RULES FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

RULES

Part B Class Surveys

2016 AMENDMENT NO.2

Rule No.82 27th December 2016

Resolved by Technical Committee on 27th July 2016

Approved by Board of Directors on 20th September 2016

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

Rule No.82 27th December 2016
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

Paragraph 1.1.10 has been added as follows.

1.1.10 Self-unloading Ships*

Surveys for self-unloading ships are to be carried out in accordance with the requirements for bulk carriers depending upon the structural configuration of the ship unless specified otherwise in this Part.

1.3 Definitions

1.3.1 Terms*

Sub-paragraph (15) 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.

(15) "General dry cargo ships" are ships constructed or converted to carry solid cargoes other than:
- bulk carriers;
- self-unloading ships;
- container carriers;
- ro-ro cargo ships;
- car carriers;
- refrigerated cargo ships;
- dedicated wood chip carriers; and
- dedicated cement carriers
- ships of double side-skin construction, with double side-skin extending for the entire length of the cargo area, and for the entire height of the cargo hold to the upper deck

(16) "Ships carrying timber cargoes" are cargo ships which belong to general dry cargo ships specified in **(15)** above and which have marked timber load lines in accordance with the requirements in **Part V** or primarily carry log cargoes.

(17) “Ships carrying liquefied gases in bulk” refers to the definition in **2.1.42, Part A**.
(18) “Ships carrying dangerous chemicals in bulk” refers to the definition in **2.1.43, Part A**.

Sub-paragraphs (19) to (23) have been renumbered to Sub-paragraphs (20) to (24) and Sub-paragraph (19) has been added as follows.

(19) “Self-unloading ships” are ships constructed generally with single deck, double bottom, hopper side tanks and topside tanks in the cargo length area and equipped with self-unloading facilities for dry cargoes in bulk.

(~~19~~20) “Anniversary Date” is the day corresponding to the expiry date of the Classification Certificate, excluding the expiry date of the Classification Certificate.

(~~20~~21) “Pitting corrosion” is defined as scattered corrosion spots/areas with local material reductions which are greater than the general corrosion in the surrounding area. Pitting intensity is defined in **Fig. B1.1**.

(~~21~~22) “Edge corrosion” is defined as local corrosion at the free edges of plates, stiffeners, primary support members as well as around openings. An example of edge corrosion is shown in **Fig. B1.2**.

(~~22~~23) “Grooving corrosion” is defined as local corrosion adjacent to weld joints along abutting stiffeners or at stiffener or plate butts or seams. An example of grooving corrosion is shown in **Fig. B1.3**.

(~~23~~24) The terminology used in the application of propeller shaft and stern tube shaft surveys is as specified in the following **(a)** to **(h)**:

((a) to (h) are omitted)

Chapter 2 CLASSIFICATION SURVEYS

2.1 Classification Survey during Construction

2.1.2 Submission of Plans and Documents for Approval*

Sub-paragraph -1(1)(v) 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) Hull

((a) to (u) are omitted.)

(v) Plans showing fire extinguishing arrangement (the locations, numbers and types of fire fighting systems, fire extinguishers, fire pumps, hydrants, hoses, fire fighter's outfits, etc. and the layout of the fire detection and alarm system). For ships equipped with inert gas systems, the locations of these systems (general layout; piping diagrams with materials, dimensions, design pressure of pipes, valves, etc.; details of each component; and diagrams of control devices including monitoring, alarm and safety devices of the systems.) For ships equipped with air quality control systems in accordance with the requirement of **20.3.1-2.(3)**, **Part R**, the locations and details of these systems.

((w) to (ac) are omitted.)

2.1.6 Documents to be Maintained On Board*

Sub-paragraph -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) to (n) are omitted.)

(2) Other documents

((a) to (q) are omitted.)

