



RULES

PUBLICATION 12/P

SAFETY REQUIREMENTS FOR SEA-GOING SHIPS CARRYING INDUSTRIAL PERSONNEL

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complete or extend the Rules and are mandatory where applicable.

GDAŃSK

Publication 12/P – Safety requirements for sea-going ships carrying industrial personnel – January 2024 is an extension of the requirements contained in the *Rules for the Classification and Construction of Sea-Going Ships*, *Rules for the Classification and Construction of Small Sea-Going Ships* and the *Rules for the Classification and Construction of High Speed Craft (HSC)*.

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CONTENTS

Page

0	INTRODUCTION	5
1	PART I GENERAL	6
1.1	Application	6
1.2	Definitions	6
1.3	General provisions	9
1.4	Ship classification documentation	9
2	PART II GOALS AND FUNCTIONAL REQUIREMENTS	11
2.1	Safe transfer of personnel	11
2.2	Subdivision and stability	11
2.3	Machinery installations	11
2.4	Electrical installations	12
2.5	Periodically unattended machinery spaces	12
2.6	Fire safety	13
2.7	Life-saving appliances and arrangements	14
2.8	Dangerous goods	14
3	PART III REGULATIONS	15
3.1	Safe transfer	15
4	PART IV ADDITIONAL REQUIREMENTS FOR SHIPS	17
4.1	General	17
4.2	Subdivision and stability	17
4.3	Machinery installations	19
4.4	Electrical installations	19
4.5	Periodically unattended machinery spaces	19
4.6	Fire safety	19
4.7	Life-saving appliances and arrangements	20
4.8	Dangerous goods	20
5	PART V ADDITIONAL REQUIREMENTS FOR CRAFT	23
5.1	General	23
5.2	Subdivision and stability	23
5.3	Machinery installations	23
5.4	Electrical installations	24
5.5	Periodically unattended machinery spaces	24
5.6	Fire safety	24
5.7	Life-saving appliances and arrangements	24
5.8	Dangerous goods	24

0 INTRODUCTION

0.1 This *Publication* provides specific technical requirements for sea-going ships and craft intended for the carriage of industrial personnel and their gear between harbours and offshore installations or ships.

0.2 This *Publication* is an extension of the general requirements applicable to cargo ships and to high-speed cargo craft contained in the *Rules for the Classification and Construction of Sea-Going Ships* (ships of 24 m in length and above), the *Rules for the Classification and Construction of Small Sea-Going Ships* (ships below 24 m in length) and the *Rules for the Classification and Construction of High Speed Craft (HSC)* respectively.

0.3 This *Publication* is based on and contains relevant technical requirements of the *SOLAS Convention* and the *International Code of Safety for Ships Carrying Industrial Personnel (IP Code)*. Requirements of the *IP Code* related to the industrial personnel as well as some operational requirements have been omitted. Any omitted text is marked with (...). Requirements concerning life-saving appliances and arrangements, although of non-classification nature, have been retained. For completeness all requirements concerning carriage of dangerous goods have been retained although some of them are of operational nature.

0.4 Original requirements of the *SOLAS Convention*, the *IP Code* and other IMO documents are in blue font, while PRS text is in black font.

0.5 At the end of each subchapter/paragraph containing original text from the documents referred to in 0.4, a number is given in brackets which corresponds to the number of such text in these documents.

0.6 Whenever in the text of the *Publication* some technical arrangements are left to the decision/satisfaction of flag State Administrations, PRS, acting as recognized organisation (RO) on behalf of a flag State Administration, will make relevant decisions following provisions of Agreement with the Administration. If the flag State Administration of a newbuilding is unknown (not decided yet) PRS will make relevant decisions on its own.

1 PART I GENERAL

1.1 Application

1.1.1 This *Publication* applies to cargo ships and high-speed cargo craft carrying industrial personnel, which are to be assigned additional mark **CREW BOAT** or **sdpp** in their symbol of class.

1.1.2 Cargo ships and high-speed cargo craft referred to in 1.1.1, in addition to meeting the general requirements of the *Rules for the Classification and Construction of Sea-going Ships* (ships of 24 m in length and above), the *Rules for the Classification and Construction of Small Sea-going Ships* (ships below 24 m in length), the *Rules for the Classification and Construction of High Speed Craft* (HSC) shall also comply with this *Publication*.

1.1.3 Unless expressly provided otherwise, this *Publication* (...) applies to cargo ships and high-speed cargo craft, of 500 gross tonnage and upwards, constructed on or after 1 July 2024 which carry more than 12 industrial personnel. (SOLAS, Reg. XV/3.1)

1.1.4 When the additional mark **CREW BOAT** or **sdpp** is to be assigned to a ship or a HSC below 500 gross tonnage which is intended to carry an aggregated number of passengers, special personnel and industrial personnel in excess of 12, PRS will apply functional requirements provided in Part II of the *Publication* as far as practicable. (IP Code Preamble, para 7)

1.1.5 Upon agreement with PRS this *Publication* can be also applied to cargo ships and high-speed cargo craft, the construction of which starts before 1 July 2024.

