RULES FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

RULES

Part B Class Surveys

2018 AMENDMENT NO.2

Rule No.100 29 June 2018

Resolved by Technical Committee on 31 January 2018

An asterisk (*) after the title of a requirement indicates that there is also relevant information in the corresponding Guidance.

Rule No.100 29 June 2018
AMENDMENT TO THE RULES FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

"Rules for the survey and construction of steel ships" has been partly amended as follows:

Part B CLASS SURVEYS

Amendment 2-1

Chapter 1 GENERAL

1.1 Surveys

1.1.3 Intervals of Class Maintenance Surveys*

Sub-paragraph -1(2) has been amended as follows.

1 Periodical Surveys are to be carried out in accordance with the requirements specified in **(1)** through **(6)** below.

(1) Annual Surveys
Annual Surveys are to be carried out within three *months* before or after each anniversary date.

(2) Intermediate Surveys
Intermediate Surveys are to be carried out as specified in **(a)** or **(b)** below. Annual Surveys are not required to be carried out when an Intermediate Survey is carried out.
   (a) Intermediate Surveys are to be carried out at the time of the second or the third Annual Survey after the Classification Survey during Construction or a Special Survey; or
   (b) In lieu of **(a)** above, Intermediate Surveys for bulk carriers, oil tankers and ships carrying dangerous chemicals in bulk with integral tanks that are over 10 *years* of age and general dry cargo ships of not less than 500 *gross tonnage* over 15 *years* of age may be commenced at any time between the second and third Annual Surveys and be completed at the time of the second or the third Annual Survey.

((3) to (6) are omitted.)

1.1.6 Modification of the Requirements*

Sub-paragraph -4(1) has been amended as follows.

4 Continuous Hull Surveys

(1) At the request of the owner, the Society may approve ships (other than oil tankers, bulk carriers, ships carrying dangerous chemicals in bulk with integral tanks and general dry cargo ships of not less than 500 *gross tonnage*) to be exempt from detailed examinations of the tanks and compartments at the next Special Survey if these examinations (thickness measurements and pressure tests of tanks and compartments) are carried out based on the criteria for the next Special Survey in order and completed before the next Special Survey.

This form of examination is referred to as a “Continuous Hull Survey”. If the examination during the Continuous Hull Survey reveals any defects, the Surveyor may require further detailed examinations of other similar tanks and compartments. The Society may, where considered necessary, require the Continuous Hull Survey to be carried out by a method other than that specified above.

((2) and (3) are omitted.)

1.3 Definitions

1.3.1 Terms*

Sub-paragraph (1) has been amended as follows.

The definitions of terms which appear in this Part are as specified in the following. Terms not define here are as defined in other parts of the Rules.

(1) ”Ballast tank” is a tank which is being used solely for water ballast. For a space which is used for both cargo and water ballast, the followings requirements of **(a)** and **(b)** below are applied.
   (a) The space is treated as a Ballast Tank when substantial corrosion has been found in that space.
   (b) For oil tankers and ships carrying dangerous chemicals in bulk with integral tanks, the tanks used for the carriage of cargo or ballast water as a routine part of the vessel’s operation are treated as Ballast Tanks. Cargo tanks in which water ballast might be carried only in exceptional cases per **MARPOL Annex I/18.3** are to be treated as cargo tanks.

((2) to (25) are omitted.)

Chapter 3 ANNUAL SURVEYS

3.2 Annual Surveys for Hull, Equipment, Fire Extinction and Fittings

3.2.4 Internal Examinations of Spaces and Tanks*

Sub-paragraph (2) has been amended as follows.

At Annual Surveys, the internal examinations **(1)** and **(2)** below are to be carried out.

(1) Spaces and Tanks listed in **Table B3.4**

(2) Suspect areas identified at previous survey (excluding cargo tanks of oil tankers, ships carrying dangerous chemicals in bulk with integral tanks and ships carrying liquefied gases in bulk)

3.2.6 Thickness Measurements

Sub-paragraph -1(3) has been amended as follows.

1 At Annual Surveys, the thickness measurements **(1)** to **(3)** below are to be carried out. As to the gauging equipment and thickness measurement report, the provisions of **5.2.6-1** are to be applied correspondingly as well.

(1) Spaces and Tanks listed in **Table B3.6**

(2) Areas where deemed necessary by the Surveyor as a consequence of internal examination of spaces and tanks specified in **3.2.4(2)**

(3) Substantial corrosion areas identified at the previous survey (excluding cargo tanks of oil tankers other than ships built under **Part CSR-T** or **Part CSR-B&T**, ships carrying dangerous chemicals in bulk with integral tanks and ships carrying liquefied gases in bulk). For bulk carriers built under **Part CSR-B** or **Part CSR-B&T** as well as for the hatch covers and hatch coamings specified in **1.3.1(6)(b)**, thickness measurements may be dispensed with at Surveyor's discretion in cases where a protective coating has been applied in accordance with coating manufacturer's requirements and is maintained in good condition.

Paragraph 3.2.7 has been amended as follows.

3.2.7 Pressure Test

At Annual Surveys for oil tankers and ships carrying dangerous chemicals in bulk, a pressure test is to be carried out on the piping system when deemed necessary by the Surveyor as a consequence of the general examination of item No.~~23~~26 specified in **Table B3.2**.

Paragraph 3.2.8 has been amended as follows.

3.2.8 Alternative Design and Arrangements

For ships subject to *SOLAS Chapter II-2 Regulation 17*, alternative design and arrangements for fire safety are to be examined in accordance with the test, inspection and maintenance requirements, if any, specified in the relevant approval documents.

Section 3.3 has been amended as follows.

3.3 Annual Surveys for Machinery

3.3.1 General Examinations*

1 At Annual Surveys for Machinery, general examination of all the machinery in the engine room and the following inspections **(1)** to **(4)** are to be carried out:

(1) It is to be ascertained that the main propulsion machinery, power transmission machinery, shafting systems, prime movers other than main propulsion machinery, boilers, thermal oil heaters, incinerators, pressure vessels, auxiliaries, piping systems, control systems, electrical installations and switchboards are placed in good order.

(2) It is to be ascertained that the engine room, boiler spaces and means of escape are placed in good order with respect to dangers of fire and explosion.

((3) and (4) are omitted.)

2 At Annual Surveys for tankers, ships carrying liquefied gases in bulk and ships carrying dangerous chemicals in bulk, the following inspections **(1)** and **(2)** are to be carried out in addition to the items in **-1** above.

(1) ~~i~~It is to be ~~ascertained~~ checked that each pump foundations are intact. ~~and~~

(2) It is to be ascertained that ventilation systems in cargo pump rooms and electrical installations in hazardous areas are placed in good order ~~in addition to the items in **-1** above~~.

3.3.2 Performance Tests*

1 At Annual Surveys for Machinery, performance tests for the systems and devices listed in **Table B3.7** are to be carried out in order to ascertain that they are in good working order.

2 At Annual Surveys for tankers, ships carrying liquefied gases in bulk and ships carrying dangerous chemicals in bulk, in addition to the requirements specified in **Table B3.7**, the installations and devices specified in **Table B3.8** are to be subjected to the performance tests.

3.3.3 Alternative Design and Arrangements

For ships subject to *SOLAS Chapter II-1 Regulation 55*, alternative design and arrangements for machinery or electrical installations are to be examined in accordance with the test, inspection and maintenance requirements, if any, specified in the relevant approval documents.

Table B3.2 to Table B3.4 have been amended as follows.

Table B3.2 General Examination

Items	Examination
1 Shell plating 2 Weather deck plating	・ Confirmation that areas visible above the load waterline are in good condition.
3 Openings on deck and outside of the hull	~~・ Confirmation that the following are in good condition: coamings and closing appliances of hatchways and flush deck openings on the exposed deck and within unenclosed superstructures; gangway ports, cargo ports and coal ports; and side scuttles below the freeboard or superstructure deck.~~ ・ Confirmation that the means of securing the weathertightness of cargo hatchways, other hatchways and other openings on the freeboard and superstructure decks are in good condition. ・ Confirmation that the watertight integrity of the closures to any openings in the ship's side below the freeboard deck is in good condition. ・ Confirmation that the side scuttles and deadlights are in good condition.
4 Casings of engine room	・ Confirmation that the following are in good condition: exposed engine casings and their openings; and skylights of the engine room and boiler room and their closing appliances.
5 Ventilators	・ ~~Confirmation that coamings and closing appliances of ventilators to spaces below the freeboard deck or within enclosed superstructures are in good condition.~~ Confirmation that the ventilators including their coamings and closing appliances are in good condition.
6 Air pipes	・ ~~Confirmation that the air pipes on weather deck and their closing appliances are in good condition.~~ Confirmation that the air pipes including their coamings and closing appliances are in good condition.
7 Watertight bulkhead, superstructure end bulkhead and deckhouses	・ Confirmation that watertight doors, penetrations and stop valves on watertight bulkheads, and closing appliances of openings in ~~superstructure end bulkheads,~~ deckhouses or companions protecting hatchways giving access to spaces below freeboard deck are in good condition. ・ Confirmation that the superstructure end bulkheads and the openings therein are in good condition.
8 Load line marks	・ Confirmation that deck line and load line markings are appropriate.
9 Bulwark	・ Confirmation that bulwarks and the shutters of its freeing ports; and hinges and guard rails are in good condition.
10 Means of access	・ ~~Confirmation that permanent gangways or other means of access are in good condition.~~ Confirmation that the guardrails, gangways, walkways and other means provided for the protection of the crew and means for safe passage of crew are in good condition.
11 Scuppers, inlets, other discharge pipes and valves	・ ~~Confirmation that all areas which can be examined are in good condition.~~ Confirmation that the scuppers, inlets and discharges including their valves are in good condition. ・ Confirmation that the garbage chutes including their valves are in good condition.
12 Securing arrangement for on-deck timber	・ Confirmation that securing arrangement for on-deck timber including eye plates, lashing wires, etc. is in good condition regardless of timber freeboard markings.
13 Anchoring and mooring arrangement	・ Confirmation that the anchoring and mooring arrangements including their accessories are in good condition as far as can be seen. ・ Confirmation that the means provided to minimize water ingress through the spurling pipes and chain lockers are in good condition.
14 Fire extinguishing arrangement	・ Confirmation that the fire extinguishing arrangement is in good condition and the fixed fire extinguishing system, semi-portable and portable fire extinguishers, ~~fireman's~~firefighters' outfits ~~and~~, emergency fire pumps and the international shore connection are maintained in good order.
15 Fire protection arrangement and means of escape	・ Confirmation that no alteration has been made to these arrangements since the last survey. (This includes the confirmation that emergency escape breathing devices (EEBDs) are complete and in good condition.)

Table B3.2 General Examination (Continued)

Items	Examination
16 Sails and their accessories	・ Confirmation that sails and their accessories are in good condition. They are to be in place and ready for unfolding at the time of examination.
17 Towing and mooring fittings	・ Confirmation that the mark of Safe Working Load (*SWL*) on towing and mooring fittings of ships required to have this mark as specified in **27.2.2 or 27.2.3, Part C** or **23.2.2 or 23.2.3, Part CS** is clearly visible and these fittings are in good condition.
~~18 Emergency towing arrangement~~	~~・ Confirmation that the emergency towing arrangement of ships required to have one in accordance with the provisions of **27.3, Part C**, is in good condition.~~
~~19~~18 Loading computer	・ Confirmation that the computer of ships required to have one in accordance with the provisions of **34.1.1** and **34.3.2, Part C** is maintained in good order.
~~20~~19 Ship Identification Number	・ Confirmation that the markings of the ship's identification number for ships required to be so marked are in good condition.
~~21~~20 Means of embarkation and disembarkation	・ Confirmation that the means of embarkation and disembarkation are in good condition.
~~22~~21 Bow doors, inner doors, side shell doors and stern doors	・ Confirmation that the bow doors, inner doors, side shell doors and stern doors are in good condition.
~~23~~22 Hearing protectors	・ Confirmation that hearing protectors are in good condition
~~24~~23 Portable gas detecting instruments	・ Confirmation that portable gas detecting instruments are in good condition. (This includes the confirmation of calibration records.)
24 Helicopter facilities	・ Confirmation that the helicopter facilities, such as helidecks, means of escape, fire-fighting appliances, helicopter refuelling and hanger facilities, are in good condition, and that operations manual is provided.
25 Special arrangements for carrying dangerous goods	・ Confirmation, when appropriate, that the special arrangements for carrying dangerous goods are in good condition. (This includes the check of the electrical equipment and wiring, the ventilation, the provision of protective clothing and portable appliances.)
Additional Requirement for Tankers, Ships Carrying Dangerous Chemicals in bulk and Ships Carrying Liquefied Gases in bulk	
~~25~~26 Piping	・ Confirmation that cargo oil, fuel oil, ballast, vent pipes including vent masts and headers, inert gas pipes and all other piping in cargo pump room, cargo compressor rooms and on weather decks are in good condition.
27 Cargo tank	・ Confirmation that the cargo tank openings, including gaskets, covers, coamings and screens are in good condition. ・ Confirmation that the cargo tank pressure/vacuum valves and devices to prevent the passage of flame are in good condition. ・ Confirmation that the cargo tank venting, cargo tank purging and gas-freeing and other ventilation systems are in good condition.
28 Wire gauze to prevent the passage of flame	・ Confirmation, as far as practicable, that the wire gauze to prevent the passage of flame on vents to all bunker, oily-ballast and oily-slop tanks and void spaces are in good condition.
29 Safe access to the bow	・ Confirmation that the means of safe access to the bow is in good condition.
30 Emergency towing arrangements	・ Confirmation that emergency towing arrangements for ships of not less than 20,000 tonnes deadweight are in good condition.
Additional Requirement for Bulk Carriers over 10 *years* of age	
~~26~~31 Piping in the cargo holds	・ Confirmation that all piping and penetrations in cargo holds, including overboard piping, are in good condition.
Additional Requirement for General Dry Cargo Ships of not less than 500 *gross tonnage* and over 15 *years* of age	
~~27~~32 Piping in the cargo holds	・ Confirmation that all piping and penetrations in cargo holds, including overboard piping, are in good condition.

