

INDIAN REGISTER OF SHIPPING

CLASSIFICATION NOTES

Application of IRS Rules to Indian Coastal Vessels

April 2020



IRCLASS
Indian Register of Shipping

Application of IRS Rules to Indian Coastal Vessels

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Section 1

Preamble

1.1 The DGS Order No. 1 of 2014 specifies the requirements for construction, survey, certification and operation of cargo ships that are engaged exclusively on Indian coastal voyages within 20 nautical miles from the nearest land. Such vessels are referred to as “Indian Coastal Vessels”.

1.2 The *Rules and Regulations for Construction and Classification of Steel Ships* (Main Rules) are applicable to Indian Coastal Vessels with some changes to the requirements as specified in this Classification Note.

1.3 Changes to the requirements for application to Indian Coastal Vessels for each relevant Chapter of the Rules are specified in the subsequent Sections.

1.4 This Classification Note is to be read in conjunction with the *Rules and Regulations for Construction and Classification of Steel Ships* (Main Rules) and the DGS Order No. 1 of 2014 (as may be amended).

1.5 The Rules for Indian Coastal Vessels are applicable to ships which 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;
- less than 10000 GT in the case of dredgers;
- less than 3000 GT in the case of Coastal Tankers;
- less than 8000 kW main propulsion power in the case of cargo ships;
- less than 10000 kW main propulsion power in the case of dredgers;
- less than 3000 kW main propulsion power in the case of Coastal Tankers;
- not passenger vessels;
- not carrying bulk chemicals or gas in any form (packaged or otherwise);
- not fishing vessels;
- not military and government ships not used for commercial purposes.

Note: Coastal tankers are vessels which carry petroleum oils of flash point exceeding 60 deg. C and vegetable oils specified in the DGS Order No. 1 of 2014.

Section 2

Part 1 - Regulations

2.1 Chapter 1 General

Part 1 Chapter 1 of the Rules and Regulations for Construction and Classification of Steel Ships (Main Rules) are to be applied for Indian Coastal Vessels with the following changes to the clauses indicated below:

2.1.1 Ref. **Clause 2.1.4**

2.1.1.1 In the case of vessels with class notation "**Indian Coastal Vessel**", applicable statutory requirements of the Indian flag administration for Indian Coastal Vessels are to be complied with as a prerequisite of classification.

2.1.2 Ref. **Clause 2.7.1**

2.1.2.1 When requested by an Owner and agreed to by IRS or when considered necessary by IRS, a class notation will be appended to the character of classification. This class notation will consist of one of, or a combination of – a type notation, a cargo notation, a special duties notation, a special features notation and/or a service restriction notation as shown in the following examples:

☩ **SUL Indian Coastal Vessel, Tanker for carriage of oil of flash point exceeding 60 deg C, ESP**

☩ **SUL Indian Coastal Vessel, Tanker for carriage of vegetable oils, ESP**

2.1.3 Ref. **Clause 2.7.3**

2.1.3.1 Notation "**Indian Coastal Vessel**" means vessels engaged in operations between Indian ports during all-weather conditions. Vessels falling under this notation shall at all times operate within 20 nautical miles from the nearest land. Assignment of this notation does not preclude the Owners or Shipbuilders from requesting special consideration for other forms of restrictions, which may be additionally be assigned as descriptive notes.

2.1.4 Ref. **Appendix -1 List of Class notations**:- Table of class notations are amended as follows for application to Indian Coastal Vessels. Other notations may be considered where requested in special cases.

