second means of access to the space containing the emergency fire pump and its source of power is to be provided.
 - 6.4.6.2.4 Ventilation arrangement to the space containing the independent source of power for the emergency fire pump should be such as to preclude the possibility of smoke from machinery space fire entering or being drawn into that space

- 6.4.6.3 Additional pumps accepted as fire pumps
 - 6.4.6.3.1 Sanitary, ballast, bilge or general service pumps may be accepted as one of the two fire pumps provided that they are not normally used for transfer or pumping oil, and
 - 6.4.6.3.2 Provided such pumps are capable of providing water to the fire mains
- 6.4.6.4 Capacity of fire pumps
 - 6.4.6.4.1 The two fire pumps, other than the emergency fire pump, should deliver a quantity of water not less than 140 m³/h
 - 6.4.6.4.2 Each of the two fire pumps, other than the emergency fire pump, shall have a minimum capacity of 25 m³/h, and Capable of delivering at least the two required jets of water as prescribed in paragraph 6.4.5.4.1
- 6.4.7 Fire hoses and nozzles
 - 6.4.7.1 General specifications
 - 6.4.7.1.1 Approved fire hoses should be of non-perishable material and shall be sufficient in length to project a jet of water to any of the spaces in which they may be required to be used.
 - 6.4.7.1.2 Each hose should be provided with a nozzle and the necessary couplings.
 - 6.4.7.1.3 Hoses specified in this Annex as "fire hoses" should, together with any necessary fittings and tools, be kept ready for use in conspicuous positions near the water service hydrants or connections
 - 6.4.7.1.4 Fire hoses should have a length of at least 10 m, but not more than
 - (i) 15 m in machinery spaces
 - (ii) 20 m in other spaces and open decks, and
 - (iii) 25 m for open decks on ships with a maximum breadth in excess of 30 m
 - 6.4.7.1.5 Unless one hose and nozzle is provided for each hydrant in the ship, there should be complete interchangeability of hose couplings and nozzles.
 - 6.4.7.2 Number and diameter of fire hoses
 - 6.4.7.2.1 Ships should be provided with fire hoses, the number and diameter of which, should be to the satisfaction of the Administration or recognised organisation acting on its behalf.
 - 6.4.7.2.2 As a guideline, ships should be provided with one fire hose for each 30 m in length of the ship and one spare, but in no case less than five in all.
 - 6.4.7.3 Size and types of nozzles
 - 6.4.7.3.1 Standard nozzle sizes should be 12 mm, 16 mm and 19 mm or as near thereto as possible.

6.4.7.3.2 Larger diameter nozzles may be permitted at the discretion of the Administration or recognised organisation acting on its behalf.

6.4.7.3.3 Nozzles should be of a dual-purpose type (i.e. spray/jet type) approved for marine use incorporating a shutoff

6.4.8 Portable fire extinguishers

6.4.8.1 Ships should carry at least five approved portable fire extinguishers to be used in accommodation spaces, service spaces and control stations.

6.4.8.2 One of the portable fire extinguishers intended for use in any space shall be stowed near the entrance to that space.

6.4.8.3 Carbon dioxide fire extinguishers should not be placed in accommodation spaces.

6.4.8.4 Fire extinguishers should be situated ready for use at easily visible places, which can be reached quickly and easily at any time in the event of fire.

6.4.8.5 Portable fire extinguishers should be provided with devices which indicate whether they have been used.

6.4.8.6 Spare charges should be provided for 100% of the first ten extinguishers and 50% of the remaining fire extinguishers capable of being recharged on board.

6.4.9 Fixed fire fighting systems

6.4.9.1 Types of fixed fire-extinguishing systems

6.4.9.1.1 A fixed fire fighting system required in 6.4.10 of this Annex may be any of the following:

- (i) A fixed gas fire-extinguishing system,
- (ii) A fixed high-expansion foam fire-extinguishing system,
- (iii) A fixed pressure water-spraying fire-extinguishing system

6.4.9.2 Closing appliances for fixed fire-extinguishing systems

6.4.9.2.1 Where a fixed gas fire-extinguishing system is used, openings which may admit air to, or allow gas to escape from, a protected space shall be capable of being closed from outside the protected space.

6.4.9.3 Storage rooms of fire-extinguishing medium

6.4.9.3.1 When a fire-extinguishing medium is stored outside a protected space, it should be stored in a room which is located behind the forward collision bulkhead, and is used for no other purposes.

6.4.9.3.2 Any entrance to such a storage room should preferably be from the open deck and should be independent of the protected space.

6.4.9.3.3 If the storage space is located below deck, it should be located no more than one deck below the open deck and should be directly accessible by a stairway or ladder from the open deck.

6.4.9.3.4 Spaces which are located below deck shall be fitted with mechanical ventilation system designed to take exhaust air from the bottom of the space and shall be sized to provide at least 6 air changes per hour.

6.4.10 Fire extinguishing systems in machinery spaces

6.4.10.1 Fixed fire-extinguishing arrangements

6.4.10.1.1 Machinery spaces containing oil-fired boilers, oil fuel units or internal combustion engines having aggregate total output of not less than 375 kW should be provided with one of the fixed fire-extinguishing systems in 6.4.9.1.

6.4.10.1.2 In addition to the above, for machinery spaces of 500 m³ and above, a fixed water based or equivalent local application fire extinguishing system should be provided to protect areas such as the following without the need of engine shutdown, personnel evacuation or sealing of spaces:

- (i) Fire hazard portion of internal combustion machinery used for main propulsion and power generation
- (ii) Boiler fronts
- (iii) Fire hazard portions of incinerators
- (iv) Purifiers for heated fuel oil

6.4.10.1.3 Activation of local application system shall give a visual and distinct audible alarm in the protected space and continuously manned stations.

6.4.11 Additional fire-extinguishing systems

6.4.11.1 There should be at least one approved portable foam applicator unit

6.4.11.2 There should be minimum two foam-type fire extinguishers, each of at least 45 litre capacity or equivalent in spaces containing internal combustion machinery. In the case of boiler rooms containing boilers of 175 kW and above, one foam extinguisher of at least 135 litre capacity is to be provided.

6.4.11.3 There should be sufficient number of portable foam extinguishers which should be so located that, as far as practicable, no point in the space is more than 10 m from an extinguisher.

6.4.12 Fire extinguishing arrangements in control stations, accommodation and service spaces

6.4.12.1 Sprinkler systems

6.4.12.1.1 A fixed fire detection and fire alarm system should be so installed and arranged as to provide smoke detection in all corridors, stairways and escape routes within accommodation spaces.

6.4.12.1.2 Where fire protection method IIC of SOLAS Ch II-2 is adopted, an approved automatic sprinkler, fire detection and fire alarm system should be so installed and arranged as to protect accommodation spaces, galleys and other service spaces, except spaces which

afford no substantial fire risk such as void spaces, sanitary spaces etc.

6.4.12.2 Spaces containing flammable liquid

Paint lockers and flammable liquid lockers, at a minimum, should be protected by a portable carbon dioxide fire extinguisher of adequate size. A discharge port shall be arranged in the locker to allow the discharge of the extinguisher without having to enter the protected space. Alternatively, paint lockers may be protected by a dry powder system designed for 0.5 [Kg powder/ m³] or a water spraying or sprinkler system designed for 5 [l/m².min].

6.4.12.3 Deep-fat cooking equipment is not to be provided unless the following systems and equipment are fitted.

6.4.12.4 Deep-fat cooking equipment, where provided, should be fitted with the following:

- (i) An approved fire-extinguishing system,
- (ii) A primary and backup thermostat with an alarm to alert the operator in the event of failure of either thermostat
- (iii) Arrangements for automatically shutting off the electrical power upon activation of the fire-extinguishing system
- (iv) An alarm for indicating operation of the fire-extinguishing system in the galley where the equipment is installed.
- (v) Controls for manual operation of the fire-extinguishing system which are clearly labeled for ready use by the crew.

6.4.13 Fire Fixed gas fire-extinguishing systems for cargo spaces

6.4.13.1 Any vessel engaged in the carriage of dangerous goods or cargoes of other than low fire risk should be provided with an approved fixed carbon dioxide or inert gas fire-extinguishing system

6.4.14 Fire-fighter's outfits

6.4.14.1 Vessels should carry at least two fire-fighter's outfits. Tankers are to be provided with additional two fire fighting outfits.

6.4.14.2 The fire-fighter's outfits should be kept ready for use in an easily accessible location that is permanently and clearly marked. Coastal tankers of 500 GT and above are to be provided with a portable deck foam fire fighting system for the cargo tank deck.