(r) Polar water operational manual (**2.3.1, Part I**)

(3) Finished plans specified in **2.1.7-1**

Chapter 3 ANNUAL SURVEYS

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

3.2.1 Examination of Plans and Documents*

1 At Annual Surveys, the management conditions of plans and documents listed in **Table B3.1** are to be examined.

Table B3.1 has been amended as follows.

Table B3.1 Examination of Plans and Documents

Items	Examination
(Omitted)	
11 Noise survey report	・ Confirmation that the report is kept on board
12 Polar Water Operational Manual	・ For ships required to have the manual on board in accordance with the requirements of **2.3.1, Part I**, confirmation that the manual is kept on board is to be made.

Chapter 11 SURVEYS OF SUBMERSIBLES

11.1 General

11.1.2 General Requirements on Surveys*

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

3 Due date of Periodical Surveys

(1) Intermediate Surveys
Intermediate surveys are to be carried out within three *months* of the anniversary date ~~defined in **1.3.1(19)**~~.

(2) Special Surveys
Special Surveys are to be carried out on the due date required by **1.1.3-1(3)**.

EFFECTIVE DATE AND APPLICATION (Amendment 2-1)

1. The effective date of the amendments is 1 January 2017.

Amendment 2-2

Chapter 1 GENERAL

1.3 Definitions

1.3.1 Terms*

Sub-paragraphs (19) to (23) have been renumbered to Sub-paragraphs (20) to (24), and Sub-paragraph (19) has been added as follows.

(19) "Ships using low-flashpoint fuels" refers to the ships defined in **2.1.44, Part A**.

(~~19~~20) "Anniversary Date" is the day corresponding to the expiry date of the Classification Certificate, excluding the expiry date of the Classification Certificate.

(~~20~~21) "Pitting corrosion" is defined as scattered corrosion spots/areas with local material reductions which are greater than the general corrosion in the surrounding area. Pitting intensity is defined in **Fig. B1.1**.

(~~21~~22) "Edge corrosion" is defined as local corrosion at the free edges of plates, stiffeners, primary support members as well as around openings. An example of edge corrosion is shown in **Fig. B1.2**.

(~~22~~23) "Grooving corrosion" is defined as local corrosion adjacent to weld joints along abutting stiffeners or at stiffener or plate butts or seams. An example of grooving corrosion is shown in **Fig. B1.3**.

(~~23~~24) The terminology used in the application of propeller shaft and stern tube shaft surveys is as specified in the following **(a)** to **(h)**:

((a) to (h) are omitted.)

Chapter 2 CLASSIFICATION SURVEYS

2.1 Classification Survey during Construction

2.1.2 Submission of Plans and Documents for Approval*

Sub-paragraph -1 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) Hull
((a) to (ac) are omitted.)

(2) Machinery
((a) to (i) are omitted.)

(3) Ships carrying liquefied gases in bulk
((a) to (aa) are omitted.)

(4) Ships carrying dangerous chemicals in bulk
((a) to (t) are 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) Inspection 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) 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) 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) Plans and documents of the low-flashpoint fuel equipment and fittings specified in **1.2, Annex 1, Part GF of the Guidance**

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

(y) 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) Arrangements and construction of ventilation systems (including materials, ventilation capacity, etc.)

(aa) Arrangements of ventilation inlets and exhaust outlets

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

(ac) Details of bunkering manifold connections

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

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

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

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

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

(~~5~~6) Plans and documents for in-water surveys specified in **6.1.2-2**

(~~6~~7) Other plans and documents not specified in **(1)** through **(~~5~~6)** which are deemed necessary by the Society

Sub-paragraphs -8 to -12 have been renumbered to Sub-paragraphs -9 to -13, and Sub-paragraph -8 has been added as follows.