Note:
Examination of suspect areas identified at previous surveys is to be carried out.

Table B3.3 Performance Tests

Items	Tests
1 Weathertight hatch covers	・ Hose test (when deemed necessary by the Surveyor) ・ Random checking of the satisfactory operation of mechanically operated hatch covers including hydraulic and power components, wires, chains and link drives ・ For mechanically operated hatch covers on bulk carriers, hatch cover sets within the forward $0.25L_f$ and at least one additional set, including hydraulic and power components, wires, chains and link drives, are to be checked for satisfactory operation so that all sets on the ship are checked at least once every 5 *years* between special surveys
2 Closing appliances of watertight door on watertight bulkheads and openings on superstructure end bulkheads, deckhouses or companions protecting hatchways giving access to spaces below freeboard deck	・ Checking whether the appliances work in good order is to be made as deemed necessary by the Surveyor. ・ Hose tests or equivalent tests are to be carried out. Such tests may be dispensed with at the discretion of the Surveyor.
3 Appliances related to fire protection and escape	・ Checking whether the appliances work in good order is to be carried out.
4 Fire detection system and fire alarm system including manually operated call points and sample extraction smoke detection system	・ Checking, as far as possible, whether the systems work in good order (including proper operation of malfunction indicator) is to be made.
5 Fire pumps (including emergency fire pumps) piping, hydrants, hoses, nozzles etc.	・ Performance test of the fire fighting system composed of fire pump, hydrants, etc. is to be carried out. For ships with fire pumps in periodically unattended machinery spaces, an operation test of the remote control system or automatic operation system of one pump is to be carried out.
6 Fixed deck foam system	・ Checking whether the system works in good order is to be carried out by delivering water.
7 Ventilation system	・ Checking whether the system works in good order is to be carried out.
8 Stability Computer	・ A performance test is to be carried out on computers for stability calculation that are installed as a supplement to the stability information booklet on board ships contracted for construction on or after 1 July 2005.
9 Water level detection and alarm systems	・ Checking whether the systems work in order is to be made at random.
10 Dewatering arrangements	・ Checking whether the systems work in order is to be made.
11 Bow doors, inner doors, side shell doors and stern doors	・ Checking whether the appliances work in good order is to be carried out. ・ Hose test (when deemed necessary by the Surveyor)
12 General emergency alarm system	・ Checking whether the system works in good order is to be carried out.
13 Special arrangements for carrying dangerous goods	・ Checking, when appropriate, whether the water supply, bilge pumping and any water spray system work in good order is to be carried out.

Table B3.4 Internal Examinations of Spaces and Tanks

Items	Examination
Requirements for cargo ships except when specified otherwise	
1 Engine room and boiler room	・ An internal examination is to be carried out.
2 Cargo pump rooms, other pump rooms adjacent to cargo tanks, cargo compressor rooms and cargo pipe tunnels	・ An internal examination is to be carried out after the areas are thoroughly cleaned out and free of gas. Attention is to be paid to the bulkheads for signs of oil leakage or fractures (in particular, the sealing arrangements of all penetrations of bulkheads), ventilating arrangements, foundations and gland seals of pumps and compressors.
~~2~~3 Ballast tanks	・ For ships over 5 *years* of age, an internal examination of the tank(s), of which an internal examination is required as a consequence of the last intermediate Survey or special survey, is to be carried out.
Requirements for Tankers, Ships Carrying Dangerous Chemicals in bulk with integral tanks and Ships Carrying Liquefied Gases in bulk	
1 Engine room and boiler room	・ An internal examination is to be carried out.
2 Cargo pump rooms, other pump rooms adjacent to cargo tanks, cargo compressor rooms and cargo pipe tunnels	・ An internal examination is to be carried out after the areas are thoroughly cleaned out and free of gas. Attention is to be paid to the bulkheads for signs of oil leakage or fractures (in particular, the sealing arrangements of all penetrations of bulkheads), ventilating arrangements, foundations and gland seals of pumps and compressors.
3 Ballast tanks	・ For oil tankers, ships carrying dangerous chemicals in bulk ~~with integral tanks~~ and ships carrying liquefied gases in bulk over 5 *years* of age, an internal examination of the tank(s), of which an internal examination is required as a consequence of the last intermediate Survey or special survey, is to be carried out.
(Omitted)	

Note:

*1: For bulk carriers with hybrid cargo hold arrangements, e.g. with some cargo holds of single side skin and others of double side skin, the Requirements for Double Skin Bulk Carriers are to apply to cargo holds of double side skin and associated wing spaces.

Table B3.6 to Table B3.10 have been amended as follows.

Table B3.6 Thickness Measurements

Items	Note
Requirements for Cargo Ships except when specified otherwise	
1 Cargo oil, fuel oil, ballast, vent pipes including vent masts and headers, inert gas pipes and all other piping in cargo pump rooms and cargo compressor rooms and on weather decks	・When deemed necessary by the Surveyor as a consequence of the examination specified in **Table B3.2**, thickness measurements are to be carried out.
~~1~~2 Structural members in ballast tanks	・When extensive corrosion is found in the examination specified in **Table B3.4** which is required for ships over 5 *years* of age, thickness measurements are to be carried out to the satisfaction of the Surveyor. Where substantial corrosion is found, additional thickness measurements are to be carried out according to the provisions of **5.2.6-2**.
~~2~~3 Bow doors, inner doors, side shell doors and stern doors	・When deemed necessary by the Surveyor as a consequence of the examination specified in **Table B3.2**, thickness measurements are to be carried out.
Requirements for Tankers, Ships Carrying Dangerous Chemicals in bulk with integral tanks and Ships Carrying Liquefied Gases in bulk	
1 Cargo oil, fuel oil, ballast, vent pipes including vent masts and headers, inert gas pipes and all other piping in cargo pump rooms and cargo compressor rooms and on weather decks	・When deemed necessary by the Surveyor as a consequence of the examination specified in **Table B3.2**, thickness measurements are to be carried out.
2 Structural members in ballast tanks	・When extensive corrosion is found in the examination of ballast tanks specified in **Table B3.4** which is required for oil tankers, ships carrying dangerous chemicals in bulk ~~with integral tanks~~ and ships carrying liquefied gases in bulk over 5 *years* of age, thickness measurements are to be carried out to the satisfaction of the Surveyor. Where substantial corrosion is found, additional thickness measurements are to be carried out according to the provisions of **5.2.6-3** or **-4**.
(Omitted)	

Table B3.7 Performance Tests at Annual Surveys

Items	Examinations
1 ~~Shut-off devices~~Valves for oil tanks	Operation tests for ~~the remote shut-off devices~~ the arrangements for remote closing of valves for fuel oil tanks ~~and~~, lubricating oil tanks and other flammable oil tanks are to be carried out, as far as practicable and as appropriate.
2 Fuel oil pumps, cargo pumps, ventilating fans and boiler draught fans	Operation tests for emergency stopping means are to be carried out.
3 Emergency electrical power source	Operation tests for the emergency source of electrical power and its associated equipment are to be carried out in order to ascertain that the whole system is in good working order. Automatically operated equipment is to be tested in the automatic mode.
4 Communication systems	Operation tests for the means of communication between the navigation bridge and the machinery control position and between the navigation bridge and the steering gear compartment are to be carried out.
5 Steering gears	Performance tests ~~specified in the following (a) to (e)~~ are to be carried out for the main and auxiliary steering gears including their associated equipment and control systems; ~~(a) Operation test for the power units including changeover from one to another~~ ~~(b) Operation test for automatic and remote isolation of the power actuating systems specified in **15.6, Part D**~~ ~~(c) Test for supply of the alternative source of power specified in **15.2, Part D**~~ ~~(d) Operation test for the control system including the changeover system~~ ~~(e) Operation test for the alarm devices, rudder angle indicators and running indicators of power units specified in **Part D**~~
6 Bilge systems	Operation tests for the valves (including ones for emergency use), cocks, strainers, pumps, reach-rods and level alarms of the bilge systems are to be carried out.
7 Safety devices	Operation tests for the safety devices, etc. specified in the following (a) to (~~d~~e) are to be carried out. However, the tests may be omitted at the Surveyor's discretion based on the general examination, reports of working conditions at sea and inspection records taken by the ship's crew.
(a) Main propulsion machinery and auxiliary machinery	Operation tests of the following safety/alarm devices on prime movers of main propulsion machinery; electric generators; auxiliary machinery essential for propulsion; and auxiliary machinery for manoeuvring and crew safety are to be carried out. Where deemed necessary by the Surveyor, the maintenance records of the cooling water and lubricating oil are required to be presented for review. (i) Overspeed protective devices (ii) Automatic shut-off and alarm devices in case of loss or low pressure of the lubricating oil (iii) Automatic shut-off devices in case of abnormally low pressure of the main condenser vacuum for main steam turbines
(b) Boilers, thermal oil heaters and incinerators	Operation tests for the safety devices, alarm devices and pressure indicators specified in **Chapter 9, Part D** are to be carried out. Calibration records for the pressure indicators are to be ascertained and the relieving gears of the safety valves are to be examined and tested to verify satisfactory operation. However, the relief valves provided on the exhaust gas economizers are to be tested by the Chief Engineer at sea prior to the Annual Survey within the period specified in **1.1.3-1(1)**. This test is to be recorded in the logbook for review by the attending surveyor. Where deemed necessary by the Surveyor, the control records of the boiler water and thermal heater oil are required to be presented for review.
(c) Monitoring devices	Operation tests for pressure indicators, thermometers, ammeters, voltmeters and revolution meters are to be carried out.
(d) Automatic control devices or remote control devices	Operation tests for automatic and remote control devices of auxiliary machinery essential for propulsion, manoeuvring, and crew safety as well as the means of remotely controlling the propulsion machinery from the navigating bridge (including the control, monitoring, reporting, alert and safety actions) are to be carried out.
(e) Engineer's Alarm	It is to be confirmed that the engineer's alarm is clearly audible in the engineers' accommodation.

Table B3.8 Additional Requirements for Tankers, Ships Carrying Liquefied Gases in Bulk and Ships Carrying Dangerous Chemicals in Bulk

Items	Examinations
1 Cargo pumps, bilge pumps, ballast pumps, stripping pumps and ventilators	Operation tests for the remote control systems and shut-off devices of the pumps installed in cargo pump rooms are to be carried out.
2 Bilge systems	Operation tests of the bilge systems installed in cargo pump rooms of tankers and ships carrying dangerous chemicals in bulk, including checking of bilge level monitoring devices and alarms, are to be carried out.
3 Level indicators	Operation tests of level indicators used in cargo tanks are to be carried out.
4 Pressure indicators	Operation tests of pressure indicators installed in cargo discharge lines are to be carried out.
5 Inert gas systems	Inert gas systems installed in accordance with **4.5.5, Part R**, are to be subjected to the following general examinations and operation tests. After completion of these examinations and tests, when practicable, the proper operation of the inert gas system is to be checked. Other inert gas systems are to be examined as deemed appropriate by the Society. (a) Examining externally for any sign of gas or effluent leakage (b) Confirming the proper operation of both inert gas blowers (c) Observing the operation of the scrubber-room ventilation system (d) Checking the deck water seal for automatic filling and draining (e) Examining the operation of all remotely operated or automatically controlled valves and, in particular, the flue gas isolating valves (f) Observing a test of the interlocking feature of soot blowers (g) Observing that the gas pressure regulating valve automatically closes when the inert gas blowers are secured (h) Checking, as far as practicable, the following alarms and safety devices of the inert gas system using simulated conditions where necessary: i) High oxygen content of gas in the inert gas main ii) Low gas pressure in the inert gas main iii) Low pressure in the supply to the deck water seal iv) High temperature of gas in the inert gas main v) Low water pressure or low water-flow rate vi) Accuracy of portable and fixed oxygen-measuring equipment by means of calibration gas vii) High water level in the scrubber viii) Failure of the inert gas blowers ix) Failure of the power supply to the automatic control system for the gas regulating valve and to the instrumentation for continuous indication and permanent recording of pressure and oxygen content in the inert gas main x) Failure of the power supply to the instrumentation for continuous indication and permanent recording of pressure and oxygen content in the inert gas main xi) High pressure of gas in the inert gas main ~~(a) Operation tests of the inert gas blowers and scrubber room ventilation systems~~ ~~(b) Function tests of the water seals or general examinations of double block and bleed valves and the non return valves~~ ~~(c) Operation tests of the remotely operated or automatically controlled valves~~ ~~(d) Operation tests of the interlocking system between the soot blowers and the shut off valves on gas supply line~~ ~~(e) Operation tests of the measuring devices, alarm devices and safety devices specified in **35.2.2** through **35.2.4, Part R.**~~

Table B3.8 Additional Requirements for Tankers, Ships Carrying Liquefied Gases in Bulk and Ships Carrying Dangerous Chemicals in Bulk (Continued)

Items	Examinations
6 Gauging, detecting and alarming devices	General examinations and ~~O~~operation tests for the following are to be carried out for tankers and ships carrying dangerous chemicals in bulk. Where tests under actual conditions are difficult, simulation tests or other suitable means may be used to confirm functionality. (a) For ~~F~~fixed and portable gas detecting instruments and their associated alarms, the following items, in particular, are to be examined: i) The provision of at least one portable instrument for measuring oxygen and one for measuring flammable vapour concentrations, together with a sufficient set of spares is to be checked, and it is to be confirmed that suitable means are provided for the calibration of these instruments. ii) The arrangements for gas measurement in double-hull spaces and double bottom spaces, including the fitting of permanent gas sampling lines are to be examined, where appropriate. iii) The fixed hydrocarbon gas detection system for measuring hydrocarbon gas concentrations in all ballast tanks and void spaces of double-hull and double-bottom spaces adjacent to the cargo tanks are to be examined and tested, as far as possible. iv) It is to be confirmed that the system for continuous monitoring of the concentration of flammable vapours in cargo pump room is satisfactory. v) It is to be confirmed that sampling points or detector heads of the system specified in iv) are located in suitable positions in order that potentially dangerous leakages are readily detected. (b) Gauging devices for oxygen density
7 Fire extinguishing arrangement	For tankers, general examinations and operation tests for the following are to be carried out: (a) It is to be confirmed that the deck foam system, including the supplies of foam concentrate are in good condition. (b) It is to be checked that the two jets of water at the required pressure in the fire main is obtained when the system is in operation. (c) The fixed firefighting system for the cargo pump rooms are to be examined, and it is to be confirmed, as far as practicable and when appropriate, that the operation of the remote means for closing the various openings.