Appendix 1		
Table of characters of class and type notations of IRS, their expanded form and significance		
Abbreviation	Expanded Form	Significance
Characters of Class		
SUL	SARVOUTAM LANGER	Denotes vessels which are classed with Indian Register of Shipping where the hull and its appendages and equipment (i.e. anchors, chain cables, hawsers) meet the Rule requirements.
SU (-)	SARVOUTAM	Denotes vessels which are classed with IRS where the hull and its appendages meet the rule requirements but when the equipment of ship is not supplied or maintained as per the relevant Rules but is considered by IRS to be acceptable for particular service
SU	SARVOUTAM	Denotes vessels which are classed with IRS where the hull and its appendages meet the rule requirements but where for reason of their particular purpose or service normal equipment may be unnecessary
IY	INDIAN YANTRA	Denotes that for self propelled seagoing vessels, the machinery installation complies with the applicable requirements of Indian Register of Shipping
卐	SWASTIKA	This distinguishing mark inserted before a Character of Class is assigned to new ships where the hull and its appendages, equipment and the machinery as appropriate, are constructed under special survey of IRS in compliance with the Rules to the satisfaction of IRS
卐		The distinguishing mark inserted before a Character of Class (SUL, SU (-), SU, IY as appropriate), is assigned to vessels admitted in to IRS Class during the course of construction and surveyed by an IACS Society.
卐		The distinguishing mark inserted before a Character of Class (SUL, SU (-), SU, IY as appropriate), is assigned to vessels admitted into IRS Class at the time of delivery of the vessel and constructed under the survey of an IACS Society.
[]		When a Class Notation is enclosed within brackets, it indicates that applicable arrangements exist on board but the notation has been temporarily suspended

Abbreviation	Expanded Form	Significance
Class Notations – Hull		
Indian Coastal Vessel		This notation will be assigned to vessels engaged in operations between Indian ports during all-weather conditions. Vessels falling under this type shall at all times operate within 20 nautical miles from nearest land.
Specified Route Service		Service between two or more points or other geographical features which will form part of the Class Notation
Specified Operating Area Service		Service within one or more geographical area(s) which will form part of the Class Notation
"Strengthened for heavy cargoes"		This notation will be assigned to vessels where the scantlings and arrangements have been approved for heavier cargo loadings in any hold filled up to the top of the hatch coaming with cargo at a stowage rate of ≤ 1 [m ³ /tonne], when the draught in way of the hold is 80 per cent of the maximum permissible draught or more
BULK CARRIER, ESP		This notation will be assigned to vessels which are constructed generally with single deck, double bottom, hopper side tanks and topside tanks and with single or double side skin construction in cargo length area and intended primarily to carry dry cargoes in bulk.
"Hold(s) ...(to be specified)..... may be empty"		This notation will be assigned when in association with the carriage of heavy cargoes, specified holds are permitted to be empty with the ship in the fully loaded condition
INWATER SURVEY		Denotes that the examination of the ship's bottom and related items may be carried out while the ship is afloat in accordance with the applicable requirements indicated in Pt.1, Ch.2, Sec.7.2 of the <i>Rules and Regulations for the Construction and Classification of Steel Ships</i> .
"For carriage of cement in bulk"		This notation will be assigned to vessels which are designed and constructed solely for carriage of cement in bulk and the scantlings and arrangements have been approved accordingly
"Tanker for carriage of oil of flash point exceeding 60 deg C, ESP"		This notation will be assigned to vessels designed and constructed to carry petroleum oils of flash point exceeding 60 deg C according to the requirements for coastal tankers in the DGS Order 1 of 2014.
"Tanker for carriage of vegetable oils, ESP"		This notation will be assigned to vessels designed and constructed to carry specified vegetable oils according to the requirements for coastal tankers in the DGS Order 1 of 2014.