8 For ships using low-flashpoint fuels, the operational procedures and emergency procedures specified in **-3** and **-4** of **17.2.2, Part GF** are to be submitted for Society approval.
~~**8**~~**9** For ships that are required to have a damage control plan in accordance with the requirement of **Chapter 33, Part C**, the damage control plan is to be submitted for approval by the Society, in addition to the plans and documents as listed in **-1**.
~~**9**~~**10** For ships that are required to have emergency towing arrangements in accordance with the requirements of **27.3, Part C**, drawings indicating locations of emergency towing arrangements and construction of the part of the hull where the emergency towing arrangements are installed are to be submitted for approval by the Society, in addition to the plans and documents listed in **-1**.
1~~**0**~~**1** For ships that are required to have an operating and maintenance manual for the door and inner door in accordance with the requirements of **23.3.10-1** and **23.4.9-1, Part C** or **21.3.10-1** and **21.4.9-1, Part CS**, the operating and maintenance manual is to be submitted for approval by the Society.
1~~**1**~~**2** For ships required to have a Coating Technical File for dedicated seawater ballast tanks, etc. in accordance with the requirements of **25.2.2, Part C**, **22.4.2, Part CS**, **1.2.2 Section 5 Chapter 3, Part CSR-B** or **2.1.1.2 Section 6, Part CSR-T**, this file is to be submitted for review by the Society.
1~~**2**~~**3** For ships required to have a Coating Technical File and/or a Corrosion Resistant Steel Technical File for cargo oil tanks in accordance with the requirements of **25.2.3, Part C** or **22.4.3, Part CS**, these files are to be submitted for review by the Society.

2.1.3 Submission of Other Plans and Documents

Sub-paragraph -1 has been amended 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) Specifications for hull and machinery
(2) Calculation sheets for the minimum section modulus of the midship cross section
(3) Corrosion prevention scheme (Items included in the Coating Technical Files specified in **2.1.2-11** and **-12** may be omitted.)
(4) Where provisions are to be made for exceptional conditions of loading, plans showing the particulars of the cargo intended to be carried and its distribution
(5) For ships that are required to have stability information documents, the following plans and documents:
((a) to (h) are omitted.)
(6) For ships complying with the requirements in **Part V**, the following plans:
((a) to (h) are omitted.)
(7) For ships carrying liquefied gases in bulk, the following plans and documents:
((a) to (s) are omitted.)
(8) For ships carrying dangerous chemicals in bulk, the following plans and documents:
((a) to (k) are omitted.)
(9) For Ships using low-flashpoint fuels, the following plans and documents:
(a) Basic design principal and technical reports for fuel containment systems

(b) Data on test methods and results of model tests, etc. carried out in accordance with the requirements of **Chapter 16, Part GF**

(c) Data on physical and mechanical properties of materials and welded parts at low and normal temperatures as well as their toughness at low temperatures and corrosion resistance where new materials and welding methods are adopted for construction of the fuel tanks, secondary barriers, thermal insulations, etc.

(d) Data on design loads specified in **6.4.9, Part GF**

(e) Strength calculation sheets of fuel tanks and supports specified in **6.4.6** and **6.4.15, Part GF**

(f) Heat transfer calculation sheets for the primary members of fuel tanks under various loading conditions in cases where deemed necessary by the Society

(g) Thermal stress calculation sheets for the primary members at the temperature distributions specified in the calculation sheets required in **(f)** in cases where deemed necessary by the Society.

(h) Temperature distribution calculation sheets for hull structures in cases where deemed necessary by the Society

(i) Specifications of fuel systems

(j) Composition and physical properties of fuels (including a saturated vapour pressure diagram within the necessary temperature range)

(k) Calculation sheets of relieving capacities of pressure relief systems for fuel tanks (including calculation sheets of back pressure in discharge lines)

(l) Technical data relating to the design concepts of fuel preparation rooms and tank connection spaces

(m) Calculation sheets for refrigeration system capacities

(n) Strength calculation sheets for pipes (**7.3.4-2, Part GF**)

(o) Investigation reports of the stress analysis for high pressure fuel piping systems (**7.3.4-4, Part GF**)

(p) Investigation reports of the stress analysis for piping systems with design temperatures of -110°C or lower (**7.3.4-5, Part GF**)

(q) Investigation reports of the design pressures for outer pipes or ducts of high pressure fuel piping (**9.8.2, Part GF**)

(r) Details of pump shaft penetrations (including information on design specifications, construction, materials, etc.)