6.4.15 Notification of crew

6.4.15.1 A general emergency alarm system should be used for notifying the crew of a fire

6.4.16 Operational requirements

6.4.16.1 Operational readiness and maintenance

6.4.16.1.1 At all times while a ship is in service, fire protection systems and fire fighting systems and appliances should be maintained ready for use, and fire protection systems and fire fighting systems and appliances should be properly tested and inspected

6.4.16.1.2 A ship is not in service when:

- (i) it is in for repairs or lay-up (either at anchor or in port) or in dry-dock; and
- (ii) it is declared not in service by the owner or the owner's representative.

6.4.16.1.3 Portable extinguishers which have been discharged should be immediately recharged or replaced with an equivalent unit.

6.4.16.1.4 A maintenance plan should be developed and implemented for ensuring reliability of fire-fighting systems and appliances in accordance with the circulars/ orders/notices issued by the Directorate General of Shipping from time to time.

6.4.16.1.5 The maintenance plan should be kept on board and should be available for inspection whenever required by the Administration or recognised organisation acting on its behalf.

6.4.16.1.6 The maintenance plan should include at least the following fire-fighting systems and appliances, where installed:

- fire mains, fire pumps and hydrants, including hoses, nozzles and international shore connections;
- fixed fire detection and fire alarm systems;
- fixed fire-extinguishing systems and other fire-extinguishing appliances;
- automatic sprinkler, fire detection and fire alarm systems;
- ventilation systems, including fire and smoke dampers, fans and their controls;
- emergency shutdown of fuel supply;
- fire doors including their controls;
- general emergency alarm systems;
- emergency escape breathing devices;
- portable fire extinguishers, including spare charges; and
- fire-fighter's outfits.

6.4.16.1.7 The maintenance plan may be computer-based.

6.4.17 Instructions, on-board training and drills

6.4.17.1 Crew members should receive instruction on fire safety on board the ship.

6.4.17.2 Crew members should receive instructions on their assigned duties.

6.4.17.3 Parties responsible for fire extinguishing should be organised. These parties should have the capability to complete their duties at all times while the ship is in service.

6.4.17.4 Crew members should be trained to be familiar with the arrangements of the ship as well as the location and operation of any fire-fighting systems and appliances that they may be called upon to use.

6.4.17.5 Training in the use of emergency escape breathing devices should be considered as part of on-board training.

6.4.17.6 Performance of crew members assigned fire-fighting duties should be periodically evaluated by conducting on-board training and drills to identify areas in need of improvement, to ensure competency in fire-fighting skills is maintained, and to ensure the operational readiness of the fire-fighting organisation.

6.4.18 Training Manual

6.4.18.1 A training manual, written in the working language of the ship, should be provided in each crew mess room and recreation room or in each crew cabin and should explain the following:

- general fire safety practice and precautions related to the dangers of smoking, electrical hazards, flammable liquids and similar common shipboard hazards;
- general instructions on fire-fighting activities and fire-fighting procedures, including procedures for notification of a fire and use of manually operated call points;
- meanings of the ship's alarms;
- operation and use of fire-fighting systems and appliances;
- operation and use of fire doors;
- operation and use of fire and smoke dampers; and
- escape systems and appliances.

6.4.19 Fire control plan

6.4.19.1 General arrangement plans should be permanently exhibited for the guidance of the ship's officers, showing clearly for each deck the control stations, the various fire sections enclosed by "A" class divisions, the sections enclosed by "B" class divisions together with particulars of the fire-detection and fire alarm systems, the sprinkler installation, the fire extinguishing appliances, means of access to different compartments, decks, etc. and the ventilating system, including particulars of the fan control positions, the position of dampers and identification numbers of the ventilating fans serving each section. Alternatively, at the discretion of the Administration or the recognised organisation acting on its behalf, the aforementioned details may be set out in a booklet, a copy of which should be supplied to each officer, and one copy should at all times be available on board in an accessible position. Plans and booklets should be kept up to date; any alterations thereto should be recorded as soon as practicable. Description in such plans and booklets should be in English, or in the working language of the ship, if not English.

6.4.19.2 A duplicate set of the fire control plan or a booklet containing such plans should be permanently stored in a prominently marked weathertight enclosure outside the deckhouse for the assistance of shore-side fire-fighting personnel.

6.4.20 Operations

6.4.20.1 All ships should be provided with a fire safety operational booklet that should contain the necessary information and instructions for the safe operation of the ship and cargo handling operations in relation to fire safety.

6.4.20.2 The booklet shall include information concerning the crew's responsibilities for the general fire safety of the ship while loading and discharging of cargo and while under way. Necessary fire safety precautions for handling general cargoes should be explained.

- 6.4.20.3 For ships carrying dangerous goods and flammable bulk cargoes, the fire safety operational booklet should provide pertinent fire-fighting and emergency cargo handling instructions.
- 6.4.20.4 The fire safety operational booklet should be provided in each crew mess room and recreation room or in each crew cabin.
- 6.4.20.5 The fire safety operational booklet should be written in English or the working language of the ship, if not English.
- 6.4.20.6 The fire safety operational booklet may be combined with the training manuals required by paragraph 6.4.18.1.

ANNEX : 7 Radio Communications

7.1 Equivalence

[[Pursuant to the exemption of Coastal vessels from provisions of Section 291 of the M.S. Act, M.S (Radio) Rules, 1983 (as amended) and M.S. (Distress and Safety Radio Communication) Rules 1995 (as amended), the regulations contained in this Annex provide an alternative safety standard acceptable to the Administration.]

7.2 Application

This Annex shall apply to coastal vessels specified in Annex I.

7.3 Radio communication equipment

- 7.3.1 All Coastal vessels of less than 500 GT shall be provided with:
- a VHF radio installation capable of transmitting and receiving
 - radiotelephony on Channel 6, Channel 13 and Channel 16
 - DSC on Channel 70
 - An additional VHF radio installation, which could be a portable/hand-held VHF, capable of transmitting and receiving radiotelephony on Channel 6, Channel 13 and Channel 16
 - a Class B automatic identification system (AIS)
 - a radio transponder (SART) capable of operating in the 9 GHz band, which shall be so stowed that it can be easily utilized
 - a satellite emergency position-indicating radio beacon (EPIRB)
 - a receiver capable of receiving NAVTEX service broadcasts
- 7.3.2 All Coastal Vessels of 500 GT and above but less than 1600 GT shall be provided with:
- a VHF radio installation capable of transmitting and receiving
 - radiotelephony on Channel 6, Channel 13 and Channel 16
 - DSC on Channel 70
 - An additional VHF radio installation, which could be a portable/hand-held VHF, capable of transmitting and receiving radiotelephony on Channel 6, Channel 13 and Channel 16
 - a Class A automatic identification system (AIS)
 - a radio transponder (SART) capable of operating in the 9 GHz band, which shall be so stowed that it can be easily utilized
 - a satellite emergency position-indicating radio beacon (EPIRB)
 - a receiver capable of receiving NAVTEX service broadcasts
- 7.3.3 All Coastal Vessels of 1600 GT and above but less than 6000 GT shall be provided with:
- a VHF radio installation capable of transmitting and receiving
 - radiotelephony on Channel 6, Channel 13 and Channel 16
 - DSC on Channel 70
 - An additional VHF radio installation, which could be a portable/hand-held VHF, capable of transmitting and receiving radiotelephony on Channel 6, Channel 13 and Channel 16
 - a Class A automatic identification system (AIS)
 - two radio transponders (SART) capable of operating in the 9 GHz band, which shall be so stowed that it can be easily utilized
 - a satellite emergency position-indicating radio beacon (EPIRB)
 - a receiver capable of receiving NAVTEX service broadcasts

- an Inmarsat ship earth station capable of:
 - transmitting and receiving distress and safety communications using direct-printing telegraphy
 - initiating and receiving distress priority calls
 - maintaining watch for shore-to-ship distress alerts, including those directed to specifically defined geographical areas
 - transmitting and receiving general radiocommunications, using either radiotelephony or direct-printing telegraphy

7.3.4 All coastal vessels of 6000 GT and above are to comply with requirements of Ch IV of the SOLAS Convention with respect to carriage of Radio Communication Equipment.