Abbreviation	Expanded Form	Significance
Class Notations - Machinery		
CCS	CENTRALIZED CONTROL STATION	Denotes that the propulsion and auxiliary machinery can be controlled and monitored with continuous supervision from a Centralized Control Station as detailed in Pt.4, Ch.7 of the <i>Rules and Regulations for the Construction and Classification of Steel Ships</i> . It also denotes that the control engineering equipment has been arranged, installed and tested in accordance with Rules.
SYJ	SWACHALIT YANTRIK JHAZ	Denotes that the ship can be operated with the machinery spaces unattended in accordance with the applicable requirements of Pt. 5, Ch. 22 of the <i>Rules and Regulations for the Construction and Classification of Steel Ships</i> .
AGNI 1	AGNI SHAMAK	Denotes that the ship is equipped for early stage fire-fighting and rescue operations close to structures including means for self-protection of the vessel in accordance with the applicable requirements of Pt. 5, Ch. 25 of <i>Rules and Regulations for the Construction and Classification of Steel Ships</i> .
AGNI 2		Denotes that the ship is equipped for continuous fighting of large fires and for cooling of structures on fire including means for self-protection of the vessel in accordance with the applicable requirements of Pt. 5, Ch. 25 of <i>Rules and Regulations for the Construction and Classification of Steel Ships</i> .
AGNI 3		Denotes that the ship is equipped for continuous fighting of large fires and for cooling of structures on fire and of greater capacity than for "AGNI 2" in accordance with the applicable requirements of Pt. 5, Ch. 25 of <i>Rules and Regulations for the Construction and Classification of Steel Ships</i> .
TCM	TAILSHAFT CONDITION MONITORING	Denotes that the tail shaft condition is regularly monitored based on service records, oil and fresh water sample analysis, as applicable, in accordance with the survey requirements of Pt.1, Ch.2 and arrangements are provided for this purpose in accordance with Pt.4, Ch.4 of the <i>Rules and Regulations for the Construction and Classification of Steel Ships</i> .

Ship Type Notation	Significance
TUG	This notation will be assigned to all ships built in accordance with applicable requirements of Pt. 5, Ch. 7 of the <i>Rules and Regulations for the Construction and Classification of Steel Ships</i> .
ANCHOR HANDLING TUG	This notation will be assigned to tugs designed for anchor handling operations and built according to the requirements for this purpose given in Pt.5, Ch.7 and Pt.5, Ch.8 of the <i>Rules and Regulations for the Construction and Classification of Steel Ships</i> .
DREDGER, HOPPER DREDGER, RECLAMATION CRAFT	These notations will be assigned to self-propelled vessels engaged in dredging or reclamation operation in accordance with applicable requirements of Pt. 5, Ch. 10 of the <i>Rules and Regulations for the Construction and Classification of Steel Ships</i> .
Ro-Ro CARGO SHIP	This notation will be assigned to a vessel designed and constructed to carry roll-on/roll-off cargoes, equipped for carriage of vehicles, on exposed or enclosed single deck or multiple exposed/ enclosed decks. The requirements of Pt. 3, Chapters 9 & 12 of the <i>Rules and Regulations for the Construction and Classification of Steel Ships</i> are to be complied with for decks with wheel loading and opening and closing appliances (bow doors) respectively. The requirements of Part 6 of the said Rules are also to be complied with for fire safety requirements of ro-ro spaces and vehicle spaces.

Section 3

Part 3 – General Hull Requirements

3.1 Chapter 4 - Design Loads

3.1.1 Ref. **Clause 1.2.2**: The following text is added at the end regarding reduction factor R_s for dynamic components of sea pressures and wave bending moments:

In case of vessels with class notation "Indian Coastal Vessel", reduction factor " R_s " is to taken as 0.75.

3.2 Chapter 11 - Superstructures, deckhouses and bulwarks

3.2.1 Ref. **Section 6 "Means of embarkation and disembarkation"**, which gives special requirements for such means, need not be applied to vessels with class notation "**Indian Coastal Vessel**".

3.3 It may be noted that the freeboard and stability of these vessels are to be in compliance with the DGS Order 1 of 2014 (as may be amended). Load line would be assigned in accordance with the Merchant Shipping Rules (Load line), 1979 as amended.