1.1.6 Existing cargo ships constructed before 1 July 2024, authorized by the Administration to carry more than 12 industrial personnel in accordance with the recommendations developed by the Organization*, shall comply with regulations III/1, III/2 (except for paragraph 2.1.7), IV/7 and IV/8 of this *Publication* (*the IP Code*) by the first intermediate or renewal survey, whichever occurs first, after 1 July 2024. (SOLAS, Reg. XV/3.2)

1.1.7 Existing high-speed cargo craft constructed before 1 July 2024, authorized by the Administration to carry more than 12 industrial personnel in accordance with the recommendations developed by the Organization*, shall comply with the regulations III/1, III/2 (except for paragraph 2.1.7), V/7 and V/8 of this *Publication* (*the IP Code*) by the third periodical or first renewal survey, whichever occurs first, after 1 July 2024. (SOLAS, Reg. XV/3.3)

1.1.8 Cargo ships and high-speed cargo craft, irrespective of date of construction, which prior to the 1 July 2024 have not been authorized by the Administration to carry more than 12 industrial personnel based on the recommendations developed by the Organization*, shall comply (...) with this *Publication* (...) prior to the carriage of more than 12 industrial personnel on board. (SOLAS, Reg. XV/3.4)

* Refer to the *Interim recommendations on the safe carriage of more than 12 industrial personnel on board vessels engaged on international voyages* (resolution MSC.418(97)).

1.2 Definitions

- .1 **IP Code** means the *International Code of Safety for Ships Carrying Industrial Personnel*, as adopted by the Maritime Safety Committee by resolution MSC.527(106), as may be amended, (...) (SOLAS, Reg. XV/1.2)
- .2 **HSC Code** means the *International Code of Safety for High-Speed Craft, 2000*, as adopted by the Maritime Safety Committee by resolution MSC.97(73), as amended. (IP Code, Reg. I/2.3)
- .3 **SOLAS** means the *International Convention for the Safety of Life at Sea, 1974*, as amended. (IP Code, Reg. I/2.3)
- .4 **Industrial personnel (IP)** means all persons transported or accommodated on board for the purpose of offshore industrial activities performed on board other ships and/or offshore facilities. (SOLAS, Reg. XV/1.1, IP Code, Reg. I/2.4)
- .5 **Special personnel** means all persons who are not passengers or members of the crew or children of under one year of age and who are carried on board in connection with the special purpose of that ship or because of special work being carried out aboard that ship. (...)

Special personnel are expected to be able bodied with a fair knowledge of the layout of the ship and to have received some training in safety procedures and the handling of the ship's safety equipment before leaving port and include the following:

- .1 scientists, technicians and expeditionaries on ships engaged in research, non-commercial expeditions and survey;
 - .2 personnel engaging in training and practical marine experience to develop seafaring skills suitable for a professional career at sea. Such training should be in accordance with a training programme approved by the Administration;
 - .3 personnel who process the catch of fish, whales or other living resources of the sea on factory ships not engaged in catching;
 - .4 salvage personnel on salvage ships, cable-laying personnel on cable-laying ships, seismic personnel on seismic survey ships, diving personnel on diving support ships, pipe-laying personnel on pipe layers and crane operating personnel on floating cranes; and
 - .5 other personnel similar to those referred to in .1 to .4 who, in the opinion of the Administration, may be referred to this group. (SPS Code, Reg. 1/1.3.11)
- .6 **A passenger** is every person other than:
- .1 the master and the members of the crew or other persons employed or engaged in any capacity on board a ship on the business of that ship; and
 - .2 a child under one year of age. (SOLAS, Reg. I/2(e))
- .7 **Ships constructed** means ships the keels of which are laid or which are at a similar stage of construction; (SOLAS, Reg. II-2/1.1.2.1)
- A similar stage of construction** means the stage at which:
- .1 construction identifiable with a specific ship begins; and

- .2 assembly of that ship has commenced comprising at least 50 tonnes or one per cent of the estimated mass of all structural material, whichever is less. (SOLAS, Reg. II-2/1.1.3.1)
- .8 **Craft constructed** means a craft the keel of which is laid or which is at a similar stage of construction; (SOLAS, Reg. X/1.4)
Similar stage of construction means the stage at which:
 - .1 construction identifiable with a specific craft begins; and
 - .2 assembly of that craft has commenced comprising at least 50 tonnes or 3% of the estimated mass of all structural material, whichever is the less. (SOLAS, Reg. X/1.5)
- .9 **Carriage** means transportation, accommodation or both. (IP Code, Reg. I/2.1)
- .10 **Personnel transfer** means the full sequence of the operation of transferring personnel and their equipment at sea to or from a ship to which this *Publication* (Code) applies and from or to another ship or an offshore facility. (IP Code, Reg. I/2.7)
- .11 **Essential systems** mean systems referred to in *SOLAS* regulation II-2/21.4. (IP Code, Reg. I/2.2) i.e:
 - .1 propulsion;
 - .2 steering systems and steering-control systems;
 - .3 navigational systems;
 - .4 systems for fill, transfer and service of fuel oil;
 - .5 internal communication between the bridge, engineering spaces, safety centre, fire-fighting and damage control teams, and as required for passenger and crew notification and mustering;
 - .6 external communication;
 - .7 fire main system;
 - .8 fixed fire-extinguishing systems;
 - .9 fire and smoke detection system;
 - .10 bilge and ballast system;
 - .11 power-operated watertight and semi-watertight doors;
 - .12 systems intended to support "safe areas" as indicated in paragraph 5.1.2 (i.e.: sanitation; water; food; alternate space for medical care; shelter from the weather; means of preventing heat stress and hypothermia; light; and ventilation);
 - .13 flooding detection systems; and
 - .14 other systems determined by the Administration to be vital to damage control efforts. (SOLAS Reg. II-2/21.4)
- .12 **IP area** is every area or space where IP are normally intended to stay during voyage or are allowed to access. (IP Code, Reg. I/2.5)
- .13 **Offshore industrial activities** mean the construction, maintenance, decommissioning, operation or servicing of offshore facilities related, but not limited, to, exploration and

exploitation of resources by the renewable or hydrocarbon energy sectors, aquaculture, ocean mining or similar activities. (SOLAS, Reg. XV/1.3, IP Code, Reg. I/2.6)

- .14 **SGS Rules** mean PRS' *Rules for the Classification and Construction of Sea-going Ships* which apply to ships of 24 m in length and above.
- .15 **SSGS Rules** mean PRS' *Rules for the Classification and Construction of Small Sea-going Ships* which apply to ships below 24 m in length.
- .16 **HSC Rules** mean PRS' *Rules for the Classification and Construction of High Speed Craft* (HSC).