7.3.5 All equipment provided onboard coastal vessels shall be of approved type as per relevant IMO Resolution.

7.4 Operators and documentation

7.4.1 All coastal vessels of 500 GT and above shall be required to have at least one operator holding a general or restricted certificate for radiocommunication equipment on board that should be acceptable to the Ministry of Communications, Government of India

7.4.2 All Coastal vessels shall be required to have a Mobile Station Licence issued by the WPC wing, Ministry of Communications and IT.

7.4.3 All vessels shall also carry Ship Station Licence issued by the MoC.

7.4.4 An appropriate Radio Publication (either Admiralty / or ITU) may be carried on board.

7.4.5 A copy of Intercode may also be carried on board for reference.

7.4.6 An adequate back up arrangement for electrical power to deal with emergency situation be made available.

7.4.7 Operational readiness and maintenance – maintenance of radio equipments to ensure operational readiness in port and at all times during the voyage.

ANNEX : 8 Safety of Navigation

8.1 Equivalence

Pursuant to the exemption of Coastal Vessels from provisions of Section 356 of the M.S. Act and M.S. (Safety of Navigation) Rules 1997 (as amended), the regulations contained in this Annex provide an alternative safety standard acceptable to the Administration.

8.2 Application

This Annex shall apply to coastal vessels specified in Annex-I. Coastal vessels of 10000 GT and above are to comply with the applicable requirements of Chapter V of the SOLAS Convention and relevant provisions of M.S. (Safety of Navigation) Rules, 1997.

8.3 Approval and performance standards of navigational equipment

All equipment provided onboard coastal vessels shall be of approved type as per relevant IMO Resolution.

8.4 Navigational equipment

8.4.1 Coastal vessels shall be provided with the following navigational equipment:

Equipment *	GT			
	GT < 500	500 ≤ GT < 1600	1600 ≤ GT < 3000	3000 ≤ GT < 10000
Magnetic Compass (with Azimuth Mirror for Terrestrial Navigation)	1	1	1	1
Spare Magnetic Compass	1	1	1	1
Gyro-Compass ¹	-	1	1	1
Gyro-Compass Heading and Bearing Repeater	-	-	-	1
Radar ²	1	1	2	2
Simplified Voyage Recorder with float free capsule				1
GPS ³	1	1	2	2
Rudder Angle Indicator	1	1	1	1
Aneroid Barometer	1	1	1	1
Echo Sounder with recordable data	-	-	1	1
Aldis Lamp OR Searchlight	1	1	1	1

Passage Charts	Yes	Yes	Yes	Yes
Nautical Almanac	1	1	1	1
Tide Tables	Yes	Yes	Yes	Yes
Sound signal – Horn & Bell	1 each	1 each	1 each	1 each
Radar reflector	1	-	-	-

- Please see Notes below for equipment specification and equivalencies

Notes

1. For vessels of 500 GT and above but less than 1600 GT, a transmission heading device may be provided in lieu of a gyro-compass
 - 2 (i) All vessels shall, at a minimum, be provided with a 9 GHz radar having following minimum specifications:
 - a) X-band
 - b) 180 mm display and
 - c) 24 NM range.
 (iii) All vessels of 3000 GT and above and Tankers of 1600 GT and above shall be provided with a 3 GHz radar, or where considered appropriate by the Administration, a second X-band radar having minimum specifications as prescribed in (i) above and an electronic plotting aid or other means to plot electronically the range and bearing of targets to determine collision risk.
 3. Coastal vessels of 1600 GT and above but less than 3000 GT shall be provided with two GPS, of which one may be portable/hand-held.
- 8.4.2 (All vessels shall participate in established ship routing system by the Administration in the concerned Ports, Maritime Boards and VTS.
 - 8.4.3 All vessels shall participate in established ship reporting systems i.e. INDSAR.
 - 8.4.4 All vessels shall carry Indian charts and Nautical Publication for the intended voyage.
 - 8.4.5 All vessels shall be safely & adequately manned for its size and operational area.
 - 8.4.6 All vessels shall have safe access or equivalent arrangement to receive and disembark pilots.
 - 8.4.7 All vessels to prepare voyage plan and Master to use discretion in maritime navigation and ensure proper use of distress signals.
 - 8.4.8 All Navigational Equipments and system be maintained in operational condition for safety of Navigation.

ANNEX : 9 Survey and certification

9.1 Equivalence

Pursuant to the exemption of Coastal vessels from provisions of Section 299A, 300, 303, 307(2) and 318 of the M.S. Act and M.S. (Safety Convention Certificates) Rules 1995 (as amended), the regulations contained in this Annex provide an alternative safety standard acceptable to the Administration.

9.2 Application

This Annex shall apply to coastal vessels specified in Annex I

9.3 Inspection and survey

- 9.3.1 The inspection and survey of Coastal vessels, for the enforcement of the provisions of the Notification, shall be carried out by officers of the Administration. The Administration may, however, entrust the inspections and surveys either to surveyors nominated for the purpose or to organisations recognised by it.
- 9.3.2 When a nominated surveyor or recognised organisation determines that the condition of the Coastal vessel or its equipment does not correspond substantially with the particulars of the certificate or is such that the Coastal vessel is not fit to proceed to sea without danger to the Coastal vessel, or persons on board, such surveyor or organisation shall ensure that corrective action is taken and shall in due course notify the Administration.
- 9.3.3 In the event as set forth in para 9.3.2, the nominated surveyor or recognised organisation may allow the Coastal vessel to proceed to sea provided that the corrective actions as prescribed during the survey are undertaken to be carried out by the owner or manager within a stipulated period.

9.4 Surveys

- 9.4.1 The structure, machinery, life-saving appliances, pollution prevention equipment and measures, radio installations and other equipment should be subject to the surveys specified below:
 - (a) an initial survey before the Coastal vessel is put in service;
 - (b) a renewal survey at intervals specified by the Administration but not exceeding five years;
 - (c) an intermediate survey within three months before or after the 2nd or 3rd anniversary date of the Indian Coastal Vessel Safety Certificate;
 - (d) An annual survey within three months before or after each anniversary date of the Indian Coastal Vessel Safety Certificate.
 - (e) A minimum of two inspections of the outside of the Coastal vessel's bottom should be carried out during the five year period of validity of the Indian coastal Vessel Safety Certificate provided the interval between any two such inspections shall not exceed thirty-six months. For Coastal vessels less than 15 years of age, the intermediate drydocking survey can be an in-water survey using CCTV.

9.4.2 These surveys shall include surveys required under the provisions of the applicable Load Line rules as amended of the Administration or a recognised organisation acting on its behalf.

9.4.3 The surveys referred to in para 9.4.1 shall include the following:

9.4.3.1 The structure, machinery and equipment, other than those items surveyed with the life-saving appliances and installations;

9.4.3.2 The fire safety systems and appliances, life-saving appliances and arrangements, the Coastal vessel borne navigational equipment, means of embarkation for pilots and other equipment;

9.4.3.3 The fire control plans, nautical publications, lights, shapes, means of making sound signals and distress signals;

9.4.3.4 The radio installations; and

9.4.3.5 the pollution prevention equipment of the Coastal vessel.

9.4.4 The initial or renewal survey shall include the following:

9.4.4.1 the initial survey of a coastal vessel shall include a complete inspection of the items referred to in paragraph 9.4.1 to ensure that the arrangements, materials, scantling and workmanship of the structure, boilers, and other pressure vessels, their appurtenances, main and auxiliary machinery including steering gear and associated control systems, electrical installations and other equipment comply with the requirements of the Notification, are in satisfactory condition and are fit for the service for which the is intended;

9.4.5 the intermediate survey shall include an inspection of the structure, machinery and equipment referred to in paragraph 9.4.1 to ensure that they have been maintained satisfactorily for the service for which the vessel is intended;

9.4.6 the inspection of the outside of the Coastal vessel's bottom and survey of related items inspected at the same time shall be such as to ensure that they remain satisfactory for the service for which the vessel is intended.

9.5 Maintenance of conditions after survey

9.5.1 The owner or master of every coastal vessel should ensure that:

- the condition of the vessel and its equipment is maintained to conform with the provisions of this Notification to ensure that the vessel in all respects will remain fit to proceed to sea without danger to the vessel, persons on board or the environment;
- after any survey of the vessel under para 9.4.1 has been completed, no significant change should be made in the structural arrangement, machinery, equipment and other items covered by the survey, without the permission of the Administration or a recognised organisation acting on its behalf; and
- whenever an accident occurs to the vessel or a defect is discovered, either of which affects the safety of the vessel or the efficiency or completeness of its life-saving appliances or other equipment, a request be made immediately to the Administration or a recognised organisation acting

on its behalf for a survey, as may be required by para 9.4.2 to be carried out as soon as practicable.