(s) Investigation documents for fuel tank filling limits

(t) Probability calculation sheets in cases where a probabilistic approach is used to decide arrangements of fuel tanks

(u) List of data on risk assessment

(v) Documents related to the failure mode and effects analysis required by **14.3.4, Part GF**

(~~9~~10) Capacity calculation sheets for pressure or vacuum valves and overpressure protective devices of cargo oil tanks, if any~~.~~

(1~~0~~1) Instruction and operation manuals of inert gas systems (including cautionary notes for the safety of the operators), if any~~.~~

(1~~1~~2) Strength calculation sheets (noting ~~the~~ design loads) associated with various supporting hull structures of towing and mooring fittings, including towing and mooring fittings which are not selected from standards approved by the society, for ships complying with **27.2, Part C** or **23.2, Part CS**

(1~~2~~3) For ships that are required to have emergency towing arrangements in accordance with the

requirements of **27.3, Part C**, an operation manual of the emergency towing arrangements.

2.1.4 Presence of Surveyor*

Sub-paragraph -3 has been amended as follows.

3 For ships carrying liquefied gases in bulk ~~and~~, ships carrying dangerous chemicals in bulk~~,~~ and ships using low-flashpoint fuels the presence of the Surveyor is required for tests stipulated in **Part N** ~~and~~, **Part S** and **Part GF** respectively, in addition to the tests stipulated in **-1** and **-2**.

2.1.6 Documents to be Maintained On Board*

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.

Sub-paragraphs (1) and (2) have been amended as follows.

(1) Documents approved by the Society or their copies
((a) to (e) are omitted.)
(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 tank of Type *B*, programs of the non-destructive test for periodical surveys (**Table B5.27**)
(k) For membrane and semi-membrane tanks and internal insulation tanks, programs of the examination and testing of cargo containment systems for periodical surveys (Note (*1) to **Table B5.27**)
(l) Operational procedures for ships using low-flashpoint fuels (**17.2.2-3, Part GF**)
(m) Emergency procedures for ships using low-flashpoint fuels (**17.2.2-4, Part GF**)
(~~l~~n) 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**)
(~~m~~o) 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**)
(~~n~~p) Plans and documents for in-water surveys (**6.1.2-2**)

(2) Other documents
((a) to (m) are omitted.)
(n) A copy of the *IGC* Code or national regulations incorporating the provisions of the *IGC* Code (**18.1.1, Part N**)
(o) A copy of the *IBC* Code or national regulations incorporating the provisions of the *IBC* Code (**16.2.3-1, Part S**)
(p) A copy of the *IGF* Code or national regulations incorporating the provisions of the *IGF* Code (**17.2.2-1, Part GF**)
(~~p~~q) Emergency Towing Procedures (**27.4, Part C** or **23.3, Part CS**)
(~~q~~r) Noise survey report.

2.2 Classification Survey of Ships Not Built under Survey

2.2.1 General*

Sub-paragraphs -5 to -7 have been renumbered to Sub-paragraphs -6 to -8, and Sub-paragraph -5 has been added as follows.

5 For ships using low-flashpoint fuels, the operational procedures and emergency procedures specified in **-3** and **-4** of **17.2.2, Part GF** are to be submitted for Society approval.

~~**5**~~**6** For ships that are required to have a damage control plan in accordance with the requirements of **Chapter 33, Part C**, the damage control plan is to be submitted for approval by the Society.

~~**6**~~**7** For ships that are required to have emergency towing arrangements in accordance with the requirements of **27.3, Part C**, drawings indicating locations of emergency towing arrangements and construction of the part of the hull where the emergency towing arrangements are installed are to be submitted for approval by the Society.