1.3 General provisions

1.3.1 Wherever in the *Publication* (...) a reference is made to the passenger ship requirements, the corresponding cargo ship requirements are deemed to be complied with. (SOLAS, Reg. XV/2.1)

1.3.2 For the purpose of this *Publication* (...), industrial personnel shall not be treated or considered as passengers; however, wherever in this *Publication* (...), the number of industrial personnel appears as a parameter, it shall be the aggregate number of industrial personnel, special personnel and passengers carried on board, where the number of passengers shall not exceed 12. (SOLAS, Reg. XV/2.2 and 2.3)

1.3.3 Notwithstanding the provisions of 1.3.1 above and notwithstanding the provisions of *HSC Rules* concerning:

- buoyancy, stability and subdivision;
- structures;
- accommodation and escape measures;
- directional control systems;
- anchoring, towing and berthing;
- fire safety;
- life-saving appliances and arrangements;
- machinery and auxiliary systems;
- remote control, alarm and safety systems;
- electrical installations

a HSC certified in accordance with the requirements of *SOLAS* Chapter X (see Part V of this *Publication*) shall be deemed to have complied with the above mentioned requirements of the *HSC Rules*. (SOLAS, Reg. XV/2.4)

1.4 Ship classification documentation

The scope of technical documentation required to be submitted to PRS for consideration prior to the commencement of a ship or HSC construction shall comply with the requirements specified in the relevant Parts of the *SGS Rules*, the *SSGS Rules* or the *HSC Rules*. Additionally the following documents shall be submitted:

- appliances and arrangements for IP transfer;
 - means for position keeping during IP transfer;
 - means for passage of IP from the place where they are being carried on board to the transfer appliances/arrangements;
 - arrangements for the carriage of IP;
 - lighting for illuminating the means of passage, transfer arrangements and water below the passage and transfer arrangements;
 - analysis evaluating failures in IP transfer arrangements and all its associated systems.
-

2 PART II GOALS AND FUNCTIONAL REQUIREMENTS

2.1 Safe transfer of personnel

2.1.1 Goal

The goal of this chapter 2.1 is to provide for the safety of all persons involved in personnel transfer, including safe and suitable means of transfer and the capability of safely carrying out the operations connected to personnel transfer. (IP Code, Reg. II/2.1)

2.1.2 Functional requirements

In order to achieve the goal set out in paragraph 2.1.1 above, the following functional requirements are embodied in the regulations in Part III of this *Publication*:

- .1 Means shall be provided to avoid injuries during personnel transfer.
- .2 Arrangements for personnel transfer shall be:
 - .1 designed, constructed and maintained to withstand the loads they are subjected to;
 - .2 designed and engineered to fail to a safe condition in the event of a loss or reduction in their associated functionality; and
 - .3 capable of safely returning persons in transfer to a safe location after loss of power.
- .3 Means for position keeping shall be provided and arranged in a manner that prevents accidents during transfer of personnel and is suitable for the mode of operation and interactions with other ships or offshore facilities. (IP Code, Reg. II/2.2)

2.2 Subdivision and stability

2.2.1 Goal

The goal of this chapter 2.2 is to provide for adequate stability of the ship, in both the intact and damaged conditions, taking into consideration the total number of persons on board. (IP Code, Reg. II/3.1)

2.2.2 Functional requirement

In order to achieve the goal set out in paragraph 2.2.1 above, the ship shall be designed with weathertight and watertight boundaries providing for an adequate stability standard, in both the intact and damaged conditions, taking into account the total number of persons on board. This functional requirement is embodied in the regulations in Parts IV and V of this *Publication*. (IP Code, Reg. II/3.2)

2.3 Machinery installations

2.3.1 Goal

The goal of this chapter 2.3 is to provide for machinery installations capable of delivering the required functionality to ensure safe navigation and safe carriage of persons on board both during normal operation and in any emergency situation, taking into account the total number of persons on board. (IP Code, Reg. II/4.1)

2.3.2 Functional requirement

In order to achieve the goal set out in paragraph 2.3.1 above, the following functional requirements are embodied in the regulations in Parts IV and V of this *Publication*:

- .1 where the capacity needed to ensure the required functionality of any machinery system is dependent on the number of persons on board (e.g. bilge pumping systems), necessary additional capacity shall be provided;
- .2 steering gear systems shall be capable of maintaining steerage after any incident affecting machinery installations; and
- .3 essential systems shall have the necessary redundancy or isolation, or a combination thereof, in order to ensure the capability of safely accommodating persons on board after any incident affecting machinery installations, taking into account the number of persons on board. (IP Code, Reg. II/4.2)

2.4 Electrical installations

2.4.1 Goal

The goal of this chapter 2.4 is to provide for:

- .1 emergency sources of power capable of delivering the required functionality of essential systems in emergency situations, taking into account the total number of persons on board; and
- .2 protection of all persons on board from electrical hazards. (IP Code, Reg. II/5.1)

2.4.2 Functional requirements

In order to achieve the goal set out in paragraph 2.4.1 above, the following functional requirements are embodied in the regulations in Parts IV and V of this *Publication*:

- .1 emergency power supply to essential systems shall have the necessary redundancy or isolation, or a combination thereof, to ensure the capability of safely accommodating persons on board after damage, taking into account the number of persons on board and the time for orderly evacuation; and
- .2 precautions against shock, fire and other hazards of electrical origin shall be provided. (IP Code, Reg. II/5.2)

2.5 Periodically unattended machinery spaces

2.5.1 Goal

The goal of this chapter 2.5 is to ensure that, if and when a machinery space is periodically unattended, this does not impair the safety of the ship or the persons on board. (IP Code, Reg. II/6.1)

2.5.2 Functional requirements

In order to achieve the goal set out in paragraph 2.5.1 above, the following functional requirements are embodied in the regulations in Parts IV and V of this *Publication*:

- .1 periodically unattended machinery spaces shall provide safe operations, taking into account the number of persons on board; and

- .2 a periodically unattended machinery space shall be equipped with additional controls, monitoring and alarm systems to provide safe operation, taking into account the number of persons on board, in order to achieve a safety equivalent to that of a normally attended machinery space. (IP Code, Reg. II/6.2)

2.6 Fire safety

2.6.1 Goal

The goal of this chapter 2.6 is to fulfil the fire safety objectives of *SOLAS* or the basic fire safety principles of the *HSC Code* taking into account the number of persons on board. (IP Code, Reg. II/7.1)

The fire safety objectives of *SOLAS* are as follows:

- prevent the occurrence of fire and explosion;
- reduce the risk to life caused by fire; reduce the risk of damage caused by fire to the ship, its cargo and the environment;
- contain, control and suppress fire and explosion in the compartment of origin; and
- provide adequate and readily accessible means of escape for passengers and crew (*SOLAS* Reg. II-2/2.1.1)

The basic fire safety principles of the *HSC Code* are as follows:

- maintenance of the main functions and safety systems of the craft, including propulsion and control, fire-detection, alarms and extinguishing capability of unaffected spaces, after fire in any one compartment on board;
- division of the public spaces for category B craft, in such a way that the occupants of any compartment can escape to an alternative safe area or compartment in case of fire;
- subdivision of the craft by fire-resisting boundaries;
- restricted use of combustible materials and materials generating smoke and toxic gases in a fire;
- detection, containment and extinction of any fire in the space of origin;
- protection of means of escape and access for fire fighting; and
- immediate availability of fire-extinguishing appliances (*HSC Code* Reg. 7.1.1)

2.6.2 Functional requirement

In order to achieve the goal set out in paragraph 2.6.1 above, the means to fulfil the fire safety functional requirements of *SOLAS* or the basic fire safety principles of the *HSC Code*, taking into account the number of persons on board, are embodied in the regulations in Parts IV and V of this *Publication*. (IP Code, Reg. II/7.2)

The fire safety functional requirements of *SOLAS* are as follows:

- division of the ship into main vertical and horizontal zones by thermal and structural boundaries;

- separation of accommodation spaces from the remainder of the ship by thermal and structural boundaries;
- restricted use of combustible materials;
- detection of any fire in the zone of origin;
- containment and extinction of any fire in the space of origin;
- protection of means of escape and access for fire-fighting;
- ready availability of fire-extinguishing appliances; and
- minimization of possibility of ignition of flammable cargo vapour (SOLAS Reg. II-2/2.2.1)

The basic fire safety principles of the *HSC Code* – see 2.6.1 above.

2.7 Life-saving appliances and arrangements

2.7.1 Goal

The goal of this chapter 2.7 is to provide for appropriate and sufficient means to ensure safe abandonment of the ship and recovery of persons. (IP Code, Reg. II/8.1)

2.7.2 Functional requirements

In order to achieve the goal set out in paragraph 2.7.1 above, the following functional requirements are embodied in the regulations in Parts IV and V of this *Publication*:

- .1 the capacity of the survival craft shall be sufficient to accommodate all persons on board;
- .2 appropriate and sufficient personal life-saving appliances shall be available for all persons on board;
- .3 sufficient space for assembling and mustering must be ensured;
- .4 onboard communication and alarm systems shall be provided to ensure emergency communication to all persons on board; and
- .5 means shall be provided to ensure the safe recovery of persons. (IP Code, Reg. II/8.2)

2.8 Dangerous goods

2.8.1 Goal

The goal of this chapter 2.8 is to provide for the safe carriage of industrial personnel while transporting and handling dangerous goods on ships certified in accordance with this *Publication* (*Code*), taking into consideration the total number of persons on board. (IP Code, Reg. II/9.1)

2.8.2 Functional requirement

In order to achieve the goal set out in paragraph 2.8.1 above, any hazard caused by the transportation and handling of dangerous goods shall be taken into account and the risk to all persons on board shall be minimized, having regard to the nature of the dangerous goods. This functional requirement is embodied in the regulations in Parts IV and V of this *Publication*. (IP Code, Reg. II/9.2)