9.6 Issue or endorsement of certificates

- 9.6.1 Certificates called an Indian Coastal Vessel Safety Certificate and Indian Coastal Vessel Pollution Prevention Certificate shall be issued after an initial or renewal survey of a vessel which complies with the requirements of this Notification.
- 9.6.2 The Indian Coastal Vessel Safety Certificate referred to in paragraph 9.6.1 shall be supplemented by a Record of Equipment and Ship Information which shall be permanently attached thereto and which shall contain:
- 9.6.3 A record of equipment and operations information in compliance with all the relevant Annexes of this Notification for Indian Coastal Vessels;
- 9.6.4 The certificates referred to in this section shall be issued or endorsed by the Administration or by a recognised organisation acting on its behalf.

9.7 Duration and validity of certificates

- 9.7.1 An Indian Coastal Vessel Safety Certificate and Indian Coastal Vessel Pollution Prevention Certificate should be issued for a period specified by the Administration or a recognised organisation acting on its behalf which should not exceed five years.
- 9.7.2 The renewal survey is completed within three months before the expiry date of the existing certificate, the new certificate should have same anniversary date as previous certificate and validity not exceeding five years from the date of expiry of the existing certificate.
- 9.7.3 When the renewal survey is completed after the expiry date of the existing certificate, the new certificate should be valid from the date of completion of the renewal survey to a date not exceeding five years from the date expiry of the existing certificate.
- 9.7.4 When the renewal survey is completed more than three months before or after the expiry date of the existing certificate, the new certificate should be valid from the date of completion of the renewal survey to a date not exceeding five years from the date of completion of the renewal survey.
- 9.7.5 Where a certificate is issued for a period of less than five years, the Administration or a recognised organisation acting on its behalf may extend the validity of the certificate beyond the expiry date to the maximum period specified in paragraph 9.7.1, provided that the surveys referred to in paragraph 9.4.1, which are applicable when a certificate is issued for a period of five years are carried out as appropriate.
- 9.7.6 Where a renewal survey has been completed and new certificate cannot be issued or placed on board the Coastal vessel before the expiry date of the existing certificate, the Administration or a recognised organisation acting on its behalf shall endorse the existing certificate and such a certificate should be accepted as valid for a further period which should not exceed five months from the expiry date.

9.7.7 Where a Coastal vessel at the time when a certificate expires is not in a position to be surveyed, the Administration or a recognised organisation acting on its behalf may extend the period of validity of the certificate but this extension shall be granted only in cases where it appears proper and reasonable to do so. No certificate shall be extended for a period longer than three months.

9.7.8 A certificate issued under paragraph 9.7 shall cease to be valid in any of the following cases:

- a) where the relevant surveys and inspections are not completed within the periods specified under paragraph 9.4.1;
- b) where the certificate is not endorsed in accordance with the requirements of this Notification; and
- c) where the vessel is withdrawn from the Indian Registry.

9.8 Availability of certificates

The certificates issued under paragraph 9.6 shall be readily available on board for examination at all times.

9.9 Form of certificates

The certificates and the record of equipment and information should be drawn up in the form corresponding to the models given below:

Form of Indian Coastal Vessel Safety Certificate

Indian Coastal Vessel Safety Certificate

This Certificate should be supplemented by a Record of Equipment and Ship Information

Issued under the provisions of the

NOTIFICATION FOR INDIAN Coastal Vessel, (DGS Order 1 of 2014)

under the authority of
The Government of India

By

(Recognised Organisation acting on behalf of the Government of India)

Name of Ship	Official No./ Call Sign	Port of Registry	Year of Built	Gross Tonnage

Type of Ship::
Cargo ship
Tanker
Dredger

Operating Area : Indian Coastal Operations (not more than 20Nm from nearest land)
This is to certify:

- 1 That the coastal vessel has been surveyed in accordance with the applicable provisions of the Notification for Coastal Vessels
- 2 That the survey showed that:
the Coastal vessel complied with the requirements of the Notification for Indian Coastal Vessels as regards :
 1. the structure, stability, machinery and electrical installations as defined in Annex III of the Notification for Indian Coastal Vessels.
 2. the safety equipment, safety navigation and radio communication equipment as defined in Annexes IV, V, VI, VII and VIII of the Notification for Indian Coastal Vessels
 3. all relevant requirements of the Domestic Safety Management Code as defined in Annex XI of the Notification for Indian Coastal Vessels
 4. all relevant requirements of the Ship Security measures as defined in Annex XII of the Notification for Indian Coastal Vessels.
 5. all relevant requirements for the carriage of cargo as defined in Annex XIII of the Notification of Indian Coastal Vessels
 6. a freeboard of _____mm was assigned and marked on the coastal vessel's side at amidship.
 7. in all other respects the coastal vessel complied with the relevant requirements of the Notification for Indian Coastal Vessels.

* Delete as appropriate

Completion date of the survey on which this certificate is based.....

This certificate is valid until subject to the annual surveys, intermediate survey and inspections of the outside of the Coastal vessel's bottom in accordance with Annex IX of the Notification for Indian Coastal Vessels.

Issued at
(Place of issue of certificate)

.....
(Date of Issue) (Signature of authorised official issuing the certificate)

(Seal or stamp of the issuing authority, as appropriate).

Endorsement for intermediate survey relating to condition of structure, machinery and equipment as required by Annex IX of the Notification for Indian Coastal Vessels:

THIS IS TO CERTIFY that, at an intermediate survey required by Annex IX of the Notification for Indian Coastal Vessels, the vessel was found to comply with the relevant requirements of the said Notification

Annual survey Signed:
(Signature of authorised official)

Place:
Date:

(Seal or stamp of the authority, as appropriate)

Annual/Intermediate Survey Signed:
(Signature of authorised official)

Place:
Date:

(Seal or stamp of the authority, as appropriate)

Annual/Intermediate Survey Signed:
(Signature of authorised official)

Place:
Date:

(Seal or stamp of the authority, as appropriate)

Annual survey Signed:
(Signature of authorised official)

Place:
Date:

(Seal or stamp of the authority, as appropriate)

Endorsement for inspection of the outside of the Coastal vessel's bottom

THIS IS TO CERTIFY that inspections of the outside of the Coastal vessel's bottom as required by Annex IX of the Notification for Indian Coastal Vessels, the vessel was found to comply with the relevant requirements of the said Notification.

First Inspection: Signed:
(Signature of authorised official)

Place:
Date:
(Seal or stamp of the authority, as appropriate)

Second Inspection: Signed:
(Signature of authorised official)

Place:
Date:
(Seal or stamp of the authority, as appropriate)

Endorsement where the renewal survey of the Coastal vessel has been extended

THIS IS TO CERTIFY that the validity of this certificate is hereby extended until as the Coastal vessel was considered to comply with the relevant provision of the Notification for Indian Coastal Vessels for the period of extension.

Signed:
(Signature of authorised official)

Place:
Date:
(Seal or stamp of the authority, as appropriate)

Endorsement where the renewal survey of the Coastal vessel has been completed

THIS IS TO CERTIFY that the validity of this certificate is hereby extended until as the Coastal vessel was considered to comply with the relevant provision of the Notification for Indian Coastal Vessels for the period of extension.

Signed:
(Signature of authorised official)

Place:
Date:
(Seal or stamp of the authority, as appropriate)

Form of Record of Equipment and Ship Information

[TO BE ATTACHED]

ANNEX : 10 Prevention of Pollution

10.1 Equivalence

Pursuant to the exemption of Coastal vessels from provisions of Section 356 (O) of the M.S. Act and Merchant Shipping (Prevention of Pollution by Oil from Ships) Rules, 2010 , the regulations contained in this Annex provide an alternative safety standard acceptable to the Administration.