Table B3.9 Special Requirements for Ships Carrying Liquefied Gases in Bulk

Items	Examinations
1 Cargo containment system	General condition of cargo tanks, secondary barriers and their insulation; and sealing arrangement for cargo tanks or tank covers penetrating decks is to be examined as far as accessible. At the first Annual Survey after delivery, examinations specified in 1(a), (b) and 2 of Table B5.27 and an examination of the general condition of cargo tank foundations are to be carried out. However, these examinations may be dispensed with in accordance with the provisions specified otherwise by the Society.
2 Ventilating system for hold spaces and cargo containment system	Pressure/Vacuum valves, safety systems and alarms, and their associated flame screens for cargo tanks, interbarrier spaces, and hold spaces, as well as the means for draining the vent pipes are to be examined generally as far as accessible to confirm that they are satisfactory. It is to be confirmed that the pressure relief valves for the cargo tanks are sealed and the relevant certificate for their opening/closing pressure is provided on board.
3 Cargo handling system	The general condition of the equipment shown in (a) to (c) below is to be examined during operation, as far as is practical. ~~General examination and~~ Regarding (c), ~~performance~~operation tests ~~of emergency shut-off devices for stopping cargo transfer are~~ are also to be carried out. (a) Machinery for cargo handling including cargo heat exchangers, vaporizers, pumps and compressors. (b) Piping and its insulation for cargo handling system as far as accessible (c) ~~Automatic and manual stopping devices for cargo pumps and compressors~~ Emergency shutdown systems for stopping cargo flow (performance tests are to be carried by manually activating emergency shutdown systems and confirming that cargo pumps and compressors automatically stop as a result.)
4 Gauging, detecting, safety, and alarming devices	General examinations and performance tests of the following (a) ~~through~~to (~~f~~i) are to be carried out. Where tests under actual conditions are difficult, simulation tests or other suitable means may be used to confirm functionality. (a) Liquid level gauges, high level alarms and valves associated with shut-off system (b) Liquid level indicators and overflow control for the cargo tanks (~~b~~c) Temperature indication equipment and associated alarms (d) Pressure gauges, high pressure and, when applicable, low pressure alarms, for the cargo tanks (~~c~~e) Pressure gauges and associated alarms for cargo tanks, interbarrier spaces and hold spaces (f) Arrangements for the cargo pressure/temperature control including, when fitted, any refrigeration system and any associated alarms (~~d~~g) Fixed and portable gas detecting instruments and associated alarms (~~e~~h) Gauging devices for oxygen density (~~f~~i) Safety devices of the arrangements for the use of cargo as fuel
5 Environmental control system	General examinations of the following (a) ~~through~~to (~~c~~d) are to be carried out. (a) Gas free and purging systems~~ and gas collecting devices~~ for cargo tanks, arrangements for compensate for normal losses and atmosphere monitoring systems. (b) ~~Equipment for inerting, drying, and compensating normal gas losses; and their drying agents~~ Confirmation that the use of inert gas has not increased beyond that needed to compensate for normal losses by examining records of inert gas usage (c) Confirmation that any air-drying system and any interbarrier and hold space purging inert gas system are satisfactory (~~c~~d) Pressure control system for associated inert gas system components, means for preventing backflow of gases and monitoring system
6 Fire extinguishing arrangement	~~General condition of additional fireman's outfits for flammable cargoes, fire fighting systems for gas dangerous closed spaces and alarming devices for emergency escape is to be examined.~~ In addition to the general examinations for arrangements for fire protection and fire extinction specified in **Chapter 11, Part N,** general examinations and operation tests for the following are to be carried out: (a) Proper operation of the remote means of starting one main fire pump is to be confirmed. (b) The water spray system, the dry chemical powder fire-extinguishing system, the fixed firefighting system for the cargo pump room, the fixed installation for the hazardous area are to be examined. (c) It is to be confirmed that means of operation for arrangements specified in (b) are clearly marked. (d) Additional firefighters' outfits provided for flammable cargoes are to be examined. (e) Alarm devices for emergency escapes are to be examined.

Table B3.9 Special Requirements for Ships Carrying Liquefied Gases in Bulk (Continued)

Items	Examinations
7 Personnel protection	General examination of the equipment shown in (a) ~~through~~to (d) is to be carried out in addition to performance tests of decontamination shower and eye wash. (a) Protection equipment (b) Safety equipment (c) Stretcher and medical first-aid equipment (d) The following equipment if required by the provisions of **Part N**: i) respiratory protection for emergency escape purpose ii) decontamination showers and an eye wash iii) shelter in emergency
8 Stability Instrument	Functional tests are to be carried out on stability instruments fitted in accordance with the requirements of **2.2.3, Part N**.
9 Miscellaneous	The general condition of the equipment shown in (a) ~~through~~to (~~j~~p) is to be examined. The contents of items (k) and (l) are to be checked and confirmation that they are kept on board is to be made. Regarding the arrangements for ventilation systems of spaces in the cargo area specified in (c), operation tests are to be carried out. (a) Facilities associated with damage stability requirements such as cross flooding equipment and watertight doors, as far as accessible. Where it is difficult to carry out a general examination of cross flooding equipment, alternative examinations considered appropriate by the Society may be carried out instead. (b) Closing devices of windows, doors and other openings of the wheelhouse, superstructures, and deckhouses that are required to be gas/vapour-tight; and the arrangements for the air locks. (c) Arrangements for ~~Venting~~ ventilation systems, including their spare fans or impellers, ~~for~~ of enclosed spaces ~~and compartments~~ in the cargo area and spaces in the cargo area normally entered during cargo handling operations. (d) Fixed or portable trays or insulation that protects the deck located beneath the cargo hose connection against cargo leakage. (e) Gas-tight bulkhead penetrations including gas-tight shaft sealings, as far as accessible. (f) Heating arrangements of structural hull steel, as far as accessible. (g) ~~Type approved c~~Cargo hoses. (h) Earthing between hull structures and cargo pipes as far as accessible. (i) Bow and stern loading and unloading arrangements (in particular, the electrical equipment, firefighting arrangements and means of communication between the cargo control room and the shore location) and their related installations, emergency muster station and other equipment required for special cargoes. (j) Electrical installations in hazardous area. (k) Cargo log book, operational records and manuals related to cargo containment system and cargo handling system. (l) The *IMO Code* for gas carriers or the Rules incorporating the provisions of this *Code* (m) Cargo control room (n) Gas detection arrangements for cargo control rooms and the measures taken to exclude ignition sources where such spaces are not gas-safe (o) The bilge, ballast and oil fuel arrangements specified in **3.7, Part N** (p) The wheelhouse doors and windows, sidescuttles and windows in superstructure and deckhouse ends in the cargo area

Table B3.10 Special Requirements for Ships Carrying Dangerous Chemicals in Bulk

Items	Examinations
1 Weather deck	The general condition of the following equipment shown in (a) ~~through~~to (d) is to be examined. ~~For the equipment shown in (a), operation tests are to be carried out on each.~~ (a) Sampling arrangements for cargoes from heating and cooling lines. (b) ~~Closing devices of windows, doors and other openings of the wheelhouse, superstructures, and deckhouses that are required to be gas/vapour tight.~~ Wheelhouse doors and windows, sidescuttles and windows in superstructure and deckhouse ends facing the cargo area (c) Pump discharge pressure gauges provided outside the pump rooms. (d) Insulation of piping
2 Cargo pump room and cargo handling spaces	~~The general condition~~ General examinations of the following ~~equipment shown in~~ (a) ~~through~~to (~~e~~f) ~~is~~are to be ~~examined~~carried out. For the equipment shown in (a), operation tests are to be carried out on each. (a) Electrical and mechanical devices for remotely controlling cargo pumps and bilge system; and remote shut-off system (b) Personnel rescue arrangements in cargo pump room (c) Equipment for cargo separation (d) Ventilating system including spare fans or impellers for enclosed spaces and compartments in cargo area (e) System for flowback to land facilities of cargo liquid and its slop and vapour (f) Confirmation that potential sources of ignition in or near the cargo pump room are eliminated, such as loose gear, combustible materials, etc., that there are no signs of undue leakage and that access ladders are in a satisfactory condition
3 Environmental control system for cargo containments and surrounding spaces	~~The general condition~~ General examinations of the following ~~equipment shown in~~ (a) and (b) ~~is~~are to be ~~examined~~carried out. (a) ~~Equipment for inerting, padding, drying, and compensating normal gas losses; and their drying agents~~ Confirmation that arrangements for sufficient gas to be carried or generated to compensate for normal losses, and that the means provided for monitoring ullage spaces, are satisfactory (b) ~~Monitoring system for environmental control for the vapour spaces in cargo containments and void spaces surrounding such cargo containments~~ Confirmation that arrangements are made for sufficient medium to be carried where drying agents are used on air inlets to cargo tanks
4 Gauging, gas detecting and alarming devices	General examinations and performance tests of the following (a) ~~through~~to (d) are to be carried out. Where tests under actual conditions are difficult, simulation tests or other suitable means may be used to confirm functionality. (a) Liquid level gauges, high level alarms and valves associated with overflow control (b) Gauging devices for liquid level, temperature and pressure of cargo containment system and the associated alarming devices (c) Fixed and portable gas detecting instruments and the associate alarming devices i) It is to be confirmed that the required gas detection instruments are on board and arrangements have been made for the supply of the appropriate vapour detection tubes. (d) Gauging devices for oxygen density
5 Fire extinguishing arrangement	~~The general condition of additional fireman's outfits for flammable cargoes, fire-fighting systems for gas dangerous closed spaces and alarming devices for emergency escape is to be examined.~~ In addition to the general examinations for arrangements for fire protection and fire extinction specified in **Chapter 11, Part S,** general examinations and operation tests for the following are to be carried out. (a) The fixed firefighting system for the cargo pump room and the deck foam system for the cargo area are to be examined. (b) It is to be confirmed that means of operation for arrangements specified in (a) are clearly marked. (c) It is to be confirmed that the condition of the portable fire extinguishing equipment for the cargoes to be carried in the cargo area is satisfactory. (d) Additional firefighters' outfits provided for flammable cargoes are to be examined. (e) Alarm devices for emergency escapes are to be examined.

Table B3.10 Special Requirements for Ships Carrying Dangerous Chemicals in Bulk (Continued)

Items	Examinations
6 Personnel protection	General examination of the following equipment shown in (a) ~~through~~to (e) is to be carried out. Performance tests of decontamination shower and eye wash are to be carried out. (a) Protection equipment and its condition of stowage (b) Safety equipment (c) Stretcher and medical first-aid equipment(including oxygen resuscitation equipment and antidotes for the cargoes actually carried to be on board) (d) Decontamination showers and an eye wash (e) Where deemed necessary, respiratory protection for emergency escape purpose, eye protection and these condition of stowage
7 Stability Instrument	Functional tests are to be carried out on stability instruments fitted in accordance with the requirements of **2.2.3, Part S**.
8 Miscellaneous	The general condition of the equipment shown in (a) ~~through~~to (~~;~~m) is to be examined. Regarding (c) and (m), operation tests are also to be carried out. The contents of items (k) and (l) are to be checked and confirmation that they are kept on board is to be made. (a) Facilities associated with damage stability requirements such as cross flooding equipment and watertight doors, as far as accessible. Where it is difficult to carry out a general examination of cross flooding equipment, alternative examinations considered appropriate by the Society may be carried out instead. (b) Cargo sample storage arrangements (c) Bow and stern loading/unloading arrangements and their related installations. (Operation of the means of communication and the remote shut down for the cargo pumps are to be examined.) (d) Fixed or portable trays or insulation that protects the deck located beneath the cargo hose connection against cargo leakage. (e) Identification marks of pipe lines including pumps and valves (f) Cargo tank ventilating system and means for draining its pipes (g) ~~Type approved c~~Cargo hoses (h) Special arrangements in accordance with the special requirements for certain cargoes (i) Heating and cooling arrangement for cargoes (j) Electrical installations in gas dangerous spaces or zones. (k) Cargo log book, operational records and manuals related to cargo containment system and cargo handling system. (l) The *IMO Code* for chemical carriers or the Rules incorporating the provisions of this *Code* (m) The arrangements for the ventilation of spaces normally entered during cargo handling operations and other spaces in the cargo area

Chapter 4 INTERMEDIATE SURVEYS

4.1 General

4.1.1 Surveys Equivalent to Special Surveys*

Sub-paragraph -2 has been amended as follows.