3 PART III REGULATIONS

3.1 Safe transfer

3.1.1 In order to meet the functional requirement in 2.1.2.1, the following applies:

- .1** Personnel transfer appliances and arrangements shall be kept clean, properly maintained and regularly inspected to ensure that they are safe to use.
- .2** (...)
- .3** Means of communication shall be provided between the supervising responsible officer and the navigation bridge.
- .4** All personnel transfer arrangements shall be permanently marked to enable identification of each appliance for the purposes of survey, inspection and record-keeping. (...)
- .5** (...)
- .6** Means shall be provided to ensure safe and unobstructed passage for industrial personnel between the personnel transfer arrangements and where they are being transported or accommodated on board.
- .7** Lighting capable of being supplied by the emergency source of power shall be provided to illuminate the personnel transfer arrangements, the water below the transfer arrangements and the passage specified in sub-paragraph .6 above.
- .8** The deck area for personnel transfer shall be designated and free from obstructions.
- .9** (...)
- .10** (...) (IP Code, Reg. III/2.1)

3.1.2 In order to meet the functional requirement in 2.1.2.2, personnel transfer arrangements shall be designed, constructed, tested and installed in accordance with standards* acceptable to the Administration or requirements of a classification society which is recognized by the Administration (...) (IP Code, Reg. III/2.2)

* Refer to relevant sections of EN 13852-1:2013.

3.1.3 In addition, the following applies:

- .1** The design of the personnel transfer arrangements shall be suitable for the arrangement on the ship.
- .2** An analysis shall be performed in order to evaluate failures in IP transfer arrangements and all its associated systems, which might impair the availability of the transfer arrangements and/or endanger the safety of the persons involved. The analysis* shall:

* Appropriate analysis may be QFA (Qualitative Failure Analysis) or FMEA (Failure Mode and Effects Analysis) and their associated reports.

- .1 consider the effects of failure in all the equipment and systems due to single failure, fire in any space or flooding of any watertight compartment that could affect the availability of the transfer arrangements; and
- .2 provide solutions to ensure the availability of the IP transfer arrangements and the safety of all persons involved upon such failures identified in .1.
- .3 Where a single failure results in failure of more than one component in a system (common cause failure), all the resulting failures shall be considered together. Where the occurrence of a failure leads directly to further failures, all those failures shall be considered together. (IP Code, Reg. III/2.3)

3.1.4 In order to meet the functional requirement in paragraph 2.1.2.3, the maneuverability of the ship together with the expected need for the ship to keep position over time shall be evaluated, to ensure the correct use of position-keeping equipment. (IP Code, Reg. III/2.4)

3.1.5 In order to meet the functional requirement in paragraph 2.1.2.4, procedures shall be in place to ensure correct information on the number and identity of personnel on board at all times. (IP Code, Reg. III/2.5)

4 PART IV ADDITIONAL REQUIREMENTS FOR SHIPS

Note:

Requirements of this Part IV apply to ships certified according to *SOLAS* Chapter I.

4.1 General

4.1.1 Unless expressly provided otherwise in this Part IV, ships carrying industrial personnel shall meet the (...) general requirements of the relevant *SGS Rules* or *SSGS Rules* applicable to all types of cargo ships and the applicable regulations in this Part IV. (IP Code, Reg. IV/1.1)

4.1.2 Ships complying with paragraph 4.1.1 in addition to the applicable regulations in this Part IV are considered to meet the goals and functional requirements in paragraphs 2.2 to 2.8. (IP Code, Reg. IV/1.2)

4.2 Subdivision and stability

4.2.1 In order to meet the functional requirement set out in paragraph 2.2.2.1, the following applies:

- .1** Where the ship is certified to carry more than 240 persons on board, it shall meet the requirements of *SOLAS* regulation II-1/5 (inclining test upon completion of construction, determination of lightship displacement and centre of gravity, compliance of ships of 24 m in length and above with part A of the *2008 IS Code*, scales of draughts marked clearly at the bow and stern or draught indicating system) as though the ship is a passenger ship and the industrial personnel are counted as passengers. However, *SOLAS* regulation II-1/5.5 (at periodical intervals not exceeding five years, a lightweight survey to verify any changes in lightship displacement and longitudinal centre of gravity location) is not applicable.
- .2** Subdivision and damage stability shall be in accordance with *SOLAS* chapter II-1, where the ship is considered a passenger ship and industrial personnel are counted as passengers, with the value *R* as follows:
 - .1** where the ship is certified to carry more than 240 persons, the value *R* (required subdivision index) is assigned as *R*;
 - .2** where the ship is certified to carry not more than 60 persons, the value *R* is assigned as $0.8R$; or
 - .3** for more than 60 persons, but not more than 240 persons, the value *R* shall be determined by linear interpolation between the values given in sub-paragraphs .1 and .2 above.

$$R = 1 - \frac{5000}{L_S + 2.5N + 15225}$$

where:

$$N = N_1 + 2N_2$$

N_1 = number of persons for whom lifeboats are provided

N_2 = number of persons (including officers and crew) the ship is permitted to carry in excess of N_1