10.2 Application

- 10.2.1 This Annex shall apply to coastal vessels other than tankers specified in Annex I of less than 6000 GT (less than 10000 GT in case of dredgers) and tankers of less than 3000 GT
- 10.2.2 Coastal vessels of higher Gross Tonnage than specified in 10.2.1 are to comply with the relevant requirements of the MARPOL 73/78 Convention except Chapter IV of Annex VI regarding energy efficiency

10.3 Prevention of pollution by oil

- 10.3.1 discharge into the sea of oil or oily mixtures from coastal vessels of 400 GT and above shall be prohibited except when the following conditions are satisfied:
 - 10.3.1.1 The vessel is proceeding en route
 - 10.3.1.2 The oily mixture is processed through a type approved oily water separator
 - 10.3.1.3 The oil content of the effluent without dilution does not exceed 15 parts per million
 - 10.3.1.4 The oily mixture does not originate from cargo pump-room bilges of Coastal tankers; and
 - 10.3.1.5 The oily mixture, in case of Coastal Tankers, is not mixed with oil cargo residues
- 10.3.2 Coastal vessels of 400 GT and above but less than 3000 GT, that do not comply with the requirements prescribed in paragraph 10.2.1, may be provided with a holding tank of sufficient capacity, for oily bilge water. The oily bilge generated in the machinery spaces shall be collected in the holding tank and periodically discharged to shore reception facilities. Suitable permanent arrangement with a standard discharge connection is to be provided for this purpose. The minimum capacity of aforementioned holding tank shall be 1 m³.
- 10.3.3 Coastal vessels below 400 GT, that do not comply with requirements prescribed in paragraph 10.2.1 or 10.2.2, may be provided with suitable fixed or portable holding tank(s) with compatible pumping arrangement for discharging to shore reception facilities.

10.4 Standard Discharge Connection

- 10.4.1 To enable pipes of reception facilities to be connected with the ship's discharge pipeline for residues from machinery bilges and from the holding tank, as specified in paragraph 10.2.2 above, both lines shall be fitted with a standard discharge connection in accordance with the following table, namely:-

Standard dimensions of flanges for discharge connections :

Description	Dimension
Outside diameter	215 mm
Inner diameter	According to pipe outside diameter
Bolt circle diameter	183 mm
Slots in flange	6 holes 22 mm in diameter equidistantly placed on a bolt circle of the above diameter, slotted to the flange periphery. The slot width to be 22 mm
Flange thickness	20 mm
Bolts and nuts: quantity, diameter	6, each of 20 mm in diameter and of suitable length
The flange shall be designed to accept pipes up to a maximum internal diameter of 125 mm and shall be of steel or other equivalent material having a flat face. This flange, together with a gasket of oil-proof material, shall be suitable for a service pressure of 600 kPa	

10.5 Discharge of oil from tankers

- 10.5.1 All the cargo tank washing may be discharged to appropriate shore reception facilities.

10.6 Control of discharge of residues of vegetable oils

- 10.6.1 Discharge to the sea of residues of vegetable oils as such and ballast water, tank washings or other mixtures containing vegetable oils is permitted only under the following conditions:
- .1 The ship is proceeding en-route at a speed of 7 knots
 - .2 The discharge is made below the waterline through underwater discharge outlets not exceeding the the maximum rate for which the underwater discharge outlets are designed
 - .3 The discharge is made at a distance of not less than 12 nautical miles from the nearest land in a depth of water of not less than 25 m.

10.7 Shipboard oil pollution emergency plan

- 10.7.1 Every Coastal tanker of 150 GT and above shall carry on board a shipboard oil pollution emergency plan approved by the Administration or Recognized organization.
- 10.7.2 All coastal tankers of 5000 deadweight and above shall have prompt access to computerized shore based damage stability and residual structural strength calculation programs from an RO or approved by an RO.

10.8 Ship to ship transfer (STS) operations

- 10.8.1 Any oil tanker involved in STS operations shall carry on board an approved Plan prescribing how to conduct STS operations (STS operations Plan)

10.9 Prevention of pollution of sea by sewage:

- 10.9.1 Every Coastal Vessel of 400 GT and above and vessels of less than 400 GT which are certified to carry more than 15 persons shall be equipped with one of the following sewage systems, namely:-
- 10.9.2 a sewage treatment plant, of the type approved by the Central Government, after taking into consideration the standards and test methods developed by the International Maritime Organization; or
- 10.9.3 a sewage comminuting and disinfecting system, approved by the Central Government, provided that such system shall be fitted with such facilities for temporary storage of sewage when the ship is less than three nautical miles from the nearest land; or
- 10.9.4 a holding tank of such capacity as may be specified by the Central Government, for the retention of all sewage, having regard to the operation of the ship, number of persons on board and relevant factors. The minimum size of the holding tank may be obtained by following formula:-
Minimum capacity of the holding tank = 60 Ltrs x No. of persons x 1 day
Provided that such holding tank shall be constructed in such a manner as may be specified by the Central Government and shall have means to indicate visually the amount of its contents.
- 10.9.5 Standard discharge connection for Coastal Vessel of 400 GT and above and vessels of less than 400 GT which are certified to carry more than 15 persons – To enable pipes of reception facilities to be connected with the ship's discharge pipeline, the line shall be fitted with a standard discharge connection, in accordance with the following table, namely:-

Standard dimensions of flanges for discharge connections:.

Description	Dimension
Outside diameter	210 mm
Inner diameter	According to pipe outside diameter
Bolt circle diameter	170 mm
Slots in flange	4 holes 18 mm in diameter, equidistantly placed on a bolt circle of the above diameter, slotted to the flange periphery with the slot width of 18 mm
Flange thickness	16 mm
Bolts and nuts: quantity and diameter	4, each of 16 mm in diameter and of suitable length
The flange shall be designed to accept pipes up to a maximum internal diameter of 100 mm and shall be of steel or other equivalent material having a flat face and this flange, together with a suitable gasket, shall be suitable for a service pressure of 600 kPa.	
For ships having a moulded depth of 5 m and less, the inner diameter of the discharge connection may be 38 mm.	

10.10 Discharge of sewage

- 10.10.1 Subject to the provisions of paragraph 10.3.1 above, the discharge of sewage into the sea is prohibited, except under the following circumstances, namely:-
- a) the Coastal vessel has in operation a sewage treatment plant, which has been type approved by the Central Government; or
 - b) the Coastal vessel is discharging comminuted and disinfected sewage using such system as specified in paragraph 10.9.3 above, at a distance of

- more than three nautical miles from the nearest land, provided that the sewage that has been stored in holding tank shall not be discharged instantaneously but at a moderate rate when the ship is en route and proceeding at not less than four knots; or
- c) the Coastal vessel is discharging sewage that has been stored in the holding tank as specified in paragraph 10.9.4 above, at a distance of more than twelve nautical miles from the nearest land, provided that the sewage that has been stored in holding tank shall not be discharged instantaneously but at a moderate rate when the ship is en route and proceeding at not less than four knots.

10.11 Prevention of pollution of sea by garbage:

- 10.11.1 All coastal sea vessels shall comply with the respective Merchant Shipping Rules and other notices, circulars or orders issued by the Directorate General of Shipping from time to time to the extent applicable to such vessels..

10.12 Prevention of pollution of sea by air:

- 10.12.1 All coastal vessels shall comply with the respective Merchant Shipping Rules and other notices, circulars or orders issued by the Directorate General of Shipping from time to time to the extent applicable to such vessels.

10.13 Pollution Prevention Record Book and Indian Coastal Vessel's Pollution Prevention Certificate

- 10.13.1 Every Coastal vessel, irrespective of size, shall be provided with a **Pollution Prevention Record Book** for recording the transfer/discharge of oil/oily water, sewage and garbage in line with paragraphs 10.3, 10.9 and 10.11 of this Annex.
- 10.13.2 The Pollution Prevention Record Book as a minimum shall record disposal of following:
- Port/Location of transfer/discharge
 - Date & Time of transfer/discharge
 - Quantity of transfer/discharge
- 10.13.3 Coastal vessels provided with a separate Oil Record Book, Garbage Record Book and Sewage Record book shall be deemed to satisfy the requirements set out in paragraph 10.13.1.
- 10.13.4 Whenever any oil/oily water, sewage or garbage is transferred to a shore reception facility, the receipt from the receiver is to be kept on board at least until the next survey.
- 10.13.5 A relevant certificate incorporating surveys as specified in Annex IX paragraph 9.4.1 to 9.4.5 and demonstrating compliance with all pollution prevention aspects of the vessel shall be carried on board. A certificate should be drawn up in the form corresponding to the model given below.

INDIAN COASTAL VESSEL POLLUTION PREVENTION CERTIFICATE

Issued under the provisions of the
NOTIFICATION FOR INDIAN COASTAL VESSELS
under the authority of the Government of India

by
(Recognised Organization acting on behalf of the Government of India)

Name of ship	Official No./ Call Sign	Port of registry	Gross tonnage	Deadweight of ship (tonnes)	Year of built	Type of Ship

THIS IS TO CERTIFY:

1. That the ship has been surveyed in accordance with the applicable provisions of the Notification for Indian Coastal Vessels with regards to pollution prevention

2. That the survey shows that the structure, equipment, systems, fittings, arrangement and material of the ship and the condition thereof are in all respects satisfactory and that the ship complies with the applicable provisions of the Notification for Indian Coastal Vessels with regards to pollution prevention as mentioned in the Annex X of the said notification

This certificate is valid until (dd/mm/yyyy): subject to surveys in accordance applicable provisions of the Notification for Indian Coastal Vessels with regards to pollution prevention as mentioned in the Annex X of the said notification.