2 Intermediate Surveys for bulk carriers, oil tankers, and ships carrying dangerous chemicals in bulk with integral tanks over 10 *years* of age and general dry cargo ships of not less than 500 *gross tonnage* over 15 *years* of age are to be carried out to the extent of the previous Special Survey. That is, the surveys specified in **4.2.2**, **4.2.4**, **4.2.5** and **4.2.6** are replaced by **5.2.2**, **5.2.4**, **5.2.5** and **5.2.6** (except **-8**) respectively; and the surveys specified in **5.2.3-2(3), (5)** and Docking Surveys (except item 7 specified in **Table B6.1**) are to be carried out. However, the following **(1)** to **(3)** do not need to be carried out:

(1) Internal examinations of fuel oil, lube oil and fresh water tanks;
(2) Examinations (both external and internal) of automatic air pipe heads installed on the exposed deck and the ventilators and closing appliances for machinery and cargo spaces; and
(3) Thickness measurements of each bottom plate within the cargo length area including lower turn of bilge for general dry cargo ships of not less than 500 *gross tonnage* over 15 *years* of age.

4.2 Intermediate Surveys for Hull, Equipment, Fire Extinction and Fittings

Paragraph 4.2.4 has been amended as follows.

4.2.4 Internal Examinations of Spaces and Tanks*

At Intermediate Surveys, internal examinations of the areas listed in **Table B4.2** and suspect areas identified in the previous survey are to be carried out. However, assessment of the coating condition of ballast tanks for oil tankers and ships carrying dangerous chemicals in bulk with integral tanks is as defined by the Society.

Paragraph 4.2.7 has been amended as follows.

4.2.7 Pressure Test

At Intermediate Surveys for oil tankers and ships carrying dangerous chemicals in bulk, a pressure test, a thickness gauging or both for piping systems ~~is~~are to be carried out when deemed necessary by the Surveyor as a consequence of the general examination required in **4.2.2**.

Table B4.2 has been amended as follows.

Table B4.2 Internal Examinations of Spaces and Tanks

Items	Examinations
Requirements for cargo ships unless specified otherwise	
1 Engine room and boiler room	・ An internal examination is to be carried out on all aspects.
2 Cargo pump rooms, other pump rooms adjacent to cargo tanks, cargo compressor rooms and cargo pipe tunnels	・ An internal examination is to be carried out after thoroughly cleaned out and gas freed. Attention is to be paid to the sealing arrangements of all penetrations of bulkheads, ventilating arrangements, foundations and gland seals of pumps and compressors.
~~2~~3 Ballast tanks	・ For ships over 5 *years* and up to 10 *years* of age, an internal examination of representative ballast tanks is to be carried out. Where poor coating condition, corrosion or other defects are found in a ballast tank or where a protective coating has not been applied from the time of construction, the examination is to be extended to other ballast tanks of the same type. ・ For ships over 10 *years* of age, an internal examination of all ballast tanks is to be carried out. ・ If such examinations reveal no visible structural defects, the examination may be limited to a verification that the corrosion prevention system remains effective. ・ For ballast tanks where a protective coating is found in poor condition, and it is not renewed or where a protective coating has not been applied, excluding double bottom tanks, an internal examination is to be carried out at annual intervals. For double bottom ballast tanks in this condition, where considered necessary by the Surveyor, an internal examination is to be carried out at annual intervals.
~~3~~4 Cargo holds	・ For cargo ships over 10 *years* of age, excluding ships solely carrying dry cargoes, an internal examination of selected cargo holds is to be carried out. ・ For ships over 15 *years* of age, an internal examination of one forward cargo hold and one after cargo hold is to be carried out.

Note:

(1) “Representative ballast tanks” means ballast tanks which include, at least, fore and aft peak tanks and two deep tanks within the cargo length area.

Table B4.2 Internal Examinations of Spaces and Tanks (Continued)

Items	Examinations
Requirements for Tankers, Ships Carrying Dangerous Chemicals in bulk with integral tanks and Ships Carrying Liquefied Gases in bulk	
1 Engine room and boiler room	・ An internal examination is to be carried out on all aspects.
2 Cargo pump rooms, other pump rooms adjacent to cargo tanks, cargo compressor rooms and cargo pipe tunnels	・ An internal examination is to be carried out after thoroughly cleaned out and gas freed. Attention is to be paid to the sealing arrangements of all penetrations of bulkheads, ventilating arrangements, foundations and gland seals of pumps and compressors.
3 Ballast tanks	For Oil Tankers and Ships Carrying Dangerous Chemicals in bulk ~~with integral tanks~~: ・ For oil tankers and ships carrying dangerous chemicals in bulk ~~with integral tanks~~ over 5 *years* of age, an internal examination of the tank(s), of which an internal examination is required as a consequence of the last Intermediate Survey or Special Survey, is to be carried out. ・ For oil tankers and ships carrying dangerous chemicals in bulk over 5 *years* and up to 10 *years* of age, an internal examination of representative ballast tanks is to be carried out. For oil tankers except Double hull oil tankers, an internal examination of all ballast tanks is to be carried out. ・ If such examinations reveal no visible structural defects, the examination may be limited to a verification that the corrosion prevention system remains effective. ・ Where a poor coating condition, corrosion or other defects are found in a ballast tank or where a protective coating has not been applied from the time of construction, the examination is to be extended to other ballast tanks of the same type. ・ As a result of internal examinations, ballast tanks with conditions shown in (a) to (c) require an internal examination to be carried out at annual intervals. (a) The protective coating is found to be in less than GOOD condition and it is not repaired to the satisfaction of the Surveyor (b) The protective coating has not been applied from the time of construction or only the soft coating has been applied (the examination is to be extended to other ballast tanks of the same type) (c) Substantial corrosion is found within the tanks For Ships Carrying Liquefied Gases in bulk: ・ For ships over 5 *years* and up to 10 *years* of age, an internal examination of representative ballast tanks is to be carried out. ・ For ships over 10 *years* of age, an internal examination of all ballast tanks is to be carried out. ・ If such examinations reveal no visible structural defects, the examination may be limited to a verification that the corrosion prevention system remains effective. ・ For ballast tanks where a protective coating is found in poor condition, and it is not renewed or where a protective coating has not been applied, excluding double bottom tanks, an internal examination is to be carried out at annual intervals. For double bottom ballast tanks with the condition as specified, where considered necessary by the Surveyor, an internal examination is to be carried out at annual intervals.
(Omitted)	

Note:

(1) “Representative ballast tanks” means ballast tanks which include, at least, fore and aft peak tanks and two (for double hull oil tankers, three) deep tanks within the cargo length area.

Table B4.4 has been amended as follows.

Table B4.4 Thickness Measurements

Items	Note
Requirements for Cargo Ships except those specified in the followings	
1 Cargo oil, fuel oil, ballast, vent pipes including vent masts and headers, inert gas pipes and all other piping in cargo pump rooms and cargo compressor rooms and on weather decks	・When deemed necessary by the Surveyor as a consequence of the examination specified in **4.2.2**, thickness measurements are to be carried out.
~~1~~2 Structural members in ballast tanks	For cargo ships over 5 *years* of age ・Where considered necessary by the Surveyor as a result of the survey specified in **Table B4.2**, thickness measurements are to be carried out at the discretion of the Surveyor, where a poor coating condition, corrosion or other defects are found in a ballast tank or where a protective coating has not been applied from the time of construction. ・Where substantial corrosion is found, additional thickness measurements are to be carried out according to the provision of **5.2.6-2**.
~~2~~3 Bow doors, inner doors, side shell doors and stern doors	・When deemed necessary by the Surveyor as a consequence of the examination specified in **4.2.2**, thickness measurements are to be carried out.
Requirements for Tankers, Ships Carrying Dangerous Chemicals in bulk with integral tanks and Ships Carrying Liquefied Gases in bulk	
1 Cargo oil, fuel oil, ballast, vent pipes including vent masts and headers, inert gas pipes and all other piping in cargo pump rooms and cargo compressor rooms and on weather decks	・When deemed necessary by the Surveyor as a consequence of the examination specified in **4.2.2**, thickness measurements are to be carried out.
2 Structural members in ballast tanks (for ships over 5 *years* of age)	・Where considered necessary by the Surveyor as a result of the survey specified in **Table B4.2**, thickness measurements are to be carried out at the discretion of the Surveyor, where a poor coating condition, corrosion or other defects are found in a ballast tank or where a protective coating has not been applied from the time of construction. ・If the results of thickness measurements indicate that substantial corrosion is found, the extent of thickness measurements is to be increased in accordance with the provision of **5.2.6-3** or **-4**.
3 Structural members in cargo tanks	・For ships over 5 *years* of age (excluding ships carrying liquefied gases in bulk), if the results of thickness measurements specified in **4.2.6** indicate that substantial corrosion is found, the extent of thickness measurements is to be increased in accordance with the provision of **5.2.6-3** or **-4**.
(Omitted)	

Chapter 5 SPECIAL SURVEYS

Title of Table B5.2 has been amended as follows.

Table B5.2 Additional Requirements of Internal Examinations for Tankers and Ships Carrying Dangerous Chemicals in Bulk with integral tanks

Title of Table B5.5-1 has been amended as follows.

Table B5.5-1 Requirements of Close-up Surveys for Oil Tankers and Ships Carrying Dangerous Chemicals in Bulk with integral tanks

Title of Table B5.10-1 has been amended as follows.

Table B5.10-1 Requirements of Thickness Measurements for Oil Tankers and Ships Carrying Dangerous Chemicals in Bulk with integral tanks

Title of Table B5.11 has been amended as follows.

Table B5.11 Requirements of Additional Thickness Measurements for Oil Tankers and Ships Carrying Dangerous Chemicals in bulk with integral tanks (Bottom Structure)

Title of Table B5.12 has been amended as follows.

Table B5.12 Requirements of Additional Thickness Measurements for Oil Tankers and Ships Carrying Dangerous Chemicals in Bulk with integral tanks (Deck Structure)

Title of Table B5.13 has been amended as follows.

Table B5.13 Requirements of Additional Thickness Measurements for Oil Tankers and Ships Carrying Dangerous Chemicals in Bulk with integral tanks (Side Shell and Longitudinal Bulkheads)

Title of Table B5.14 has been amended as follows.

Table B5.14 Requirements of Additional Thickness Measurements for Oil Tankers and Ships Carrying Dangerous Chemicals in Bulk with integral tanks (Transverse Bulkheads and Swash Bulkheads except for Wing Ballast Tanks of Double Hull Oil Tankers)

Title of Table B5.23-1 has been amended as follows.

Table B5.23-1 Requirements of Pressure Tests for Oil Tankers and Ships Carrying Dangerous Chemicals in Bulk with integral tanks

EFFECTIVE DATE AND APPLICATION (Amendment 2-1)

1. The effective date of the amendments is 29 June 2018.

2. Notwithstanding the amendments to the Rules, the current requirements apply to the surveys for which the application is submitted to the Society before the effective date.

Amendment 2-2

Chapter 1 GENERAL

1.3 Definitions

1.3.1 Terms*

Sub-paragraph (1) has been amended as follows.

The definitions of terms which appear in this Part are as specified in the following. Terms not define here are as defined in other parts of the Rules.

(1) ”Ballast tank” is a tank which is being used solely for salt water ballast. For a space which is used for both cargo and salt water ballast, the followings requirements of **(a)** and **(b)** below are applied.
   (a) The space is treated as a Ballast Tank when substantial corrosion has been found in that space.
   (b) For oil tankers and ships carrying dangerous chemicals in bulk, the tanks used for the carriage of cargo or ballast water as a routine part of the vessel’s operation are treated as Ballast Tanks. Cargo tanks in which water ballast might be carried only in exceptional cases per **MARPOL Annex I/18.3** are to be treated as cargo tanks.

((2) to (25) are omitted.)

Chapter 5 SPECIAL SURVEYS

Table B5.21 has been amended as follows.

Table B5.21 Requirements of Thickness Measurements for General Dry Cargo Ships of Not less than 500 *gross tonnage*

Special Surveys	Structural members subject to thickness measurement
(Omitted)	
Special Survey for ships over 10 *years* and up to 15 *years* of age (Special Survey No.3)	1. Suspect areas 2. Structural members within the cargo length area: (1) Each deck plating outside the line of cargo hatch openings (2) Each deck plating inside the line of cargo hatch openings within 0.5*L* amidships (3) Each plate and member in two transverse sections, one in the midship area, within 0.5*L* amidships. <u>When the selected section is a transversely framed section, adjacent frames and their end connections in way of the transverse section are to be included.</u> (4) All wind and water strakes 3. Selected wind and water strakes outside the cargo length area 4. At least the following structural members for general assessment and recording of corrosion pattern: (1) Lower and upper parts of web (thinnest parts of web in case of built-up type frame) and their end brackets of a sufficient number (at least 1/3 of total number) of frames at forward, middle, and aft parts on both sides of each cargo hold (2) Other structural members subject to close-up survey 5. Internals in fore and aft peak tank 6. All cargo hold hatch coamings (plating and stiffeners) 7. All cargo hold hatch covers (plating & stiffeners)
Special Survey for ships over 15 *years* of age (Special Survey No.4 and subsequent Special Surveys)	1. Suspect areas 2. Following portions of structural members (1) All exposed main deck plates, full length (2) Each plate and member in three transverse sections, one in the midship area, within 0.5*L* amidships. <u>When the selected section is a transversely framed section, adjacent frames and their end connections in way of the transverse section are to be included.</u> (3) Each bottom plate within cargo length area, including lower turn of bilge (4) Duct keel or pipe tunnel plating and internals within cargo length area 3. All wind and water strakes 4. At least the following structural members for general assessment and recording of corrosion pattern: (1) Structural members subject to close-up survey 5. Representative exposed superstructure deck plating (poop, bilge and forecastle deck) 6. All keel plate full length, and an appropriate number of bottom plates in way of cofferdams, machinery spaces and aft end of tanks 7. Plating of sea chests, and shell plating in way of overboard discharges (as deemed necessary by the Surveyor) 8. Structural members specified in 5. to 7. of Special Survey No.3 above

EFFECTIVE DATE AND APPLICATION (Amendment 2-2)

1. The effective date of the amendments is 29 June 2018.

2. Notwithstanding the amendments to the Rules, the current requirements apply to the surveys for which the application is submitted to the Society before the effective date.