Section 4

Part 4 – Main and Auxiliary Machinery

4.1 Chapter 3 - Pumping and Piping

4.1.1 Ref. **Clause 2.1.1**: Waiver of bilge suction for small compartments may be allowed in Indian coastal vessels. Clause 2.1.1 is amended as follows for such vessels:

2.1.1 All ships are to be provided with necessary pumps, suction and discharge piping and means of drainage so arranged that any compartment can be pumped out effectively, when the ship is on an even keel and/or designed trim and is either upright or has a list of not more than 5 degrees, through at least one suction, except for machinery spaces where at least two suctions are required, one of which is to be a branch bilge suction and the other is to be a direct bilge suction. Wing suctions will, generally, be necessary for this purpose, except for short narrow compartments, where a single suction may be sufficient. In the case of vessels with class notation "**Indian Coastal Vessel**" IRS may allow the means of pumping or drainage to be dispensed with in any particular compartment having volume, in cubic metres (m³), less than the ship's moulded displacement per centimetre (cm) immersion at draught T (refer Pt.3, Ch. 1, Sec 2.1), if it is satisfied that the safety of the ship is not thereby impaired.

4.1.2 Ref. **Clause 2.7.4**: Waiver is given for emergency bilge suction for Indian coastal vessels of less than 50 m length. Accordingly, clause 2.7.4 is amended for such vessels as follows:

2.7.4 Emergency bilge suction:

a) An emergency bilge suction is to be fitted to the largest independent power pump, capacity of which is at least equal to the bilge pump. In the case of ships with class notation "**Indian Coastal Vessel**" of length less than 50 [m], emergency bilge suction need not be provided.

4.1.3 Ref. **Clause 2.9.1 and 2.9.2**: regarding size of bilge main and branch lines, may be reduced for Indian coastal vessels. Accordingly, Clauses 2.9.1 and 2.9.2 are amended for such vessels, as follows:

2.9.1 The internal diameter of the bilge pipes is not to be less than that found by the following formula to the nearest 5 [mm] commercial size available:

$$d_m = 1.68 \sqrt{(B + D)} + 25 \text{ [mm]}$$

$$d_b = 2.15 \sqrt{C(B + D)} + 25 \text{ [mm]}$$

In the case of vessels with class notation "**Indian Coastal Vessel**", the internal diameter of the bilge pipes is not to be less than that found by the following formula to the nearest 5 [mm] commercial size available:

$$d_m = 1.50 \sqrt{(B + D)} + 25 \text{ [mm]}$$

$$d_b = 2.0 \sqrt{C(B + D)} + 25 \text{ [mm]}$$

2.9.2 In any case, bilge main suction line and branch bilge suction line diameters are not to be less than 50 [mm] and the diameter of the main bilge line is not to be less than that of the branch bilge line.

However, in the case of vessels with class notation “**Indian Coastal Vessel**”, bilge main suction line and branch bilge suction line diameters are not to be less than as given in Table 2.9.2.

Table 2.9.2 : Bilge Main/ Branch minimum size	
<i>Ship Length</i>	<i>Minimum Pipe Size (I.D.)</i>
20 m or greater but below 30 m	40 mm
30 m or greater	50 mm

4.1.4 Ref. **Clause 2.10.1**: Requirement for number of bilge pumps may be reduced for Indian coastal vessels as indicated in the amended clause 2.10.1 below:

2.10.1 All ships, other than passenger ships, are to be provided with at least two independent power bilge pumps. For ships of length 91.5 [m] and below, one of these pumps may be main engine driven. See 2.13 for requirements regarding passenger ships.

Vessels with class notation “**Indian Coastal Vessel**” may be provided with one fixed power driven pump, which may be main engine driven, and one portable mechanical pump. Fixed arrangements are to be provided for stowage of the portable pump to ensure its ready availability.

4.1.5 Ref. **Clause 2.10.2**: In view of the reduced size of bilge piping for Indian coastal vessels in 2.9.2, and consequent reduction in bilge pump capacity as per the formula specified in 2.10.2, it is necessary to specify a minimum capacity of bilge pump. Accordingly, clause 2.10.2 is amended as follows:

2.10.2 The capacity of each bilge pump is to be sufficient enough to give the water a speed of at least 122 [metres/minute] through the rule size of the main bilge line under normal working conditions.

The capacity of the bilge pump may be found by the following formula :

$$Q = 5.75 \times 10^{-3} \times d^2 \text{ [m}^3\text{/hour]}$$

where,

Q = Capacity of pump [m³/hour];

d = rule diameter of bilge main [mm].