Completion date of the survey on which this certificate is based (dd/mm/yyyy)

Issued at
(Place of issue of certificate)

(dd/mm/yyyy):
(Date of issue)

.....
(Signature of duly authorized official issuing the certificate)

(Seal or stamp of the authority, as appropriate)

Endorsement for Annual and Intermediate Surveys

THIS IS TO CERTIFY that at a survey required by Para 9.4 of Annex IX of the Notification, the ship was found to comply with the relevant provisions of the Notification:

Annual survey:

Signed:
(Signature of duly authorized official)

Place:
Date (dd/mm/yyyy):

(Seal or stamp of the authority, as appropriate)

Annual survey/Intermediate Survey:

Signed:
(Signature of duly authorized official)

Place:
Date (dd/mm/yyyy):

(Seal or stamp of the authority, as appropriate)

Annual survey/Intermediate Survey:

Signed:
(Signature of duly authorized official)

Place:
Date (dd/mm/yyyy):

(Seal or stamp of the authority, as appropriate)

Annual survey:

Signed:
(Signature of duly authorized official)

Place:
Date (dd/mm/yyyy):

(Seal or stamp of the authority, as appropriate)

Endorsement to Extend the Certificate if Valid for Less than 5 Years

The ship complies with the relevant provisions of the Notification, and this Certificate shall, in accordance with Para 9.7.5 of Annex IX of the Notification, be accepted as valid until

(dd/mm/yyyy):.....

Signed:
(Signature of duly authorized official)

Place:
Date (dd/mm/yyyy):.....

(Seal or stamp of the authority, as appropriate)

Endorsement where the Renewal Survey has Been Completed and Para 9.7.6 of Annex IX of the Notification Applies

The ship complies with the relevant provisions of the Notification, and this Certificate shall, in accordance with Para 9.7.6 of Annex IX of the Notification, be accepted as valid until

(dd/mm/yyyy):.....

Signed:
(Signature of duly authorized official)

Place:
Date (dd/mm/yyyy):

(Seal or stamp of the authority, as appropriate)

Endorsement to Extend the Validity of the Certificate until Reaching the Port of Survey or for a Period of Grace where Para 9.7.7 of Annex IX of the Notification applies

This Certificate shall, in accordance with Para 9.7.7 of Annex IX of the Notification, be accepted as valid until (dd/mm/yyyy):

Signed:
(Signature of duly authorized official)

Place:
Date (dd/mm/yyyy):

(Seal or stamp of the authority, as appropriate)

ANNEX : 11 Domestic Safety Management (DSM) Code

11.1 Equivalence

Pursuant to the exemption of Coastal vessels from provisions of Merchant Shipping (Management for the Safe Operation of Ships) Rules, 2000, as amended, the regulations contained in this Annex provide an alternative safety standard acceptable to the Administration.

11.2 Application

This Annex shall apply to Coastal vessels specified in Annex I of 500 GT and above.

11.3 Introduction

- 11.3.1 The Domestic Safety Management Code (DSM Code), hereinafter referred to as the “Code”, is a code that is based on general principles and objectives of ship safety management, and expressed in such terms that it can be applied to vessels plying exclusively under Coastal vessel rules.
- 11.3.2 Considering the “Company” operating Indian Coastal vessels may consist of single owners/operators, it is not anticipated that their documented safety management systems may not be as extensive in coverage or detail as would be expected from a company operating ships certificated under the International Safety Management (ISM) Code.
- 11.3.3 In view of the above, all such companies operating Indian Coastal vessels are required to comply with following requirements for development and implementation of Safety Management System.

11.4 Objectives

- 11.4.1 The purpose of developing the Code is to establish a common standard for safe operation of Coastal vessels engaged exclusively in the domestic trade.
- 11.4.2 It is recognised that no two shipping companies or ship owners are the same, so also the operations, size and nature of the ships and that ships operate under a wide range of different conditions and locations. For these reasons, the Code is based upon general safety principles and the objectives of the Code are to:
 - a) Ensure safety in the operation of ship
 - b) Prevent injury, loss of life, damage to property and environment
 - c) Comply with applicable rules and guidelines

11.5 The Safety Management System

In order to meet with the objectives of the Code, owners/operators/managers who has assumed the responsibility for operation of the ship and discharge the duties and responsibility of the Code (hereinafter referred to as “Company”) of Coastal vessels should develop a Safety Management System meeting the requirements of the Code.

11.6 Safety and environment protection policy

- 11.6.1 The Company should develop and implement a policy to address the issues of safety and the protection of environment to fulfill the objectives of the Code.
- 11.6.2 The Company should ensure that the policy is implemented and maintained at all levels of the organization, both ship-based and shore-based.

11.7 Responsibilities and Authority

- 11.7.1 Company Responsibilities and Authority: Incase the Company who is responsible for the operation of the Coastal vessel is other than the owner must report the full name and details of such Company to the administration.
- 11.7.2 The Company should define & document the responsibility, authority and interrelation of personnel who manage, perform and verifying work relating to and effecting safety and the protection of environment.
- 11.7.3 The Company is responsible for ensuring that adequate resources and shore-based support is provided to designated person and master to carry out his functions.

11.8 Designated Person:

- 11.8.1 The Company should nominate an employee as Designated Person ashore, who is having appropriate knowledge on Coastal vessel operation and having direct access to top management. The designated person should be responsible for the safe operation of each Coastal vessel and he should provide link between company and those on board ship.
- 11.8.2 Master's Responsibility and Authority: Master should be responsible for the safe operation of ship and he should ensure safety and environmental protection policy of the company implemented on board ship.
- 11.8.3 The Company should establish in the safety management system that the master has the overriding authority to make decisions regarding the safety and to request the company's assistance as and when required.

11.9 Resources and Personnel

- 11.9.1 The Company should ensure that each Coastal vessel is manned with qualified, certified and medically fit personnel at all times and that these personnel have received appropriate training for their designated duties;
- 11.9.2 Prior to the first occasion of working on the Coastal vessel, each employee must receive appropriate familiarisation training and proper instruction of onboard procedures. This could include but not necessarily limited to:
 - (a) Mooring and unmooring;
 - (b) Launching and recovery of survival craft;
 - (c) Evacuation from all areas of the Coastal vessel;
 - (d) Donning of lifejackets;
 - (e) Use and handling of firefighting equipment; and
 - (f) Safe operation of ship.

11.10 Shipboard Operations

- 11.10.1 The Company should identify key shipboard operations with regards to safety of the personnel, ship and protection of environment.
- 11.10.2 The Company should develop simple procedures for the key shipboard operation of the Coastal vessel. These should include, but not limited to:
 - (a) Testing of equipment, including steering gear, prior to commencement of passage;
 - (b) Navigation and handling of the Coastal vessel;
 - (c) Maintenance routines;
 - (d) Bunkering operations;
 - (e) Cargo operations;

11.11 Preparation for emergencies

- 11.11.1 Potential emergencies likely to be encountered by the Coastal vessel must be considered;
- 11.11.2 Exercises/drills must be carried out in handling of all the emergencies and evacuation from the Coastal vessel;
- 11.11.3 Where possible, all personnel should be involved in these exercises/drills, both ashore and on board ship;
- 11.11.4 The exercises/drills must be recorded. The names of those who participated should also be recorded. Attempt to be made that all ship board personnel are involved while carrying out drill/exercises.

11.12 Reporting of accidents

- 11.12.1 All accidents and near misses should be recorded and reported to the Company, who shall implement corrective action, with the aim of improving safety and protection of environment.