- .3 Where the conditions of service are such that compliance with paragraph 4.2.1.2 above on the basis of $N = N_1 + 2N_2$ is impracticable and where the Administration considers that a suitably reduced degree of hazard exists, a lesser value of N may be taken but in no case less than $N = N_1 + N_2$.
- .4 For ships to which paragraph 4.2.1.2.1 above applies (ships certified to carry more than 240 person), the requirements of SOLAS regulations II-1/8 (watertight subdivision of ships intended to carry 400 persons or more; withstanding assumed damage along the side shell in ships intended to carry 36 persons or more) and II-1/8-1 (ability of essential systems to remain operational after flooding in ships of 120 m in length or more, provision of onboard stability computer or shore-based support to enable safe return to port after a flooding casualty) and of SOLAS chapter II-1 parts B-2 (double bottom in passenger ships – Reg. 9, watertight bulkheads construction and initial testing – Reg. 10 & 11, peak and machinery space bulkheads, shaft tunnels, etc. – Reg. 12, openings in watertight boundaries below the bulkhead deck in passenger ships – Reg. 13, openings in the shell plating below the bulkhead deck of passenger ships – Reg. 15, construction and initial tests of watertight closures – Reg. 16, construction and initial tests of watertight decks, trunks, etc. – Reg. 16-1, internal watertight integrity of passenger ships above the bulkhead deck – Reg. 17) B-3 and B-4 (damage control information – Reg. 19, loading of ships – Reg. 20, periodical operation an inspection of watertight doors, etc. in passenger ships – Reg. 21, prevention and control of water ingress, etc. – Reg. 22, flooding detection systems for passenger ships carrying 36 persons or more – Reg. 22-1) shall be applied as though the ship is a passenger ship and the industrial personnel are passengers. However, SOLAS regulations II-1/14 (passenger ships carrying goods vehicles and accompanying personnel) and II-1/18 (assigning, marking and recording of subdivision load lines for passenger ships) are not applicable.
- .5 For ships to which paragraphs 4.2.1.2.2 (ships certified to carry up to 60 persons) and 4.2.1.2.3 (ships certified to carry more than 60 but not more than 240 persons) above apply, except as provided in paragraph 4.2.1.6 below, the provisions of SOLAS chapter II-1, parts B-2 (double bottom in cargo ships – Reg. 9, watertight bulkheads construction and initial testing – Reg. 10 & 11, peak and machinery space bulkheads, shaft tunnels, etc. – Reg. 12, openings in watertight bulkheads and internal decks in cargo ships – Reg. 13-1, openings in the shell plating below the freeboard deck of cargo ships – Reg. 15, external openings in cargo ships – Reg. 15-1, construction and initial tests of watertight closures – Reg. 16, construction and initial tests of watertight decks, trunks, etc. – Reg. 16-1), B-3 and B-4 (damage control information – Reg. 19, loading of ships – Reg. 20, prevention and control of water ingress, etc. – Reg. 22, additional requirements for prevention and control of water ingress, etc. in cargo ships – Reg. 24, water level detectors in cargo ships – Reg. 25 & 25-1) shall apply as though the ship is a cargo ship and the industrial personnel are crew. However, the requirements of SOLAS regulations II-1/8 (special requirements concerning passenger ship stability) and II-1/8-1 (system capabilities and operational information after a flooding casualty on passenger ship) need not be applied and SOLAS regulations II-1/14 (passenger ships carrying goods vehicles and accompanying personnel) and II-1/18 (assigning, marking and recording of subdivision load lines for passenger ships) are not applicable.
- .6 All ships certified in accordance with this Publication (Code) shall comply with SOLAS regulations II-1/9 (double bottom in passenger ships), II-1/13 (openings in watertight boundaries below the bulkhead deck in passenger ships), II-1/19 (damage control information), II-1/20 (loading of ships) and II-1/21 (periodical operation an inspection of

watertight doors, etc. in passenger ships) as though the ship is a passenger ship. (IP Code Reg, IV/2.1)

4.3 Machinery installations

4.3.1 In order to meet the functional requirement set out in paragraph 2.3.2.1, the ship shall comply with *SOLAS* regulation II-1/35-1 (bilge pumping arrangements) as though the ship is a passenger ship. (IP Code Reg, IV/3.1)

4.3.2 In order to meet the functional requirement set out in paragraph 2.3.2.2, where the ship is certified to carry more than 240 persons on board, it shall comply with the requirements of *SOLAS* regulation II-1/29 (steering gear) as though the ship is a passenger ship. (IP Code Reg, IV/3.2)

4.4 Electrical installations

4.4.1 In order to meet the functional requirement set out in paragraph 2.4.2.1, the following applies:

- .1** for installations in ships of more than 50 m in length carrying not more than 60 persons on board, the requirements in *SOLAS* regulation II-1/42.2.6.1 (any watertight doors required by regulation 13 shall be power operated together with their indicators and warning signals for a period of half hour) shall apply in addition to the requirements in *SOLAS* regulation II-1/43 (emergency source of electrical power in cargo ships); and
- .2** for installations in ships carrying more than 60 persons on board, *SOLAS* regulation II-1/42 (emergency source of electrical power in passenger ships) shall apply. (IP Code Reg, IV/4.1)

4.4.2 In order to meet the functional requirement set out in paragraph 2.4.2.2 for installations on ships carrying more than 60 persons on board, *SOLAS* regulation II-1/45.12 shall apply (distribution systems shall be so arranged that fire in any main vertical zone will not interfere with services essential for safety in any other such zone). (IP Code Reg, IV/4.2)

4.5 Periodically unattended machinery spaces

In order to meet the functional requirements set out in 2.5.2, ships carrying more than 240 persons on board shall be considered as passenger ships in relation to *SOLAS* chapter II-1, part E (additional requirements for periodically unattended machinery spaces). (IP Code Reg, IV/5)

4.6 Fire safety

In order to meet the functional requirements set out in paragraphs 2.6.2 and 2.3.2.3, the following applies:

- .1** where the ship is certified to carry more than 240 persons on board, the requirements of *SOLAS* chapter II-2 (fire protection, fire detection and fire extinction) for passenger ships carrying more than 36 passengers shall apply; and
- .2** where the ship is certified to carry more than 60, but not more than 240 persons on board, the requirements of *SOLAS* chapter II-2 (fire protection, fire detection and fire extinction) for passenger ships carrying not more than 36 passengers apply, except that *SOLAS*

regulations II-2/21 (casualty threshold, safe return to port and safe areas) and 22 (design criteria for systems to remain operational after fire casualty) need not apply. (IP Code Reg, IV/6)

4.7 Life-saving appliances and arrangements

In order to meet the functional requirements set out in paragraph 2.7.2:

- .1 for ships carrying more than 60 persons on board, the requirements of *SOLAS* chapter III (life-saving appliances and arrangements) for passenger ships engaged on international voyages, which are not short international voyages, shall apply;
- .2 regardless of the number of the persons on board, *SOLAS* regulations III/2 (exemptions) and III/19.2.3 (familiarity with safety installations and practice musters – safety briefing for new passengers) are not applicable;
- .3 where the term "passenger" is used in *SOLAS* chapter III, it shall be read to mean industrial personnel as prescribed in 1.2.4 (*SOLAS* regulation XV/2.3); and
- .4 notwithstanding sub-paragraph .3 above, the required number of infant or child lifejackets shall be calculated solely based on the number of passengers on board. (IP Code Reg, IV/7)

4.8 Dangerous goods

4.8.1 General

Industrial personnel may only bring dangerous goods on board for the purpose of their role off the ship and with the prior consent of the master of the ship. These dangerous goods shall be considered as cargo and shall be transported in accordance with part A of *SOLAS* chapter VII (carriage of dangerous goods in packaged form). (IP Code Reg, IV/8.1)

4.8.2 Carriage of dangerous goods in packaged form

In order to meet the functional requirements in paragraph 2.8.2:

- .1 for ships certified to carry more than 240 persons on board, *SOLAS* regulation II-2/19.3.6.2 for passenger ships carrying more than 36 passengers shall apply (at least two additional self-contained breathing apparatuses, and two spare charges for each apparatus); and
- .2 for the purpose of the requirements of the *IMDG Code*, ships certified to carry more than 240 persons on board shall be considered as passenger ships and those certified to carry 240 or fewer persons on board shall be considered as cargo ships. (IP Code Reg, IV/8.2)

4.8.3 Carriage of dangerous goods in solid form in bulk

In order to meet the functional requirements in paragraph 2.8.2:

- .1 for ships certified to carry more than 240 persons on board, *SOLAS* regulation II-2/19.3.6.2 for passenger ships carrying more than 36 passengers shall apply (at least two additional self-contained breathing apparatuses, and two spare charges for each apparatus); and
- .2 for the purpose of the requirements of the *IMSBC Code*, industrial personnel shall be considered as personnel in the context of personnel protection. (IP Code Reg, IV/8.3)

4.8.4 Carriage of dangerous liquid chemicals, liquefied gases and oil

4.8.4.1 In order to meet the functional requirements in paragraph 2.8.2, when simultaneously carrying dangerous liquid chemicals and/or liquefied gases as cargo in bulk and industrial personnel, the ship shall either be certified in accordance with the requirements of parts B (construction and equipment of ships carrying dangerous liquid chemicals in bulk) or C (construction and equipment of ships carrying liquefied gases in bulk) of *SOLAS* chapter VII or meet and be certified in accordance with a standard not inferior to that developed by the Organization*. In addition:

- .1 carriage of toxic products, low-flashpoint products or acids shall not be allowed when the total number of persons on board exceeds 60;
- .2 for the purpose of carrying industrial personnel, the areas and spaces on ships where industrial personnel are not permitted to enter shall be clearly marked;
- .3 the arrangements for personnel transfer shall be located outside the cargo area;
- .4 the access to the arrangements for personnel transfer shall, as far as practicable, be located outside the cargo area; and
- .5 embarkation or personnel transfer and loading or unloading of cargo shall not take place simultaneously. (IP Code Reg, IV/8.4.1)

* Refer to the *Code for the Transport and Handling of Hazardous and Noxious Liquid Substances in Bulk on Offshore Support Vessels (OSV Chemical Code)* (resolution A.1122(30)).

4.8.4.2 In order to meet the functional requirements in paragraph 2.8.2, when simultaneously carrying oil as cargo, as defined in Annex I of *MARPOL* (i.e. petroleum in any form), and industrial personnel, the additional requirements in paragraph 4.8.4.1 above shall apply. (IP Code Reg, IV/8.4.2)

4.8.4.3 For the purpose of this requirement:

- .1 **low-flashpoint products** mean:
 - noxious liquid substances with a flashpoint not exceeding 60°C;
 - oil with a flashpoint not exceeding 60°C; and
 - liquefied gases which require flammable vapour detection in accordance with chapter 19 of the *IGC Code*;
- .2 **toxic products** mean:
 - dangerous chemicals to which special requirement 15.12 of the *IBC Code* applies (location of exhaust openings of tank vents, connection for vapour return line, stowage and separation of products, cargo tank relief-valve setting); and
 - liquefied gases which require toxic vapour detection in accordance with chapter 19 of the *IGC Code*; and
- .3 **acids** mean dangerous chemicals to which special requirement 15.11 of the *IBC Code* applies (ship's shell plating doesn't form boundaries of cargo tanks, cargo tanks and related piping systems made of corrosion resistant material or provided with suitable lining, loading/discharge manifold flanges provided with spray shields and drip trays, electrical equipment of a certified safe type if installed in hazardous location, segregation of products from fuel oil tanks, provision of cargo leakage detection apparatus, cargo pump

room bilge piping and drainage arrangement of corrosion resistant materials). (IP Code Reg, IV/8.4.3)