3. Notwithstanding the provision of preceding **2.**, the amendments to the Rules may apply to the surveys for which the application is submitted to the Society before the effective date upon request of the owner.

Amendment 2-3

Chapter 2 CLASSIFICATION SURVEYS

2.1 Classification Survey during Construction

2.1.2 Submission of Plans and Documents for Approval*

Sub-paragraph -1(2) has been amended as follows.

1 When it is intended to build a ship for classification by the Society, the following plans and documents are to be submitted for the approval by the Society before the work is commenced. The plans and documents may be submitted for examination by the Society prior to making an application for the classification of the ship as stipulated otherwise by the Society.
(1) (Omitted)
(2) Machinery
((a) to (d) are omitted.)
(e) Auxiliary machinery and piping:
Plans and data specified in **13.1.2**, **14.1.2**, **16.2.2(1)** and **17.1.2**, **Part D**
((f) to (i) are omitted.)
((3) to (7) are omitted.)

2.1.3 Submission of Other Plans and Documents

Sub-paragraphs -1(7) to (13) have been renumbered to Sub-paragraphs (8) to (14), and Sub-paragraph (7) has been added as follows.

1 When it is intended to build a ship to the classification with the Society the following plans and documents are to be submitted, in addition to those required in **2.1.2**:
((1) to (6) are omitted.)
(7) The following plans and documents related to machinery:
(a) Auxiliary machinery and piping:
Plans and data specified in **16.2.2(2)**, **Part D**
(~~7~~8) (Omitted)
(~~8~~9) (Omitted)
(~~9~~10) (Omitted)
(~~10~~11) (Omitted)
(~~11~~12) (Omitted)
(~~12~~13) (Omitted)
(~~13~~14) (Omitted)

2.1.6 Documents to be Maintained On Board*

Sub-paragraph -1(2) has been amended as follows.

1 At the completion of a classification survey, the Surveyor confirms that the finished versions of the following applicable drawings, plans, manuals, lists, etc., are on board.

(1) Documents approved by the Society or their copies
（(a) to (p) are omitted.)

(2) Other documents
（(a) to (u) are omitted.)
(v) Operation and maintenance procedures for windlasses (**16.2.2(2)(e), Part D**)

(3) Finished plans specified in **2.1.7**

EFFECTIVE DATE AND APPLICATION (Amendment 2-3)

1. The effective date of the amendments is 1 July 2018.

2. Notwithstanding the amendments to the Rules, the current requirements apply to windlasses for which the application for approval is submitted to the Society before the effective date and that are installed on ships for which the date of contract for construction* is before the effective date.

* "contract for construction" is defined in the latest version of IACS Procedural Requirement (PR) No.29.

IACS PR No.29 (Rev.0, July 2009)

1. The date of "contract for construction" of a vessel is the date on which the contract to build the vessel is signed between the prospective owner and the shipbuilder. This date and the construction numbers (i.e. hull numbers) of all the vessels included in the contract are to be declared to the classification society by the party applying for the assignment of class to a newbuilding.

2. The date of "contract for construction" of a series of vessels, including specified optional vessels for which the option is ultimately exercised, is the date on which the contract to build the series is signed between the prospective owner and the shipbuilder.
For the purpose of this Procedural Requirement, vessels built under a single contract for construction are considered a "series of vessels" if they are built to the same approved plans for classification purposes. However, vessels within a series may have design alterations from the original design provided:
(1) such alterations do not affect matters related to classification, or
(2) If the alterations are subject to classification requirements, these alterations are to comply with the classification requirements in effect on the date on which the alterations are contracted between the prospective owner and the shipbuilder or, in the absence of the alteration contract, comply with the classification requirements in effect on the date on which the alterations are submitted to the Society for approval.
The optional vessels will be considered part of the same series of vessels if the option is exercised not later than 1 year after the contract to build the series was signed.

3. If a contract for construction is later amended to include additional vessels or additional options, the date of "contract for construction" for such vessels is the date on which the amendment to the contract, is signed between the prospective owner and the shipbuilder. The amendment to the contract is to be considered as a "new contract" to which **1.** and **2.** above apply.

4. If a contract for construction is amended to change the ship type, the date of "contract for construction" of this modified vessel, or vessels, is the date on which revised contract or new contract is signed between the Owner, or Owners, and the shipbuilder.

Note:
This Procedural Requirement applies from 1 July 2009.

Amendment 2-4

Chapter 2 CLASSIFICATION SURVEYS

2.1 Classification Survey during Construction

2.1.2 Submission of Plans and Documents for Approval*

Sub-paragraphs -1(3) and (5) have been amended as follows.

1 When it is intended to build a ship for classification by the Society, the following plans and documents are to be submitted for the approval by the Society before the work is commenced. The plans and documents may be submitted for examination by the Society prior to making an application for the classification of the ship as stipulated otherwise by the Society.
((1) and (2) are omitted.)
(3) Ships carrying liquefied gases in bulk
- (a) Manufacturing specifications for cargo tanks, insulations and secondary barriers (including welding procedures; inspection and testing procedures for welds and cargo tanks; properties and installation procedures of insulation materials and secondary barriers; and working standards)
- (b) Details of cargo tank construction
- (c) Arrangement of cargo tank accessories including details of fittings inside the tanks
- (d) Details of cargo tank supports, deck portions through which cargo tanks penetrate, and their sealing devices
- (e) Details of secondary barriers
- (f) Specifications and standards of materials (including insulations) used for cargo piping system in connection with design pressure and/or temperature
- (g) Specifications and standards of materials of cargo tanks, insulations, secondary barriers and cargo tank supports
- (h) Layout and details of attachment for insulations
- (i) Constructions of cargo pumps, cargo compressors and their prime movers
- (j) Piping diagrams of cargo hold, cargo gauging system, and cargo tank venting system
- (k) Constructions of main parts of refrigeration systems
- (l) Piping diagrams of refrigerant for refrigeration systems
- (m) Bilge arrangements and ventilation system in hold spaces or interbarrier spaces, cargo pump room, cargo compressor room, and cargo control room
- (n) Arrangement of sensors for gas detectors, temperature indicators, pressure gauges
- (o) Diagrams of inert gas lines and details of pressure adjusting devices, where hold spaces or interbarrier spaces are filled by inert gases
- (p) Details of pressure relief device and drainage systems for leakage of liquefied cargo in hold spaces or interbarrier spaces
- (q) Sectional assembly, details of nozzles, fitting arrangement and details of fittings for various pressure vessels
- (r) Details of valves for special purposes, cargo hoses, expansion joints, filters, etc. for cargo piping system
- (s) Piping diagram, constructions and particulars of utilization units, where cargo is used as fuel

(t) Electric wiring plans and a table of electrical equipments in hazardous area
(u) Arrangement of earth connections for cargo tank, pipe lines, machinery, equipment, etc.
(v) Plans showing hazardous area
(w) Plans showing arrangements for personnel protection (the locations, numbers, sizes, and types of protective equipment, safety equipment, stretcher and medical first-aid equipment; where deemed necessary, the locations, numbers, sizes, and types of respiratory protection for emergency escape purpose, the location of decontamination showers, an eye-wash and emergency shelters, and the type of equipment in the cargo control room)
(x) For independent tanks of Type *B*, programs of the non-destructive testing for periodical surveys
(y) For membrane and semi-membrane tanks, programs of ~~the~~ examination and testing of cargo containment systems for periodical surveys
(z) ~~An~~ ~~i~~Inspection/survey plans for ~~the~~ cargo containment systems
(aa) Plans and documents other than those in **(a)** through **(z)** required to be submitted in **Part N**

((4) is omitted.)

(5) Ships using low-flashpoint fuels
(a) Manufacturing specifications for fuel tanks, thermal insulations and secondary barriers (including welding procedures, inspection and testing procedures for welds and fuel tanks, installation procedures of thermal insulation materials and secondary barriers, and working standards)
(b) Arrangements and construction of fuel tanks
(c) System drawings and arrangements of fuel tank accessories (including details of the internal fittings)
(d) Arrangements and construction of fuel tank supports
(e) Construction of fuel tank deck portions through which fuel tanks penetrate, and their sealing arrangements
(f) Arrangements and construction of secondary barriers
(g) Specifications or standards for materials used for fuel tanks, thermal insulations, secondary barriers and fuel tank supports
(h) Layout and detailed installation of thermal insulations
(i) Manufacturing specifications for fuel piping systems (including welding procedures, testing and inspection procedures for fuel piping, installation procedures of double wall piping, ducts and thermal insulation materials and secondary barriers, and working standards)
(j) Piping diagrams (including materials, sizes, kinds, design pressures, design temperatures, etc. of pipes, valves, etc., hereinafter the same in this **(5)**) of fuel piping, fuel gauging systems and fuel vent piping
(k) Bilge systems in fuel storage hold spaces or interbarrier spaces, fuel preparation rooms, tank connection spaces and bunkering stations
(l) Specifications, piping diagrams and arrangements of gas detection systems
(m) Piping diagrams of inert gas lines and details (including information on design specifications, construction, materials, etc., hereinafter the same in this **(5)**) of pressure adjusting devices in cases where fuel storage hold spaces or interbarrier spaces may be inerted
(n) Details of pressure relief systems for fuel storage hold spaces, interbarrier spaces and tank connection spaces as well as details of drainage arrangements for leaked fuel
(o) Assembly cross section of various pressure vessels, details of nozzles, system drawings

of fittings and details of fittings

(p) Electric wiring plans for hazardous areas and tables for electrical equipment in hazardous areas

(q) Arrangements of electrical bonding for fuel tanks, piping systems, machinery, equipment, etc.

(r) Plans showing hazardous areas

(s) Arrangements of equipment installed in fuel preparation rooms, tank connection spaces, bunkering stations and bunkering control stations

(t) For independent fuel storage tanks of Type *B*, programs of non-destructive testing for periodical surveys

(u) For membrane tanks, programs of examination and testing of liquefied gas fuel containment systems for periodical surveys

(~~t~~v) Inspection/survey plans for liquefied gas fuel containment systems ~~at periodical surveys (for independent tanks of Type *B*, including programmes of non-destructive testing for periodical surveys)~~

(~~u~~w) Arrangements of access to hazardous areas, fuel preparation rooms, tank connection spaces, *ESD*-protected machinery spaces and inerted spaces and guides for said access thereto (including air locks)

(~~v~~x) Diagrams of control systems (including monitoring, safety and alarm systems) for bunkering systems, fuel tanks, fuel supply systems and fuel consumers and lists of the setting values

(~~w~~y) Plans and documents of the low-flashpoint fuel equipment and fittings specified in **1.2, Annex 1, Part GF of the Guidance**

(~~x~~z) Plans and documents for the gas-fuelled boilers specified in **1.3, Annex 2, Part GF of the Guidance**

(~~y~~aa) Plans and documents for the gas-fuelled engines specified in **1.3, Annex 3** and **1.3, Annex 4, Part GF of the Guidance**

(~~z~~ab) Arrangements and construction of ventilation systems (including materials, ventilation capacity, etc.)

(~~aa~~ac) Arrangements of ventilation inlets and exhaust outlets

(~~ab~~ad) Ventilation duct diagrams (including design pressures, materials, and arrangements and construction of fittings)

(~~ac~~ae) Details of bunkering manifold connections

(~~ad~~af) Drawings showing distance between fuel tanks and shell plating at each section

(~~ae~~ag) Arrangements, capacity calculation sheets and details of drip trays (including materials, thermal protection for the hull structure and drainage arrangements)

(~~af~~ah) Access routes and means of access to protected spaces within hold spaces

(~~ag~~ai) Arrangements of air lock doors, air lock ventilation capacity calculation sheets and details of air lock alarm systems

(~~ah~~aj) Other plans and documents required by **Part GF**

((6) and (7) are omitted.)

2.1.6 Documents to be Maintained On Board*

Sub-paragraph -1(1) has been amended as follows.

1 At the completion of a classification survey, the Surveyor confirms that the finished versions of the following applicable drawings, plans, manuals, lists, etc., are on board.

(1) Documents approved by the Society or their copies

(a) Operating and maintenance manuals for the door and inner door (**23.3.10** and **23.4.9, Part C** or **21.3.10** and **21.4.9, Part CS**)
(b) Damage control plans (**33.3.1, Part C**)
(c) Loading manuals (**Chapter 34, Part C** or **Chapter 25, Part CS**)
(d) Ship structure access manuals (**35.2.6, Part C** or **26.2.6, Part CS**)
(e) Stability information booklets (**1.2.1, Part U**, **2.2.3, Part N** and **2.2.2, Part S**)
(f) Operation manuals for the stability instrument (**2.3.2-5**) and/or ships carrying liquefied gases in bulk (**18.2, Part N**)
(g) Operation manuals for ships carrying dangerous chemicals in bulk (**16.1.1, Part S**)
(h) Cargo handling plans (**17.18.13-2** and **17.23.12-10, Part N** and **15.3.2-15** and **15.8.32, Part S**)
(i) Lists of loading/filling limits (**15.6.1, Part N** and **15.3.2-12**, **15.8.33-3** and **15.14.7-3, Part S**)
(j) For independent tanks of Type *B* for ships carrying liquefied gases in bulk, programs of the non-destructive testing for periodical surveys (**Table B5.27**)
(k) For membrane and semi-membrane tanks ~~and internal insulation tanks~~ for ships carrying liquefied gases in bulk, programs of ~~the~~ examination and testing of cargo containment systems for periodical surveys (Note (*1) to **Table B5.27**)
(l) Inspection/survey plans for cargo containment systems for ships carrying liquefied gases in bulk (**4.3.6, Part N**)
(m) For independent fuel storage tanks of Type *B* for ships using low-flashpoint fuels, programs of non-destructive testing for periodical surveys (**Table B5.29**)
(n) For membrane tanks for ships using low-flashpoint fuels, programs for examination and testing of liquefied gas fuel containment systems for periodical surveys (Note (*1) to **Table B5.29**)
(o) Inspection/survey plans for liquefied gas fuel containment systems for ships using low-flashpoint fuels (**6.4.1-8, Part GF**)
(~~l~~p) Operational procedures for ships using low-flashpoint fuels (**17.2.2-3, Part GF**)
(~~m~~q) Emergency procedures for ships using low-flashpoint fuels (**17.2.2-4, Part GF**)
(~~n~~r) Coating Technical File for dedicated seawater ballast tanks, etc. (**25.2.2**, **Part C**, **22.4.2**, **Part CS**, **1.2.2 Section 5 Chapter 3**, **Part CSR-B** and **2.1.1.2 Section 6, Part CSR-T**)
(~~o~~s) Coating Technical File and/or Corrosion Resistant Steel Technical File for cargo oil tanks (**25.2.3, Part C** and **22.4.3, Part CS**)
(~~p~~t) Plans and documents for in-water surveys (**6.1.2-3**)

((2) and (3) are omitted.)