~~**7**~~**8** For ships that are required to have an operating and maintenance manual for the door and inner door in accordance with the requirements of **23.3.10-1** and **23.4.9-1, Part C** or **21.3.10-1** and **21.4.9-1, Part CS**, the operating and maintenance manual is to be submitted for approval by the Society.

Chapter 3 ANNUAL SURVEYS

Section 3.6 has been added as follows.

3.6 Special Requirements for Ships Using Low-flashpoint Fuels

3.6.1 General

In addition to the applicable requirements of the previous sections, the requirements of **3.6** are to be applied at Annual Surveys of ships using low-flashpoint fuels. Examinations of inerted fuel tanks or other inerted spaces, however, may be omitted at the discretion of the attending surveyor.

3.6.2 Examinations*

At Annual Surveys of ships using low-flashpoint fuels, the examinations of spaces, structures and facilities, etc. specified in **Table B3.11** are to be carried out in order to ascertain them being in good order. The extent of the survey may be increased to include additional performance testing, operational testing or open-up examinations in cases where deemed necessary by the attending surveyor.

Table B3.11 has been added as follows.

Table B3.11 Special Requirements for Ships Using Low-flashpoint Fuels

Items	Examinations
1 Fuel containment systems	General conditions of fuel tanks, secondary barriers and their thermal insulation and general conditions of sealing arrangements for fuel tanks or tank covers penetrating decks are to be examined as far as accessible. At the first Annual Survey after delivery, the examinations specified in (a) and (b) of item 1 and item 2 of **Table B5.29** as well as an examination of the general condition of the fuel tank foundations are to be carried out.
2 Pressure relief systems for fuel containment systems and fuel storage hold spaces	Pressure relief valves, vacuum protection systems and safety systems for fuel tanks, interbarrier spaces, and fuel storage hold spaces, as well as their associated protection screens and vent piping are to be examined generally as far as accessible. It is to be confirmed that records of sealing of pressure relief valves for fuel tanks and their pressure setting are maintained on board.
3 Bunkering systems and fuel supply systems for low-flashpoint fuels	General conditions of those specified in (a) to (c) below are to be examined during bunkering and fuel supply operations as far as practical. General examinations and performance testing of shut-off devices for stopping fuel transfer are to be carried out. (a) Bunkering system equipment including fuel heat exchangers, vaporizers, pumps and compressors (b) Fuel and process piping and its thermal insulation as far as accessible (c) Automatic and manual stopping devices for fuel pumps and compressors
4 Gauging, detecting, safety, and alarming devices	General examinations and performance testing of those specified in the following (a) to (e) are to be carried out. Simulation testing or other suitable methods may be used in cases where it is difficult to carry out testing under actual operating conditions. (a) Liquid level gauges, high level alarms and valves associated with emergency shutdown systems (b) Temperature indication equipment and associated alarms (c) Pressure gauges and associated alarms for fuel tanks, interbarrier spaces and fuel storage hold spaces (d) Fixed and portable gas detecting instruments and associated alarms (e) Oxygen content meters
5 Environmental control systems	General examinations of those specified in (a) to (c) are to be carried out. (a) Systems for gas freeing and purging and gas sampling devices for fuel tanks (b) Inert gas generators and inert gas storage systems (c) Pressure control systems, means for preventing backflow of gases and monitoring systems for inert gas associated systems
6 Fire-extinguishing arrangements	General conditions of fire-fighting systems for enclosed hazardous areas and alarm devices for emergency escape are to be examined.
7 Other	General conditions of those specified in the following (a) to (k) are to be examined. Checking the contents of items (j) and (k) and confirmation that they are maintained on board are to be carried out. (a) Closing appliances for openings such as windows and doors of the wheelhouse, deckhouses and superstructures that are required to be capable of being closed; and the arrangements for the air locks (b) Ventilation systems for hazardous areas, non-hazardous areas with entry openings to hazardous areas (including enclosed hazardous areas), tank connection spaces, *ESD*-protected machinery spaces, fuel preparation rooms, bunkering stations and fuel piping (c) Drip trays for fuel piping systems (d) Fuel pumps and compressors, and sealing of shafts penetrating gas-tight bulkheads (e) Means for preventing excessive cooling of hull structures (f) Approved fuel hoses (g) Electrical bonding between hull structures and fuel piping (h) Equipment specially required depending upon fuel type (i) Electrical installations in hazardous areas (j) Bunker delivery notes for low-flashpoint fuel delivered as well as the operational procedures (**17.2.2-3, Part GF**) and emergency procedures (**17.2.2-4, Part GF**) for ships using low-flashpoint fuels (k) The *IMO International Code of Safety for Ships using Gases or Other Low-flashpoint Fuels*