4.8.4.4 In order to meet the functional requirements in paragraph 2.8.2 when carrying liquefied gases in bulk, for the purpose of the requirements of the *IGC Code*, industrial personnel shall be considered as personnel in the context of training and personnel protection. (IP Code Reg, IV/8.4.4)

5 PART V ADDITIONAL REQUIREMENTS FOR CRAFT

Note:

Requirements of this Part V apply to high-speed craft certified according to *SOLAS* Chapter X.

5.1 General

5.1.1 High-speed cargo craft certified in accordance with *SOLAS* Chapter X shall not carry more than 60 persons on board. (IP Code Reg, V/1.1)

5.1.2 Unless expressly provided otherwise in this part, high-speed craft carrying not more than 60 persons on board shall meet the requirements for cargo craft in the *HSC Rules* (*HSC Code*) and the applicable regulations in this Part V. (IP Code Reg, V/1.2)

5.1.3 Craft complying with paragraph 5.1.2 above in addition to the applicable regulations in this part are considered to meet the goals and functional requirements in paragraphs 2.2 to 2.8. (IP Code Reg, V/1.3)

5.1.4 The carriage of IP on high-speed craft is not considered as transit voyage (i.e. without passengers or cargo onboard), as specified in 1.9.1.1 of the *HSC Code*, and a permit to operate is required. (IP Code Reg, V/1.4)

5.1.5 Where the term "passenger" is used in applicable requirements in the *HSC Rules* (*HSC Code*), it shall be read to mean "persons on board other than crew". (IP Code Reg, V/1.5)

5.2 Subdivision and stability

In order to meet the functional requirements set out in paragraph 2.2.2, the following applies:

- .1** Part IV subchapter 4.1, except 4.1.1 of the *HSC Rules* shall apply additionally [Chapter 2, part B (buoyancy, stability and subdivision – requirements for passenger craft), except 2.13.2 (stability criteria after sustaining raking damage at 100% of length *L*) and 2.14 (at periodical intervals not exceeding five years, a lightweight survey to verify any changes in lightship displacement and longitudinal centre of gravity location), of the *HSC Code* shall apply in lieu of chapter 2, part C (buoyancy, stability and subdivision – requirements for cargo craft) of the *HSC Code*].
- .2** When applying the provisions of Part IV of the *HSC Rules* (chapter 2 of the *HSC Code*), the expression "passenger" shall be read as "persons on board other than crew". In addition, the mass of each such person shall be assumed to be 90 kg instead of 75 kg. (IP Code Reg, V/2)

5.3 Machinery installations

In order to meet the functional requirements set out in paragraph 2.3.2, provisions in Part VI subchapters 4.1 and 4.2 of the *HSC Rules* shall apply additionally. [chapter 10, part B (auxiliary systems – requirements for passenger craft) of the *HSC Code* shall apply as applicable to category A passenger craft in lieu of chapter 10, part C (auxiliary systems – requirements for cargo craft) of the *HSC Code*.] (IP Code Reg, V/3)

5.4 Electrical installations

In order to meet the functional requirements set out in paragraph 2.4.2, 5.1.2 of Part VII of the *HSC Rules* shall apply additionally [12.7.10 of the *HSC Code* shall apply (distribution systems arrangement)]. (IP Code Reg, V/4)

5.5 Periodically unattended machinery spaces

[no additional provisions] (IP Code Reg, V/5)

5.6 Fire safety

[no additional provisions] (IP Code Reg, V/6)

5.7 Life-saving appliances and arrangements

In order to meet the functional requirements set out in paragraph 2.7.2:

- .1 4.2.3 of the *HSC Code* shall apply (craft shall be equipped with illuminated or luminous notices or video information system(s) visible to all sitting passengers, in order to notify them of safety measures.);
- .2 8.4.3 of the *HSC Code* shall apply (illustrations and instructions in appropriate languages shall be posted in public spaces and be conspicuously displayed at assembly stations, at other passenger spaces and near each seat to inform passengers of: their assembly station; the essential actions they must take in an emergency; the method of donning lifejackets) – the expression "passenger spaces" shall be read as "IP area"; and
- .3 the required number of infant or child lifejackets shall be calculated solely based on the number of passengers on board. (IP Code Reg, V/7)

5.8 Dangerous goods

5.8.1 Industrial personnel may only bring dangerous goods on board for the purpose of their role off the craft and with the prior consent of the master of the craft. These dangerous goods shall be considered as cargo and shall be transported in accordance with chapter 7, part D (requirements for craft and cargo spaces intended for the carriage of dangerous goods) of the *HSC Code*. (IP Code Reg, V/8.1)

5.8.2 In order to meet the functional requirements set out in paragraph 2.8.2:

- .1 for the purpose of carrying IP, the areas and spaces on craft where IP are not permitted to enter shall be clearly marked;
- .2 the arrangement for personnel transfer shall be located outside the cargo area;
- .3 the access to the arrangements for personnel transfer shall, as far as practicable, be located outside the cargo area; and
- .4 embarkation or personnel transfer and loading or unloading of cargo shall not take place simultaneously. (IP Code Reg, V/8.2)