EFFECTIVE DATE AND APPLICATION (Amendment 2-4)

1. The effective date of the amendments is 1 July 2018.
2. Notwithstanding the amendments to the Rules, the current requirements apply to the surveys for which the application is submitted to the Society before the effective date.

Amendment 2-5

Chapter 2 CLASSIFICATION SURVEY DURING CONSTRUCTION

2.1 Classification Survey during Construction

2.1.6 Documents to be Maintained On Board*

Sub-paragraph -1(2) has been amended as follows.

1 At the completion of a classification survey, the Surveyor confirms that the finished versions of the following applicable drawings, plans, manuals, lists, etc., are on board.
((1) is omitted.)
(2) Other documents
(a) Towing and mooring fitting arrangement plans (**27.2.~~4~~6, Part C** or **23.2.~~4~~6, Part CS**)
((b) to (u) are omitted.)
((3) is omitted.)

Chapter 3 ANNUAL SURVEYS

Table B 3.2 has been amended as follow.

Table B3.2 General Examination

Items	Examination
(1 to 16 are omitted.)	
17 Towing and mooring fittings	・ Confirmation that the marks of Safe Towing Load (*TOW*) on towing fittings and Safe Working Load (*SWL*) on ~~towing and~~ mooring fittings ~~of ships required to have this mark~~ as specified in **27.2.2 or 27.2.3, Part C** or **23.2.2 or 23.2.3, Part CS** are clearly visible and these fittings are in good condition.
(18 to 27 are omitted.)	

EFFECTIVE DATE AND APPLICATION (Amendment 2-5)

1. The effective date of the amendments is 1 July 2018.

2. Notwithstanding the amendments to the Rules, the current requirements apply to ships for which the date of contract for construction* is before the effective date.

* "contract for construction" is defined in the latest version of IACS Procedural Requirement (PR) No.29.

IACS PR No.29 (Rev.0, July 2009)

1. The date of "contract for construction" of a vessel is the date on which the contract to build the vessel is signed between the prospective owner and the shipbuilder. This date and the construction numbers (i.e. hull numbers) of all the vessels included in the contract are to be declared to the classification society by the party applying for the assignment of class to a newbuilding.

2. The date of "contract for construction" of a series of vessels, including specified optional vessels for which the option is ultimately exercised, is the date on which the contract to build the series is signed between the prospective owner and the shipbuilder.

For the purpose of this Procedural Requirement, vessels built under a single contract for construction are considered a "series of vessels" if they are built to the same approved plans for classification purposes. However, vessels within a series may have design alterations from the original design provided:

(1) such alterations do not affect matters related to classification, or

(2) If the alterations are subject to classification requirements, these alterations are to comply with the classification requirements in effect on the date on which the alterations are contracted between the prospective owner and the shipbuilder or, in the absence of the alteration contract, comply with the classification requirements in effect on the date on which the alterations are submitted to the Society for approval.

The optional vessels will be considered part of the same series of vessels if the option is exercised not later than 1 year after the contract to build the series was signed.

3. If a contract for construction is later amended to include additional vessels or additional options, the date of "contract for construction" for such vessels is the date on which the amendment to the contract, is signed between the prospective owner and the shipbuilder. The amendment to the contract is to be considered as a "new contract" to which **1.** and **2.** above apply.

4. If a contract for construction is amended to change the ship type, the date of "contract for construction" of this modified vessel, or vessels, is the date on which revised contract or new contract is signed between the Owner, or Owners, and the shipbuilder.

Note:
This Procedural Requirement applies from 1 July 2009.

GUIDANCE FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

GUIDANCE

Part B Class Surveys

2018 AMENDMENT NO.1

Notice No.52 29 June 2018

Resolved by Technical Committee on 31 January 2018

Notice No.52 29 June 2018
AMENDMENT TO THE GUIDANCE FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

"Guidance for the survey and construction of steel ships" has been partly amended as follows:

Part B CLASS SURVEYS

Amendment 1-1

B1 GENERAL

B1.1 Surveys

Paragraph B1.1.4 has been amended as follows.

B1.1.4 Periodical Surveys Carried Out in Advance

Where an Annual Survey or Intermediate Survey was carried out in advance in accordance with **1.1.4-1** and **-2, Part B of the Rules**, the anniversary date is to be amended to a ~~new date 3 *months*~~ date which is not to be more than three months later than ~~after~~ the date on which the Annual Survey or Intermediate Survey was completed. Subsequent Annual Surveys and Intermediate Surveys specified in **1.1.3-1(1)** and **1.1.3-1(2), Part B of the Rules** are to be carried out at the intervals using the new anniversary date. However, where the third Periodical Survey (determined using the intervals corresponding to the new anniversary date) after the previous Intermediate Survey is due before the expiry date of the Classification Certificate of the ship, the Intermediate Survey is to be carried out in lieu of the Annual Survey.

B9 PLANNED MACHINERY SURVEYS

B9.1 Planned Machinery Surveys

B9.1.2 Continuous Machinery Surveys (CMS)

Sub-paragraph -6 has been amended as follows.

6 Confirmatory Survey

In ships deemed by the Society as maintaining their machinery and equipment well, overhaul inspections according to the CMS Program specified in **-3** by the shipowner (or the ship management company) may forgo the open-up examination performed in the presence of Surveyors by conducting the following confirmatory surveys, provided that the machinery and equipment are overhauled as part of the ship's maintenance practices and the records from such overhauls are kept in good order. In this case, the due date of the next open-up examination is ~~to be within a 5-*year* period from~~ 5 *years* from the date of its last overhaul and inspection.

((1) and (2) are omitted.)

(3) Timing of the confirmatory survey

A confirmatory survey is to be carried out ~~by~~ no later than the completion date of the first periodical survey (excluding those specified in **(4)** to **(6)** of **1.1.3-1, Part B of the Rules**, hereinafter the same in this **(3)**) on or after the day the item of machinery and equipment intended for the confirmatory survey was overhauled and inspected. Notwithstanding the above, if the shipowner (or the ship management company) applies for a survey, it may be allowed to carry out a confirmatory survey no later than the completion date of the second periodical survey on or after the day the item of machinery and equipment intended for the confirmatory survey was overhauled and inspected, but on or before the due date of the open-up examination.

B11 SURVEYS OF SUBMERSIBLES

B11.1 General

B11.1.2 General Requirements on Surveys

Sub-paragraph -1 has been amended as follows.

1 Where an Intermediate Survey was carried out in advance in accordance with **11.1.2-4, Part B of the Rules**, the anniversary date is to be amended to a ~~new date 3 *months* after~~ date which is not to be more than 3 *months* later than the date on which the Intermediate Survey was completed. Subsequent Intermediate Surveys specified in **11.1.2-2(1)(a), Part B of the Rules** are to be carried out at intervals using the new anniversary date.

EFFECTIVE DATE AND APPLICATION (Amendment 1-1)

1. The effective date of the amendments is 29 June 2018.

Amendment 1-2

B3 ANNUAL SURVEYS

B3.2 Annual Surveys for Hull, Equipment, Fire Extinction and Fittings

B3.2.2 General Examination

Sub-paragraphs -3 to -6 have been amended as follows.

3 The examination stipulated in items 14 and 15 of **Table B3.2, Part B of the Rules** ~~includes checking whether movable fire extinguishers and portable fire extinguishers remain effective and whether air bottles of self-contained breathing apparatus are charged and~~ is to be carried out in accordance with following **(1)** to **(14)**:

(1) Fire pumps, fire main, hydrants, hoses and nozzles and the international shore connection are to be examined.

(2) Provision of the portable and non-portable fire extinguishers is to be checked, and the condition of these is to be randomly examined.

(3) For the firefighters' outfits, examinations for the following **(a)** to **(c)** are to be carried out.

(a) It is to be confirmed that firefighters' outfits including its self-contained compressed air breathing apparatus are complete and in good condition.

(b) It is to be confirmed that the cylinders, including the spare cylinders, of any required self-contained breathing apparatus are suitably charged, and that on board means of recharging breathing apparatus cylinders used during drills or a suitable number of spare cylinders to replace those used are provided.

(c) Provision of two-way portable radiotelephone apparatus of an explosion-proof type or intrinsically safe specified in **10.10.4, Part R of the Rules** is to be confirmed.

(4) Operational readiness and maintenance of firefighting systems are to be checked.

(5) The fixed firefighting system for the machinery, cargo, vehicle, special category and ro-ro spaces is to be examined, and it is to be confirmed that its means of operation is clearly marked.

(6) The fire-extinguishing and special arrangements in the machinery spaces (such as skylights, funnel, ventilation openings, power operated and other doors, stopping devices for ventilators, boiler forced and induced draft fans and the oil fuel pumps and other pumps that discharge flammable liquids) are to be examined.

(7) It is to be confirmed that that fixed carbon dioxide fire-extinguishing systems for the protection of machinery spaces and cargo pump-rooms, where applicable, are provided with two separate controls, one for opening of the gas piping and one for discharging the gas from the storage container, each of them located in a release box clearly identified for the particular space.

(8) Any fire detection and alarm system (including manually operated call points) and any sample extraction smoke detection system are to be examined, as far as possible.

(9) The fire-extinguishing systems for spaces containing paint and/or flammable liquids and deep-fat cooking equipment in accommodation and service spaces are to be examined.

(10) General emergency alarm system is to be examined.

(11) The fire protection arrangements (such as closing appliance, ventilation system, portable fire extinguisher) in cargo, vehicle and ro-ro spaces are to be examined.

(12) Any manual and automatic fire doors are to be examined, as far as practicable.
(13) It is to be confirmed that the means of escape from accommodation, machinery and other spaces are satisfactory.
(14) ~~o~~Overhaul inspections of the self priming pump and associated equipment, etc. of emergency fire pumps are conducted at least once every five years, and are to be confirmed to be maintained in good working order.

4 With regard to item ~~21~~20 of **Table B3.2, Part B of the Rules**, the general examinations for the means of embarkation and disembarkation installed on ships not less than 500 *gross tonnage* engaged on international voyages are to be carried out in accordance with **(1)** to **(5)** below.
((1) to (5) are omitted.)

5 The general examination of "bow doors, inner doors, side shell doors and stern doors (hereinafter collectively referred to as "door(s)")" stipulated in item ~~22~~21 of **Table B3.2, Part B of the Rules** is to confirm that the items specified **(1)** to **(7)** below are in good condition. Non-destructive testing may be required when deemed necessary by the Surveyor as a consequence of the examination specified in **Table 3.2, Part B of the Rules**.
((1) to (7) are omitted.)

6 "Hearing protectors" in item ~~23~~22, **Table B3.2 in 3.2.1, Part B of the Rules** refers to the hearing protectors in **6.1** and **6.2**, **Annex B2.3.1-1(11) "PROCEDURES FOR ON BOARD NOISE MEASUREMENTS"**.

B3.2.3 Performance Tests

Sub-paragraph -2 has been amended as follows.

2 ~~Appliances stipulated in item 3 of **Table B3.3, Part B of the Rules** refer to those specified in **5.2.2**, **8.3.1-3** and **9.5.2-3, Part R of the Rules**.~~ With regard to item 3 of **Table B3.3, Part B of the Rules**, operation tests for the following **(1)** to **(5)** are to be carried out as far as practicable:
(1) Various systems specified in **5.2.2**, **8.3.1-3** and **9.5.2-3, Part R of the Rules**
(2) The means of control provided for closing the various openings in cargo, vehicle and ro-ro spaces
(3) Any manual and automatic fire doors
(4) The means of closing the main inlets and outlets of all ventilation systems
(5) The means of stopping power ventilation systems from outside the space served

B3.3 Annual Surveys for Machinery

B3.3.1 General Examinations

Sub-paragraphs -4 to -8 have been added as follows.

4 In applying **3.3.1-1, Part B of the Rules**, the operation of the ventilation for the machinery spaces is to be confirmed.
5 In applying **3.3.1-1(1), Part B of the Rules**, the following to **(1)** to **(9)** are also to be applied.
(1) It is to be confirmed that the normal operation of the propulsion machinery can be sustained or restored even though one of the essential auxiliaries becomes inoperative.
(2) The means for the operation of the main and auxiliary machinery essential for the propulsion and the safety of the ship are to be examined.
(3) The arrangements to operate the main and other machinery from a machinery control room are to be examined.

(4) It is to be confirmed that the machinery, boilers and other pressure vessels, associated piping systems and fittings are installed and protected so as to reduce to a minimum any danger to persons on board, due regard being given to moving parts, hot surfaces and other hazards.
(5) It is to be confirmed that means are provided so that the machinery can be brought into operation from the dead ship condition without external aid.
(6) The electrical installations, including the main source of power and the lighting systems are, as far as practicable, to be examined visually and in operation.
(7) It is to be examined that the precautions provided against shock, fire and other hazards of electrical origin are being maintained.
(8) The condition of any expansion joints in seawater systems are to be visually examined.
(9) Arrangements for remote closing of valves for fuel oil tanks, lubricating oil tanks and other flammable oil tanks are to be examined.