Chapter 4 INTERMEDIATE SURVEYS

Section 4.6 has been added as follows.

4.6 Special Requirements for Ships Using Low-flashpoint Fuels

4.6.1 General

In addition to the applicable requirements of the previous sections, the requirements of **4.6** are to be applied at Intermediate Surveys of ships using low-flashpoint fuels. Examinations of inerted fuel tanks or other inerted spaces, however, may be omitted at the discretion of the attending surveyor.

4.6.2 Examinations*

At Intermediate Surveys of ships using low-flashpoint fuels, the examinations of structures and facilities, etc. specified in **Table B4.8** are to be carried out in order to ascertain them being in good order, in addition to the examinations specified in **3.6.2**.

Table B4.8 has been added as follows.

Table B4.8 Special Requirements for Ships Using Low-flashpoint Fuels

Items	Examinations
1 Piping of gas detection systems	General examinations are to be carried out.
2 Fuel tank pressure relief valves with non-metallic membranes	In cases where fuel tank relief valves with non-metallic membranes are main or pilot valves, it is to be confirmed that such non-metallic membranes are maintained in good condition.
3 Electrical installations in hazardous areas	The examinations specified in item 2 of requirements for tankers in **Table B4.5** are to be carried out.
4 Elictrical bonding	The current condition of the electrical bonding between hull structures and fuel tanks or piping is to be verified.
5 Bilge systems for interbarrier spaces, fuel storage hold spaces and tank connection spaces	Performance testing of bilge systems is to be carried out.
6 Fire-fighting system in enclosed hazardous areas	Fixed piping is to be tested by passing air through it.

Chapter 5 SPECIAL SURVEYS

5.2 Special Surveys for Hull, Equipment, Fire Extinction and Fittings

5.2.6 Thickness Measurements*

Sub-paragraph -7 has been amended as follows.

7 At Special Surveys for double hull oil tankers built under **Part CSR-T** or **Part CSR-B&T** and bulk carriers built under **Part CSR-B** or **Part CSR-B&T**, thickness measurements are to be carried out in accordance with **(1)** through **(3)** below in addition to provisions **-3** and **-5** above.

(1) Interpretations specified in **Table B5.~~29~~30** and **Table B5.~~30~~31** are to be considered when structural members subject to thickness measurements and the extent of thickness measurements are determined in accordance with **Table B5.10-1** to **Table B5.15**. The locations of the points to be measured are to be given for the most important items of the structure.

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

Section 5.6 has been added as follows.

5.6 Special Requirements for Ships Using Low-flashpoint Fuels

5.6.1 General

In addition to the applicable requirements of previous sections, the requirements of **5.6** are to be applied at Special Surveys of ships using low-flashpoint fuels.

5.6.2 Examinations*

At Special Surveys of ships using low-flashpoint fuels, the examinations specified in **Table B5.29** are to be carried out thoroughly in order to ascertain them being in good order, in addition to the examinations specified in **4.6.2**.