In case of vessels with class notation “**Indian Coastal Vessel**”, the capacity of the bilge pump is not to be less than the minimum values specified in Table 2.10.2.”

Table 2.10.2 : Bilge pump minimum capacity	
<i>Vessel Length</i>	<i>Minimum Capacity per Pump</i>
20 m or greater but below 30 m	11 m ³ /hr
30 m or greater but below 50 m	14 m ³ /hr
50 m and greater	As per above formula

4.1.6 Sub-section 3.6 “Water level detectors in single hold cargo ships”

The requirement for water level detectors in single hold cargo ships of less than 80 [m] length need not be applied for vessels with class notation “**Indian Coastal Vessel**”.

4.1.7 Ref. **Clause 4.2.4** No. of fuel tanks- Storage/Service tanks: The requirement for minimum two fuel oil service tanks need not be applied to Indian coastal vessels. Accordingly, the following changes are to be made to clause 4.2.4

4.2.4 Minimum two fuel oil service tanks for each type of fuel used on board necessary for propulsion and vital systems or equivalent arrangements (See Fig. 4.2.4 for equivalent arrangement) are to be provided with a capacity of at least 8 hours at maximum continuous rating of the propulsion plant and normal operating load of the generating plant.

Vessels with class notation “**Indian Coastal Vessel**” (except for passenger vessels) need not comply with this requirement. However, tank capacity of 8 hours at maximum continuous rating of the propulsion plant and normal operating load of the generating plant is to be provided in all ships.

4.2 Chapter 8 - Electrical Installations

4.2.1 Ref. **Clause 2.5.6 b)**: Where the main generator is essential for propulsion and steering of the ship and more than one generator is provided, the requirement for automatic starting and connecting to main switchboard of standby generator in clause 2.5.6 b) may be waived for Indian coastal vessels of less than 3000 GT.

Accordingly, clause **2.5.6 b)** is amended as follows:

2.5.6 b) Where the electrical power is normally supplied by one generator provision shall be made, upon loss of power, for automatic starting and connecting to the main switchboard of stand-by generator(s) of sufficient capacity with automatic restarting of the essential auxiliaries, in sequential operation if required. Starting and connection to the main switchboard of the stand-by generator is to be preferably within 30 seconds, but in any case not more than 45 seconds, after loss of power. Where prime movers with longer starting time are to be used, the starting and connection time are subject to special approval.

However, in the case of vessels of less than 3000 GT with Class notation “**Indian Coastal Vessel**”, the above requirements for automatic starting and connecting of standby generators need not be applied.

Section 5

Part 5 – Special Ship Types

5.1 In the case of Indian Coastal Vessels, the requirements of Part 5 will apply only to those ship types covered by the Indian Coastal Vessel notification of the Govt. of India.

5.2 The requirements for coastal tankers carrying petroleum oils or vegetable oils would be as specified in the annexes to the Indian Coastal Vessel notification of the Govt. of India.

5.3 In general, the following chapters of Part 5 will apply to vessels with Class notation “**Indian Coastal Vessel**”, depending on the type of vessel and special class notation:

- Chapter 1 Dry Bulk cargo carriers
- Chapter 2 Oil tankers
- Chapter 5 Container ships
- Chapter 7 Tugs
- Chapter 10 Dredgers
- Chapter 11 Barges and pontoons
- Chapter 22 Vessels with unattended machinery spaces
- Chapter 25 Fire Fighting ships

5.4 The following Chapters of Part 5 are **not** applicable to Indian Coastal vessels.

- Chapter 3 Chemical carriers
- Chapter 4 Liquefied gas carriers

5.5 Application of requirements of other Chapters of Part 5 may be considered where corresponding special class notations are requested.

Section 6

Part 6 – Fire Safety Requirements

6.1 The requirements of Part 6 are not applicable to Indian Coastal Vessels. Fire safety requirements as given in the Annexes to the Indian Coastal Vessel notification of the Govt. of India are to be applied.

End of Classification Note