11.13 Certification & review

- 11.13.1 Every Company responsible for operations & management of Coastal vessels shall be required to be in possession of a valid Domestic Document of Compliance (DDOC).
- 11.13.2 Assessment of the Company's safety management arrangements and related documentation ashore shall be carried out twice in five years by means of an audit carried out by the Administration or a Recognised Organisation acting on it's behalf at the Company's office premises;
- 11.13.3 Assessment of the Company's safety management arrangements and related documentation onboard the Coastal vessels shall be carried out annually by the Administration or a Recognised Organisation acting on it's behalf during the annual survey as set out in paragraph 9.4.1 of Annex 9 to this Notification. No separate audit shall be required to be carried out for assessment of safety management arrangements or related documentation on board the Company's Coastal vessels;

- 11.13.4 Compliance with the shore-based requirements of the Code shall be demonstrated by way of possession of a “Domestic Document of Compliance” (DDOC);
- 11.13.5 Compliance with the Code onboard Coastal vessels shall be recorded in sub-clause 2.1 on the Indian Coastal Vessel Safety Certificate, as set out in paragraph 9.7 of Annex 9 to this Notification. Satisfactory implementation of the system onboard shall be verified during the annual survey of Coastal safety certificate.
- 11.13.6 The Coastal vessel shall not be required to carry any separate certificate demonstrating compliance with the Code.
- 11.13.7 Every Company shall undertake a review of its safety management system every year.

11.14 Guidelines on Implementation of the Code

11.14.1 Document Review & Planning

- 11.14.1.1 The purpose of the document review is to verify that the Company has a documented Safety Management System that complies with the requirements of the Code.
- 11.14.1.2 The document review should be conducted prior to the application for the DDOC in order to provide sufficient time to draft and implement any major revisions that the audit/assessment may require.
- 11.14.1.3 The draft SMS may be sent to the Administration or Recognised Organisation acting on its behalf for the document review.
- 11.14.1.4 The SMS should not be burdensome. The system should cover the requirements of the Code in terms of the procedures etc. necessary to safeguard safety and environmental protection without imposing an excess of paperwork.

11.14.2 Assessment for Compliance

- 11.14.2.1 Every company responsible for management and operations of Coastal Vessels shall submit their SMS to the Administration or Recognised Organisation acting on its behalf for document review.
- 11.14.2.2 Upon satisfactory completion of the document review, an initial audit of the Company's safety management arrangements and related documentation ashore shall be carried out by the Administration or Recognised Organisation acting on its behalf in line with paragraph 11.13.2.
- 11.14.2.3 Upon satisfactory completion of the initial audit, the Company may be issued a full-term “Domestic Document of Compliance” (DDOC) valid for a maximum period of 5 years.
- 11.14.2.4 A mid-term audit of the Company's safety management arrangements and related documentation ashore shall be carried out by the Administration or Recognised Organisation acting on its behalf 2 ½ years (+/- 6 months) after the issuance of a full-term DDOC.

- 11.14.2.5 A renewal audit of the Company's safety management arrangements and related documentation ashore shall be carried out by the Administration or Recognised Organisation acting on its behalf upon the expiry of the full-term DDOC. Upon satisfactory completion of the renewal audit, a fresh full-term DDOC, valid for a maximum period of 5 years, may be issued to the Company.
- 11.14.2.6 The first assessment of the Company's safety management arrangements and related documentation onboard the Coastal vessels shall be carried out by the Administration or a Recognised Organisation acting on its behalf during the first annual survey immediately following the issuance of the full-term DDOC.
- 11.14.2.7 Thereafter, the assessment of the Company's safety management arrangements and related documentation onboard the Coastal vessels shall be carried out by the Administration or a Recognised Organisation acting on its behalf in line with paragraph 11.13.3 above.
- 11.14.2.8 It is to be expected that a considerable variance in methodology, practice and record keeping will prevail across the various domestic operators. For this reason, surveyors/auditors are expected to adopt a non-prescriptive and flexible approach to the assessments/audits.

11.14.3 Non-conformities and Corrective Actions

11.14.3.1 Non-conformities shall fall into 3 categories:

- (a) *Major Non-Conformity* means an identifiable deviation that poses a serious threat to personnel or ship safety, and requires immediate corrective action
- (b) *Non-Conformity* means an observed situation where objective evidence indicates a non-fulfillment of a specified requirement of the Code.
- (c) *Observation* means a statement of fact made during an audit/survey that can be substantiated by objective evidence.

11.14.3.2 Closing out of non-conformities

11.14.3.2.1 If a major non-conformity is raised, arrangements shall be made for the issue to be addressed immediately. The Company must take immediate remedial action that will allow the major non-conformity to be closed out or downgraded to a non-conformity before the close of audit.

11.14.3.2.2 If a non-conformity is raised, a time-scale for the implementation of corrective action, not exceeding 3 months, should be agreed to by the auditor and the Company.

11.14.3.2.3 Observations require no corrective action date but the Company should be advised that, if not addressed by the next assessment, the observation may become a non-conformity in future.

11.14.4 Corrective Action

11.14.4.1 The auditor and the Company shall agree to a suitable corrective action, within a realistic time-scale, at the time of the assessment.

- 11.14.4.2 The Company shall be responsible for carrying out the corrective actions and reporting to the Administration or Recognised Organisation acting on its behalf prior to the agreed action date.
- 11.14.4.3 The close out of non-conformities other major non-conformity will not necessarily require a re-visit by the auditor. The presentation of suitable objective evidence will be sufficient for closing out non-conformities.

ANNEX : 12 Ship Security

12.1 Equivalence

Pursuant to the exemption of Coastal vessels from provisions of Section 344 (T) of the M.S. Act, the regulations contained in this Annex provide an alternative security standard acceptable to the Administration.

12.2 Application

This Annex shall apply to all coastal vessels specified in Annex I.

12.3 General

Coastal Vessels shall comply with requirements stipulated in the following security matrix:

GT	SSP	SSO	CSO	SSAS *	Sec. Equip	Audit of system and verification of equipment
GT < 500	Y	Y (need not be certified but to be trained by CSO)	Y	N	See para 4	IRS
GT ≥ 500	Y	Y	Y	Y (without web display)	See para 4	IRS

12.4 Ship Security Plan

The SSP referred to in the above matrix shall be a basic Ship Security Plan that shall at a minimum include policies & procedures covering points detailed at paragraphs 12.7 thru 12.10. SSP shall contain security measures to ensure the security readiness of the Coastal vessels when operating in and around Indian port and in Indian waters upto 20 NM.

12.5 Security Equipment

The Security Equipment referred to in the above matrix shall, at a minimum, include:

Security Equipment	Nos
General Alarm	1 no.
High Beam Torch	2 nos.
Batons	2 nos.
Photo ID for Crew	All Crew
Flood Light (Fixed or Portable)	2 nos.
Walkie Talkies	2 nos.
Whistles	3 nos.
Dog Leg Mirror	2 no.
Hand Held Metal Detector	2 no.
Cable ties	Adequate
Different code colour passes for visitors	Adequate
Night vision binoculars	1 no.
Automatic Identification System	As Stipulated in Annex VIII

12.6 Compliance and verification

- 12.6.1 Audit of system and verification of equipment of the vessel's security arrangements and related documentation onboard the Coastal vessels shall be carried out annually by the Administration or a Recognised Organisation acting on its behalf during the annual survey as set out in paragraph 9.4.1 of Annex 9 to this Notification.
- 12.6.2 Compliance with the security measures onboard Coastal vessels as required by this Annex shall be recorded in sub-clause 2.1 on the Indian Coastal Vessel Safety Certificate, as set out in paragraph 9.7.1 of Annex 9 to this Notification. The compliance with the requirement of security equipment onboard Coastal vessels as stipulated in paragraph 12.5 of this Annex shall be recorded in the Record of Equipment and Ship Information, as set out in paragraph 9.6.3 of Annex 9 to this Notification. Coastal vessels shall not be required to carry any separate certificate demonstrating compliance with this Annex.
- 12.6.3 All equipment provided onboard coastal vessels shall be of approved type as per relevant IMO Resolution.

12.7 Access Control Security Measures

- (a) Maintain a 24-hour watch when in operations
- (b) Positively identify anyone accessing the vessel
- (c) Limit physical access to the vessel and its sensitive areas (e.g. wheelhouse & engine room)
- (d) Screen and check packages, supplies and stores
- (e) Adequate lighting at access points of the vessel

12.8 Activity Security Measures

- (a) Secure all unused exit/entrance doors
- (b) Ensure seaward side / quay side surveillance is maintained
- (c) Check for evidence of tampering regularly (e.g. damaged locks, vandalism, open doors, etc.)
- (d) Deny access to unauthorised persons to come onboard
- (e) Report any unattended or suspicious packages, baggage or stores found on board to the relevant Authorities

12.9 Security Measures while Navigating in Port and coastal waters

- (a) Maintain appropriate security level
- (b) Keep a sharp look out for small unlit crafts
- (c) Maintain situational awareness for any suspicious activity/craft
- (d) Report any suspicious activity/craft to the appropriate Authorities

12.10 Communication, Security Measures & Contact Information

- (a) Keep communication equipment readily available for reporting of incidents or suspicious activity to relevant authorities
- (b) To report any suspicious activity/craft or person or to seek security advice, please contact:

CSO (contact details)

PFSO (contact details).....