Table B5.29 and Table B5.30 have been renumbered to Table B5.30 and Table B5.31, and Table B5.29 has been added as follows.

Table B5.29 Special Requirements for Ships Using Low-flashpoint Fuels

Items	Examinations
1 Fuel tanks	The following examinations and testing are to be carried out [*1]: (a) Internal examinations of all fuel tanks. For vacuum insulated tanks, however, examinations are to be as deemed appropriate by the Society. (b) Visual examinations of surfaces of thermal insulation[*2] or fuel tanks without thermal insulation Special attention is to be paid to the chocks, tank supports, keys, etc. of tank foundations. Removal of thermal insulation may be required where deemed necessary by the Surveyor. (c) Thickness measurements for fuel tank plates may be required where deemed necessary by the Surveyor (d) Non-destructive testing for independent tanks of Type *B* in accordance with the approved programme is to be carried out. The programme is to be that prepared according to fuel tank design. Fuel tanks other than independent tanks of Type *B* are to be examined by non-destructive testing on welded connections of the tank plates, main structural members and parts where high stress is deemed likely to occur[*3] where deemed necessary by the Surveyor. For vacuum insulated tanks, however, examinations are to be as deemed appropriate by the Society. (e) Leakage testing of all fuel tanks Where there is any doubt regarding the integrity of a fuel tank as a result of examinations specified in (a) to (e) above, such a tank is to be tested by hydraulic or pneumatic testing under the pressures specified below: Independent tanks of Type *C*: a pressure not less than 1.25 times the maximum allowable relief valve setting (hereinafter referred to as "*MARVS*"); or Independent tanks of Type *A* and *B*: an appropriate pressure according to fuel tank design. For independent tanks of Type *C*, either the following i) or ii) examination is to be carried out at every second Special Survey in addition to examinations (a) to (e). For vacuum insulated tanks, however, examinations are to be as deemed appropriate by the Society. i) Hydraulic or pneumatic testing at a pressure not less than 1.25 times *MARVS,* and the non-destructive testing specified in (d) ii) Non-destructive testing according to a programme prepared based upon fuel tank design[*4]
2 Fuel storage hold spaces and secondary barriers	・ Fuel tank supports, anti-rolling or anti-pitching devices, and surrounding hull structures in fuel storage hold spaces and their thermal insulation are to be visually examined. ・ For membrane tanks, it is to be verified that the gas-tightness of secondary barriers is kept on the level of tightness required for system design in accordance with the programme and acceptance criteria approved in advance. Low differential pressure testing, however, is not to be adopted for testing the tightness of secondary barriers. For glued secondary barriers, if the verification results do not satisfy the required level of gas-tightness, an investigation is to be carried out to analyse the causes of failure, and additional testing such as thermographic or acoustic emission testing is to be carried out taking into account the analysis. ・ For other secondary barriers, gas-tightness is to be verified by pressure or vacuum testing or other proper means in cases where there is any doubt.[*5]
3 Venting systems for fuel containment systems	Pressure relief systems for fuel tanks are to be overhauled, performance-tested and sealed.[*6] Pressure relief systems and vacuum protection systems for interbarrier spaces and vacuum protection systems for fuel tanks are to be overhauled and tested appropriately for the design.[*6]

Table B5.29 Special Requirements for Ships Using Low-flashpoint Fuels (Continued)