6 In applying **3.3.1-1(2), Part B of the Rules**, a general examination of the machinery, the boilers, all steam, hydraulic, pneumatic and other systems and their associated fittings is to be carried out to see whether they are being properly maintained and with particular attention to the fire and explosion hazards.

7 In applying **3.3.1-1, Part B of the Rules** referred to in **-2** of the said requirement, the following to **(1)** to **(4)** are also to be applied.
(1) It is to be confirmed that the requisite arrangements to regain steering capability in the event of the single failure referred to in **15.6.1-2(1), Part D of the Rules** are being maintained.
(2) The cargo, crude oil washing, ballast and stripping systems both on deck and in the cargo pump rooms and the bunker system on deck are to be examined.
(3) On tankers and chemical tankers, temperature sensing devices for bulkhead glands and alarms are to be checked.
(4) The emergency lighting in all cargo pump rooms of tankers constructed on or after 1 July 2002 is to be examined.

8 In applying **3.3.1-2(2), Part B of the Rules**, the following to **(1)** to **(4)** are also to be applied.
(1) It is to be confirmed that all electrical equipment in dangerous zones is suitable for such locations, is in good condition and is being properly maintained.
(2) It is to be confirmed that potential sources of ignition in or near the cargo pump room are eliminated, such as loose gear, combustible materials, etc., that there are no signs of undue leakage and that access ladders are in good condition.
(3) The cargo, bilge, ballast and stripping pumps are to be examined for undue gland seal leakage, as far as practicable.
(4) It is to be confirmed that the pump room ducting is intact and screens are clean.

Paragraph B3.3.2 has been amended as follows.

B3.3.2 Performance Tests

1 In applying **3.3.2-1, Part B of the Rules**, **2.3.2-2** of **Rules for Automatic and Remote** is also to be applied for surveys of periodically unattended machinery spaces.

2 In applying item 3 of **Table B3.7, Part B of the Rules**, the operation of the emergency source(s) of electrical power including their starting arrangements, the systems supplied and, when appropriate, their automatic operation are also to be confirmed as far as practicable.

3 In applying item 4 of **Table B3.7, Part B of the Rules**, the following **(1)** and **(2)** are also to be applied.
(1) It is to be confirmed that the means of communication between the navigation bridge and steering gear compartment and the means of indicating the angular position of the rudder are operating satisfactorily.
(2) It is to be confirmed that the engine room telegraph, the second means of communication

between the navigation bridge and the machinery space and the means of communication with any other positions from which the engines are controlled are operating satisfactorily

4 In applying item 5 of **Table B3.7, Part B of the Rules**, the following **(1)** to **(4)** are to be applied.

(1) In addition to carrying out the following **(a)** to **(e)** performance tests for main and auxiliary steering arrangements, including their associated equipment and control systems, the said arrangements are to be examined.

(a) Operation tests for the power units including changeover from one to another;

(b) Operation tests for automatic and remote isolation of the power actuating systems specified in **15.6, Part D of the Rules**;

(c) Tests for supply of the alternative source of power specified in **15.2, Part D of the Rules**;

(d) Operation tests for the control system including the changeover system; and

(e) Operation tests for the alarm devices, rudder angle indicators and running indicators of power units specified in **Part D of the Rules**.

(2) It is to be confirmed that with ships having emergency steering positions there are means of relaying heading information and, when appropriate, of supplying visual compass readings to the emergency steering position.

(3) It is to be confirmed that the various alarms required for hydraulic power-operated, electric and electro-hydraulic steering gears are operating satisfactorily.

(4) It is to be confirmed that the re-charging arrangements for hydraulic power-operated steering gears are being maintained.

~~**1**~~**5** Performance tests of the equipment stipulated in items 7(a) and (b) of **Table B3.7, Part B of the Rules** may be dispensed with provided the Surveyor is satisfied with the results of the general examination of that equipment.

6 In applying item 1 of **Table B3.8, Part B of the Rules**, the following **(1)** to **(3)** are also to be applied.

(1) Proper operation of electrical and mechanical remote operating and shutdown devices and operation of cargo pump room bilge system are to be verified.

(2) It is to be confirmed that the pump room ventilation system is operational and dampers are operational.

(3) Interlock between lighting and ventilation is to be checked.

~~**2** In applying item 6 of **Table B3.8, Part B of the Rules** to tankers, a general examination is to confirm that portable instruments for measuring oxygen and portable instruments for measuring flammable vapour concentrations together with a sufficient set of spares specified in **4.5.7(1), Part R of the Rules** are in good condition.~~

~~**3** In applying item 6 of **Table B3.8, Part B of the Rules** to tankers, a general examination is to confirm that the arrangements for gas measurements in double hull spaces and double bottom spaces, including the fitting of permanent gas sampling lines, where appropriate, specified in **4.5.7(2), Part R of the Rules** are in good condition.~~

~~**4** In applying item 6 of **Table B3.8, Part B of the Rules** to tankers, a general examination as well as testing are to confirm that the fixed hydrocarbon gas detection systems specified in **4.5.7(3), Part R of the Rules** are in good condition.~~

Section B3.4 has been amended as follows.

B3.4 Special Requirements for Ships Carrying Liquefied Gases in Bulk

B3.4.1 General

In applying **3.4.1, Part B of the Rules**, the cargo, bunker, ballast and vent piping systems, including vent masts and protective screens, is to be examined as far as practicable.

B3.4.2 Examinations

1 The Examinations stipulated in item 1 of **Table B3.9, Part B of the Rules** to be carried out at the first Annual Survey after construction for ships carrying liquefied gases in bulk, may be dispensed with provided the ship complies with the provisions specified in **(1)** ~~through~~to **(3)** below:

(1) The cargo containment system has enough records of good performance
However, where the system has sustained substantial damage (e.g. fracturing or deformation in tanks) or is the first of its type made by the manufacturer, the examination cannot to be omitted.

(2) The records specified in **(a)** ~~through~~to **(c)** are available on board
(a) Records of gas detection and temperature measurement in hold spaces
(b) Running record of reliquefication plants
(c) Records of cargo tank pressure

(3) It is possible to confirm the cargo containment system has not malfunctioned from checking the records specified in **(2)** above and interviewing the master

2 In application of items 1 and 9(h) of **Table B3.9, Part B of the Rules**, cargo tanks and cargo piping that are not earthed to the hull structure by bonding straps are to be tested at each place to confirm that the resistance is not greater than 1 *MΩ*.

3 In applying item 3(b) of **Table B3.9,** the cargo and process piping, including the expansion arrangements, insulation from the hull structure, pressure relief and drainage arrangements are also to be examined.

4 In applying item 4 of **Table B3.9,** the examination of high level alarms on ships at beginning stage of construction on or after 1 July 2017 is to include the functional test as specified in **13.3.6, Part N of the Rules**.

~~3~~**5** ~~In application of~~ In applying item 5 of **Table B3.9, Part B of the Rules**, for membrane containment systems, proper operation of the nitrogen control system for insulation and interbarrier spaces is to be confirmed to the Surveyor by the Master.

~~5~~**6** With respect to the functional tests specified in item 8 of **Table B3.9, Part B of the Rules**, reference is to be made to the requirements related to annual surveys specified in Chapter 4, Part B of *IMO resolution MSC*.267(85) "*International Code on Intact Stability, 2008* (*2008 IS Code*)".

~~4~~**7** "Alternative examinations considered appropriate by the Society" stipulated in item 9 of **Table B3.9, Part B of the Rules** refers to performance tests of cross flooding equipment to confirm whether the equipment is in good working order.

8 In applying item 9(c) of **Table B3.9, Part B of the Rules**, examination of the arrangements for the mechanical ventilation of spaces in the cargo area normally entered during cargo handling operations need only be carried out as far as practicable.

9 In applying item 9(g) of **Table B3.9, Part B of the Rules**, it is to be confirmed that any liquid and vapour hoses are suitable for their intended purpose and, where appropriate, type-approved or marked with date of testing.

10 In applying item 9(j) of **Table B3.9, Part B of the Rules**, it is to be confirmed that electrical equipment in gas-dangerous spaces and zones is in a satisfactory condition and is being properly maintained.

Section B3.5 has been amended as follows.

B3.5 Special Requirements for Ships Carrying Dangerous Chemicals in Bulk

B3.5.1 General

In applying **3.5.1, Part B of the Rules**, the following **(1)** to **(3)** are also to be applied.

(1) The cargo transfer arrangements are to be examined.

(2) The cargo tank vent system, including the pressure/vacuum valves and secondary means to prevent over- or under-pressure and devices to prevent the passage of flame is to be examined as far as practicable.

(3) The gauging devices, high-level alarms and valves associated with overflow control are to be examined.

B3.5.2 Examinations

~~2~~**1** With respect to the functional tests specified in item 7 of **Table B3.10, Part B of the Rules**, reference is to be made to the requirements related to annual surveys specified in Chapter 4, Part B of *IMO resolution MSC*.267(85) "*International Code on Intact Stability, 2008* (*2008 IS Code*)".

~~1~~**2** "Alternative examinations considered appropriate by the Society" stipulated in item 8 of **Table B3.10, Part B of the Rules** refers to performance tests of cross flooding equipment to confirm whether the equipment is in good working order.

3 In applying item 8(g) of **Table B3.10, Part B of the Rules**, it is to be confirmed that any hoses are suitable for their intended purpose and, where appropriate, type-approved or marked with date of testing.

4 In applying item 8(i) of **Table B3.10, Part B of the Rules**, when applicable, the cargo heating or cooling systems, including any sampling arrangements, are also to be applied in addition to confirming that the means for measuring the temperature and associated alarms are operating satisfactorily.

5 In applying item 8(j) of **Table B3.10, Part B of the Rules**, the following **(1)** and **(2)** are also to be applied.

(1) It is to be confirmed that all electrical equipment in dangerous zones is suitable for such locations, is in satisfactory condition and has been properly maintained.

(2) It is to be confirmed, as far as practicable, that the intrinsically safe systems and circuits used for measurement, monitoring, control and communication purposes in all hazardous locations are being properly maintained.

6 In applying item 8(m) of **Table B3.10, Part B of the Rules**, general examination of the arrangements for the ventilation of spaces normally entered during cargo handling operations and other spaces in the cargo area need only be carried out as far as practicable.

B4 INTERMEDIATE SURVEYS

B4.2 Intermediate Surveys for Hull, Equipment, Fire Extinction and Fittings

Paragraph B4.2.7 has been added as follows.

B4.2.7 Pressure Test

In applying **4.2.7, Part B of the Rules,** particular attention is to be paid to repairs.

B4.3 Intermediate Surveys for Machinery

Paragraph B4.3.1 has been amended as follows.

B4.3.1 General Examinations

1 Where controlled atmosphere systems are installed onboard, the general examination of safety devices for refrigerating machinery specified in item 1 of **Table B4.5, Part B of the Rules** is to be conducted on the gas freeing equipment, and control, alarm and monitoring equipment of the controlled atmosphere systems.

~~**3**~~**2** When implementing the requirements in the first line of "Requirements for Tankers" in **Table B4.5, Part B of the Rules**, and electrical bonding straps are not provided for the earthing between the cargo oil tanks / cargo piping systems (cargo oil pipes, vent pipes, tank washing pipelines, etc.) and hull structures, resistance tests are to be carried out to confirm that the resistance at each place is not greater than 1 *MΩ*.

~~**2**~~**3** The wording "hazardous areas" in item 2 of Requirements for Tankers in **Table B4.5, Part B of the Rules** refers to the hazardous areas specified in **4.2.3-1, -4** and **-5, Part H of the Rules**.

B4.4 Special Requirements for Ships Carrying Liquefied Gases in Bulk

B4.4.2 Examinations

Sub-paragraph -2 has been amended as follows.

1 In the examination of non-metallic membranes required for item 2 of **Table B4.6, Part B of the Rules**, the following are to be confirmed.

(1) Cracks and deterioration are not found by visual examination

(2) Membranes are renewed at intervals not exceeding 3 *years*
Where the membranes are those approved for usage exceeding 3 *years* in accordance with **6.4.1-3, Annex 1, Part N of "GUIDANCE FOR EQUIPMENT AND FITTINGS OF SHIPS CARRYING LIQUEFIED GASES IN BULK"**, these are renewed at the approved intervals.

(3) Pressure relief valves are adjusted and function tested.

2 The wording "hazardous areas" in item 3 of **Table B4.6, Part B of the Rules** refers to the hazardous areas specified in **4.2.3-3, -4** and **-5, Part H of the Rules**. In applying this item, it is to be checked for defective equipment, fixtures and wiring is to be checked.

3 In the examination required for item 4 of **Table B4.6, Part B of the Rules**, where bonding straps are not provided as earthing between the hull structures and the cargo tanks / cargo piping, resistance tests are to be carried out to confirm that the resistance at each place is not greater than 1

MΩ.

B4.5 Special Requirements for Ships Carrying Dangerous Chemicals in Bulk

B4.5.2 Examinations

Sub-paragraph -1 has been amended as follows.

1 The wording “hazardous areas” in item 1 of **Table B4.7, Part B of the Rules** refers to the hazardous areas specified in **4.2.3-2, -4** and **-5, Part H of the Rules**. In applying this item, it is to be checked for defective equipment, fixtures and wiring.
2 In the examination required for item 2 in **Table B4.7, Part B of the Rules**, where bonding straps are not provided as earthing between the hull structures and the cargo tanks / cargo piping, resistance tests are to be carried out to confirm that the resistance at each place is not greater than 1 *MΩ*.