MRCC (contact details).....

DG Comm. Centre Tel 1: +91 22

Tel 2: +91 22

Tel 3: +91 22

Email: dgcommcentre@satyammail.net

ANNEX : 13 Carriage of Cargoes

13.1 Equivalence

Pursuant to the exemption of Coastal vessels from provisions of Section 330, 331, 331A & 332 of the M.S. Act and M.S (Carriage of cargo Rules), 1995 (as amended), the regulations contained in this Annex provide an alternative safety standard acceptable to the Administration.

13.2 Application

This Annex shall apply to all Coastal vessels.

13.3 Cargo information

- 13.3.1 The shipper shall provide the Master or his representative with appropriate information on the cargo sufficiently in advance of loading to enable the precautions which may be necessary for proper stowage and safe carriage of the cargo to be put into effect.
- 13.3.2 In the case of general cargo, the cargo information shall include a general description of the cargo, the gross mass of the cargo or of the cargo units, and any relevant special properties of the cargo.
- 13.3.3 In the case of solid bulk cargo in vessels other than of 1600 GT and above, the information shall include description of cargo, mass, stowage factor, need for trimming and trimming procedures, angle of repose and moisture content.
- 13.3.4 In the case of Oil/Chemical a copy of MSDS issued either by the manufacturer or shipper, as the case may be, to be available on board.

13.4 Stowage and securing of cargo

- 13.4.1 Cargo carried on or under deck shall be so loaded, stowed and secured as to prevent as far as is practicable, throughout the voyage, damage or hazard to the ship and the persons on board, and loss of cargo overboard. The stowage and securing of the cargo shall conform to the provision of applicable code or the provision of M.S. Act and relevant rules framed there under for the carriage of cargo. Applicable codes namely IMDG, IMSBC, Grain, Timber & Cargo stowage and securing code and relevant provisions of CSC / IMO Res. / Circular w.r.t. high sea containers
- 13.4.2 For coastal vessels of 1600 GT and above, all cargoes, other than solid and liquid bulk cargoes, shall be loaded, stowed and secured throughout the voyage in accordance with the Cargo Securing Manual approved by the Administration or Recognized Organization acting on its behalf.

13.5 Dangerous goods

- 13.5.1 Coastal vessels carrying dangerous cargoes in packaged form or in bulk, other than that of less than 1600 GT carrying coal or sulphur in bulk, are required to comply with the requirements of the International Maritime Dangerous Goods Code (IMDG Code), Marpol Annex III and the International Maritime Solid Bulk cargo Code (IMSBC Code) as appropriate.

- 13.5.2 Compliance with the requirements of paragraph 13.5.1 of this Annex shall be demonstrated by means of a certificate issued by the Administration or Recognised Organisation acting on its behalf.
- 13.5.3 Coastal vessels of less than 1600 GT, while carrying coal, shall comply with the following requirements:
- 13.5.3.1 Electrical equipment and cables in the cargo spaces (if applicable) are to be in good condition and positively isolated via removal of circuit breakers
 - 13.5.3.2 Workspaces (stores, workshops etc.) adjacent to the cargo spaces are to be adequately ventilated.
 - 13.5.3.3 Direct blowing of air into the body of the cargo is to be avoided
 - 13.5.3.4 Cargo spaces ventilation fans, where fitted, are to be of a certified safe type for use in explosive atmospheres
 - 13.5.3.5 Good surface ventilation shall be provided for the cargo
 - 13.5.3.6 Means are to be provided for measuring the temperature of the cargo in the range 0° C to 100° C and pH values of bilge water samples. Such arrangements shall enable the temperature of the coal and the pH values to be measured while being loaded and during the voyage without requiring entry to the cargo space
 - 13.5.3.7 All sources of ignition shall be eliminated. Prohibition Notices for welding, burning, cutting or other operations involving the use of fire, smoking, chipping and use of naked lights, or the introduction of other sources of ignition including the use of spark or arc-producing equipment, are to be posted in the vicinity of cargo spaces
 - 13.5.3.8 Cargo spaces containing this cargo may become oxygen-depleted. Notices to this effect, warning that precautions shall be taken prior to entry, shall be prominently displayed in the cargo area.
 - 13.5.3.9 Calibrated instruments suitable for use from outside the cargo spaces for measuring (a) Methane concentration, (b) Oxygen concentration (c) Carbon Monoxide concentration, are to be provided. The instrument shall be fitted with an aspirator, flexible connection and a length of tubing to enable a representative sample to be obtained from within the square of the hatch. The tubing shall be stainless steel approximately 0.5 meters in length and 6 mm nominal internal diameter with an integral stainless steel threaded collar
- 13.5.4 Coastal vessels of less than 1600 GT, while carrying sulphur (crushed, lump and coarse grain), shall comply with the following requirements:
- 13.5.4.1 Calibrated Electrical fuses in cargo spaces shall be extracted.
 - 13.5.4.2 Spark-arresting screens (wire mesh guards) shall be fitted over inlet and outlet ventilation openings.
 - 13.5.4.3 All sources of ignition shall be eliminated. Prohibition Notices for welding, burning, cutting or other operations involving the use of fire, smoking, chipping and use of naked lights, or the introduction of other

sources of ignition including the use of spark or arc-producing equipment, are to be posted in the vicinity of cargo spaces

13.6 Grain

- 13.6.1 Coastal vessels while carrying grain are required to comply with the requirements of the International Code for the Safe Carriage of Grain in Bulk adopted by resolution MSC.23(59) and the relevant provision of M.S. Act including the rules framed there under.
- 13.6.2 Compliance with the requirements of Paragraph 13.6.1 of this Annex shall be demonstrated by means of a certificate issued by the Administration or Recognised Organisation acting on its behalf

13.7 Liquid cargoes

- 13.7.1 Coastal tankers carrying petroleum oils are to comply with the construction requirements specified in Annex-III of these rules.
- 13.7.2 Requirements for vegetable oils in paragraph 3.8.10 of Annex-III are applicable for the following types:
 - Castor oil
 - Coconut oil
 - Corn oil
 - Cotton seed oil
 - Groundnut oil
 - Illipe oil
 - Linseed oil
 - Mango kernel oil
 - Palm kernel oil
 - Palm kernel olein
 - Palm mid fraction
 - Palm oil
 - Palmolein
 - Palm stearin
 - Rapeseed oil
 - Rice bran oil
 - Safflower oil
 - Soyabean oil
 - Sunflower seed oil
 - Tallow
 - Tung oil
- 13.7.3 Chemical tankers and Liquified Gas carriers are to comply with the requirements of the IBC Code and IGC Code respectively.

13.8 Emergency/Pollution/Response

- 13.8.1 All Coastal Vessels while carrying dangerous cargoes or cargoes hazardous in nature in bulk or in packaged form as determined by IMSBC Code, IMDG Code and MARPOL, Annex-III as the case may be shall be guided by emergency response measures to be adopted during operational and accidental pollution as prescribed in the contingency documents maintained on board such vessels in accordance with the provisions of domestic safety management system

referred to in Annex XI. Such response measures shall highlight the reporting procedures, responsibility and authority of master & crew, response procedures in respect of navigational & seamen-ship aspect, training / drills / exercises to the extent practicable and minimum maintenance of response equipments for the said purpose

13.9 Civil liability for oil pollution damage

- 13.9.1 All Coastal tankers carrying more than 2000 tons of oil in bulk as cargo shall maintain appropriate insurance cover or other financial security available in Indian insurance market as on date conforming to the relevant provisions of Merchant Shipping Act, 1958.
- 13.9.2 All Coastal tankers carrying less than 2000 tons of oil in bulk as cargo involved in pollution incident shall be covered by the Fund, established under Fund, 1992 Convention to which India is party.

13.10 Oil / HNS pollution damage including wreck removal for Coastal cargo ships

- 13.10.1 All Coastal vessels other than tankers shall maintain an Insurance cover or other financial security available in Indian insurance market as on date conforming to the provisions of M.S. Act, 1958 as against oil / HNS pollution damage /damage to property and wreck removal.

13.11 Insurance

Adequate insurance cover against Bunker Oil damage shall also be carried.