B5 SPECIAL SURVEYS

B5.2 Special Surveys for Hull, Equipment, Fire Extinction and Fittings

B5.2.6 Thickness Measurements

Sub-paragraph -8 has been added as follows.

8 Thickness measurement locations are to be selected to provide the best representative sampling of areas likely to be most exposed to corrosion, considering cargo and ballast history and arrangement and condition of protective coatings.

EFFECTIVE DATE AND APPLICATION (Amendment 1-2)

1. The effective date of the amendments is 29 June 2018.
2. Notwithstanding the amendments to the Guidance, the current requirements apply to the surveys for which the application is submitted to the Society before the effective date.

Amendment 1-3

B1 GENERAL

B1.1 Surveys

B1.1.3 Intervals of Class Maintenance Surveys

Sub-paragraphs -9(23) and (24) have been added as follows.

9 The Occasional Surveys specified in **1.1.3-3(5), Part B of the Rules** are as specified below:
((1) to (22) are omitted.)

(23) Inspection/survey plans for cargo containment systems for ships carrying liquefied gases in bulk (including programs of non-destructive testing for periodical surveys for independent tanks of Type *B* and programs of examination and testing of cargo containment systems for periodical surveys for membrane and semi-membrane tanks)
For ships carrying liquefied gases in bulk which are at the beginning stage of construction on or after 1 July 2016, a survey is to be carried out to verify that the inspection/survey plans for cargo containment systems specified in **4.3.6, Part N of the Rules** are provided on board by the first survey on or after 1 July 2018.

(24) Inspection/survey plans for liquefied gas fuel containment systems for ships using low-flashpoint fuels (including programs of non-destructive testing for periodical surveys for independent fuel storage tanks of Type *B* and programs of examination and testing of liquefied gas fuel containment systems for periodical surveys for membrane tanks)
For ships which fall under the following, a survey is to be carried out to verify that the inspection/survey plans for liquefied gas fuel containment systems specified in **6.4.1-8, Part GF of the Rules** are provided on board by the first survey on or after 1 July 2018.
  (a) Ships using low-flashpoint fuels for which the building contract is placed on or after 1 January 2017; or
  (b) In the absence of a building contract, ships using low-flashpoint fuels which are at the beginning stage of construction on or after 1 July 2017; or
  (c) Ships using low-flashpoint fuels for which delivery is on or after 1 January 2021; or
  (d) Ships using low-flashpoint fuels which convert to using low-flashpoint fuels on or after 1 January 2017; or
  (e) Ships using low-flashpoint fuels which, on or after 1 January 2017, undertake to use low-flashpoint fuels different from those which it was originally approved to use before 1 January 2017.

B2 CLASSIFICATION SURVEYS

B2.5 Alterations

B2.5.1 Examination of Altered Parts

Sub-paragraph -6 has been added as follows.

6 In applying **2.5.1, Part B of the Rules**, the astern response characteristics of ships considered by the Society to have undergone significant repairs which impact the response characteristics of their propulsion systems are to be verified after such repairs are carried out by correspondingly applying the requirements for the astern tests carried out at Classification Surveys during Construction (See **2.3.1, Part B of the Rules** and **B2.1.4**). The tests are to demonstrate the satisfactory operation of the equipment or system under realistic service conditions at least over the manoeuvring range of the propulsion plant, for both ahead and astern directions. Depending on the actual extent of the repair, the Society may accept a reduction of the test plan.

EFFECTIVE DATE AND APPLICATION (Amendment 1-3)

1. The effective date of the amendments is 1 July 2018.

Amendment 1-4

B2 CLASSIFICATION SURVEYS

B2.1 Classification Survey during Construction

B2.1.4 Presence of Surveyor

Sub-paragraph -7 has been added as follows.

7 In applying **2.1.4-5, Part B of the Rules**, the test plan related to the astern test specified in **B2.3.1-2** is to be provided by the yard. If specific operational characteristics have been defined by the manufacturer, these are to be included in the test plan.

B2.3 Sea Trials and Stability Experiments

Paragraph B2.3.1 has been amended as follows.

B2.3.1 Sea Trials

(-1 is omitted.)

2 The Astern test required by **2.3.1-1(2), Part B of the Rules** is to be carried out in accordance with the following **(1)** and **(2)** ~~below~~.

(1) The Astern test is to be carried out in accordance with (a) and (b) below and the items regarding stopping ability specified in **1.4.3, Annex B2.3.1** "GUIDANCE FOR THE TEST OF SHIP MANOEUVRABILITY" are to be measured. ~~However, the measurements of the items regarding stopping ability may be dispensed with, provided that sufficient data is available from an astern test of a sister ship and subject to the special approval by the Society.~~

(a) While the ship is running ahead at maximum speed, an order for full astern is issued and the reversing operation from ahead run to full astern run is carried out as quickly as possible.

(b) For ships that are unable to perform the test at maximum speed, the ship is to run ahead at not less than the speed specified in **1.1.2-9, Annex B2.3.1** "GUIDANCE FOR THE TEST OF SHIP MANOEUVRABILITY". While the ship is at this speed, an order for full astern is issued and the reversing operation from ahead run to full astern run is carried out as quickly as possible.

In applying this provision, the tests are to be carried out from all control positions where there are multiple control positions for the reversing operation to astern run.

(2) It is to be confirmed that the machinery is functioning normally while the ship is running astern. The main engine is to be kept at a rate of more than 70% of the maximum continuous revolutions. The ship is to be kept running astern for the periods specified in **(a)** and **(b)** below corresponding to the type of engine and the performance is to be confirmed in accordance with **1.3.2, Part D of the Rules**.

(a) For ships with ~~a diesel engine,~~ main engines other than steam turbines
~~u~~Until the astern speed (rotational speed in rpm) stabilizes.

(b) For ships with ~~a~~ steam turbines~~, gas turbine or electric propulsion plants,~~
~~a~~A period of at least 15 *minutes*; the astern trial, however, is to be limited to 30 *minutes* or in accordance with manufacturer's recommendation to avoid overheating of the

turbine due to the effects of “windage” and friction.

(-3 to -12 are omitted.)

13 “Tests where deemed necessary by the Society” in **2.3.1-1(13), Part B of the Rules**, refers to the tests and examinations mentioned in the following **(1)** to **(7)**.

(1) For ships having multiple propellers or multiple main engines, sea trials are to be carried out under the assumption that one propeller or engine is inoperable due to failure to confirm that the ship can be manoeuvred properly in that condition.

((2) is omitted.)

(3) When the ship is provided with supplementary means for manoeuvring or stopping, performance tests of such means are to be carried out.

((4) to (7) are omitted.)

(-14 and -15 are omitted.)

EFFECTIVE DATE AND APPLICATION (Amendment 1-4)

1. The effective date of the amendments is 1 July 2018.

2. Notwithstanding the amendments to the Guidance, the current requirements apply to ships for which the date of contract for construction* is or for which the application for examinations of altered parts is dated before the effective date.

* “contract for construction” is defined in the latest version of IACS Procedural Requirement (PR) No.29.

IACS PR No.29 (Rev.0, July 2009)

1. The date of “contract for construction” of a vessel is the date on which the contract to build the vessel is signed between the prospective owner and the shipbuilder. This date and the construction numbers (i.e. hull numbers) of all the vessels included in the contract are to be declared to the classification society by the party applying for the assignment of class to a newbuilding.

2. The date of “contract for construction” of a series of vessels, including specified optional vessels for which the option is ultimately exercised, is the date on which the contract to build the series is signed between the prospective owner and the shipbuilder.

For the purpose of this Procedural Requirement, vessels built under a single contract for construction are considered a “series of vessels” if they are built to the same approved plans for classification purposes. However, vessels within a series may have design alterations from the original design provided:

(1) such alterations do not affect matters related to classification, or

(2) If the alterations are subject to classification requirements, these alterations are to comply with the classification requirements in effect on the date on which the alterations are contracted between the prospective owner and the shipbuilder or, in the absence of the alteration contract, comply with the classification requirements in effect on the date on which the alterations are submitted to the Society for approval.

The optional vessels will be considered part of the same series of vessels if the option is exercised not later than 1 year after the contract to build the series was signed.

3. If a contract for construction is later amended to include additional vessels or additional options, the date of “contract for construction” for such vessels is the date on which the amendment to the contract, is signed between the prospective owner and the shipbuilder. The amendment to the contract is to be considered as a “new contract” to which **1.** and **2.** above apply.

4. If a contract for construction is amended to change the ship type, the date of “contract for construction” of this modified vessel, or vessels, is the date on which revised contract or new contract is signed between the Owner, or Owners, and the shipbuilder.

Note:
This Procedural Requirement applies from 1 July 2009.

Amendment 1-5

B2 CLASSIFICATION SURVEYS

B2.1 Classification Survey during Construction

B2.1.6 Documents to be Maintained On Board

Sub-paragraph -6 has been added as follows.

6 The "inspection/survey plans for cargo containment systems for ships carrying liquefied gases in bulk" in **2.1.6-1(1)(l), Part B of the Rules** are to be confirmed for ships carrying liquefied gases in bulk which are at the beginning stage of construction on or after 1 July 2016.

EFFECTIVE DATE AND APPLICATION (Amendment 1-5)

1. The effective date of the amendments is 1 July 2018.
2. Notwithstanding the amendments to the Guidance, the current requirements apply to the surveys for which the application is submitted to the Society before the effective date.

Amendment 1-6

B2 CLASSIFICATION SURVEYS

B2.3 Sea Trials and Stability Experiments

B2.3.1 Sea Trials

Sub-paragraph -6 has been amended as follows.

6 ~~Function tests of windlasses required by **2.3.1-1(6), Part B of the Rules** are to be carried out in accordance with **(1)** and **(2)** below, and confirmation~~ With respect to **2.3.1-1(6), Part B of the Rules**, each windlass is to be tested in accordance with the following **(1)** to **(3)** under working conditions after installation on board in order to demonstrate satisfactory operation and confirm that their construction and associated equipment are in good condition ~~is to be made~~.

(1) Operation test

Each unit is to be independently tested for **(a)** to **(h)** below:

(a) Braking
(b) Clutch functioning
(c) Lowering and hoisting of the chain cable and the anchor
(d) Proper riding of the chain cable over the cable lifter
(e) Proper transit of the chain cable through the hawse pipe and the chain pipe
(f) Effecting proper stowage of the chain cable and the anchor
(g) Proper seating of the anchors in the stored position
(h) Proper function of the chain cable stoppers if fitted

(~~1~~2) ~~Loading Test~~ Load test

~~With 82.5 *m* of anchor chain (3 lengths)~~ Initially with 3 shots of chain cable (82.5 *m* or 45 *fathoms* in length) and the anchor submerged and ~~freely suspended at commencement of lifting~~ hanging free, the test is to be carried out in accordance with the manner specified in **(a)** to **(c)** below. For **(a)** and **(b)**, it is to be measured and verified that the mean hoisting speed is ~~the windlasses are to average a nominal speed of~~ not less than 0.15 *m/s*. Where it is difficult to have 3 shots ~~lengths~~ of chain cable kept submerged due to the ship's locale, an alternative test approved by the Society may be employed.

(a) Hoisting up 2 shots ~~lengths~~ of chain cable on one side
(b) Hoisting up 2 shots ~~lengths~~ of chain cable on the other side of **(a)**
(c) Hoisting up one shot ~~length~~ of chain cable together on both sides

(~~2~~3) ~~Cable Lifter Braking Tests~~ Cable lifter brake capacity test

~~The pay-out and holding ability of the cable lifter brake is to be confirmed by dropping the anchor and applying the brake~~ The braking capacity is to be tested by intermittently paying out and holding the chain cable by means of the application of the brake at every 1/2 shot ~~length~~ of chain cable.

EFFECTIVE DATE AND APPLICATION (Amendment 1-6)

1. The effective date of the amendments is 1 July 2018.

2. Notwithstanding the amendments to the Guidance, the current requirements apply to windlasses for which the application for approval is submitted to the Society before the effective date and that are installed on ships for which the date of contract for construction* is before the effective date.

* "contract for construction" is defined in the latest version of IACS Procedural Requirement (PR) No.29.

IACS PR No.29 (Rev.0, July 2009)

1. The date of "contract for construction" of a vessel is the date on which the contract to build the vessel is signed between the prospective owner and the shipbuilder. This date and the construction numbers (i.e. hull numbers) of all the vessels included in the contract are to be declared to the classification society by the party applying for the assignment of class to a newbuilding.

2. The date of "contract for construction" of a series of vessels, including specified optional vessels for which the option is ultimately exercised, is the date on which the contract to build the series is signed between the prospective owner and the shipbuilder.

For the purpose of this Procedural Requirement, vessels built under a single contract for construction are considered a "series of vessels" if they are built to the same approved plans for classification purposes. However, vessels within a series may have design alterations from the original design provided:

(1) such alterations do not affect matters related to classification, or

(2) If the alterations are subject to classification requirements, these alterations are to comply with the classification requirements in effect on the date on which the alterations are contracted between the prospective owner and the shipbuilder or, in the absence of the alteration contract, comply with the classification requirements in effect on the date on which the alterations are submitted to the Society for approval.

The optional vessels will be considered part of the same series of vessels if the option is exercised not later than 1 year after the contract to build the series was signed.

3. If a contract for construction is later amended to include additional vessels or additional options, the date of "contract for construction" for such vessels is the date on which the amendment to the contract, is signed between the prospective owner and the shipbuilder. The amendment to the contract is to be considered as a "new contract" to which **1.** and **2.** above apply.

4. If a contract for construction is amended to change the ship type, the date of "contract for construction" of this modified vessel, or vessels, is the date on which revised contract or new contract is signed between the Owner, or Owners, and the shipbuilder.

Note:
This Procedural Requirement applies from 1 July 2009.