Items	Examinations
4 Fuel piping and process piping systems	The examinations specified in the following (a) and (b) are to be carried out. Removal of thermal insulation may be required where deemed necessary by the Surveyor. (a) Where deemed necessary by the Surveyor, whole or a part of valves and associated fittings are to be overhauled or pressure tested at a pressure 1.25 times *MARVS*. After reinsallation of any piping removed for the above examinations, leakage testing is to be carried out on said piping. (b) Whole or a part of pressure relief valves are to be overhauled, and the overhauled valves are to be performance tested and sealed.
5 Bunkering systems, fuel containment systems and fuel supply systems for low-flashpoint fuels	The examinations and testing specified in the following (a) to (c) are to be carried out. (a) Pumps and fuel gas compressors as well as their prime movers are to be overhauled, and performance testing of safety devices is to be carried out. Overhauling of electric motors for prime movers, however, may be omitted.[*7] (b) Heat exchangers, pressure vessels and evaporators are to be overhauled. Pressure relief systems are to be performance tested. If an internal examination of the vessels is impracticable, pressure testing of the vessels and performance testing of pressure relief systems are to be carried out.[*7] (c) The examinations specified in the following i) to iii) are to be carried out for refrigerating equipment. i) Overhauling of pumps and compressors and performance testing of pressure vessels such as condensers, evaporators, inter-coolers and oil separators and the relief systems[*7] ii) Leakage testing of pressure vessels and heat exchangers at a pressure not less than 90% of the setting pressure of their relief systems iii) Leakage testing of refrigerant piping systems at a pressure of not less than 90% of the setting pressure of their relief systems
6 Shutdown systems	For shutdown valves, overhauling and leakage testing of valve seats are to be carried out.[*6 *8]
7 Electrical instal-lations in hazard-ous areas	In accordance with item 2 of the requirements for tankers in **Table B5.25**.

Notes:

(*1) For membrane tanks, examinations and testing are to be carried out in accordance with a programme specially prepared according to methods approved for each tank system.

(*2) If visual examinations of the thermal insulation of tanks are impossible, their surrounding structural members are to be examined for cold spots when the fuel tanks are cooled. Where the integrity of fuel tanks and their thermal insulation is verified by checking the bunker delivery note for the low-flashpoint fuel delivered, however, the examinations of cold spots may be omitted.

(*3) Parts where high stress is deemed likely to occur:

- connections between fuel tanks and fuel tank supports, anti-rolling devices and anti-pitching devices
- connections between tank plates and web frames or stiffening rings
- connections between tank plates and swash bulkhead boundaries
- connections between tank plates and domes or suction wells
- connections between tank plates and foundations for fuel pumps, towers or ladders, etc.
- connections between tank plates and pipe supports

(*4) If an approved non-destructive testing programme does not exist, non-destructive testing of at least 10% of the length of the welded connections in each highly stressed area given below is to be conducted. This testing is to be carried out from both inside and outside of the tank, as appropriate, with thermal insulation removed, as necessary.

- connections between tanks and fuel tank supports, anti-rolling or anti-pitching devices
- connections between tank plates and stiffening rings
- Y-connections between tank plates and longitudinal bulkheads of bilobe tanks
- connections between tank plates and swash bulkhead boundaries
- connections between tanks and domes or suction wells
- connections between tank plates and foundations for fuel pumps, towers or ladders, etc.
- connections between tanks and pipe supports

(*5) Appropriate pressure or vacuum testing and examinations for cold spots are to be carried out. Where the integrity of thermal insulation is verified by checking the bunker delivery note for the low-flashpoint fuel delivered, however,

the examinations for cold spots may be omitted.

(*6) For systems whose continuous open-up examinations and performance testing since the previous Special Survey have been carried out in the presence of a Surveyor and whose test records are confirmed, visual examinations to the extent as far as practical may be carried out in lieu of the required testing.

(*7) For equipment that is overhauled at Planned Machinery Surveys, overhauling at Special Surveys may be replaced by visual examinations to the extent as far as practical.

(*8) In cases where conditions of valve bodies and valve seats can be checked without removing their valve casings from the fitted piping, internal examinations for checking such conditions may be carried out in lieu of overhauling. Furthermore, in cases where such examinations confirm valves to be in good condition and not in need of any adjusting or repair, leakage testing of valve seats may be omitted.

EFFECTIVE DATE AND APPLICATION (Amendment 2-2)

1. The effective date of the amendments is 1 January 2017.

2. Notwithstanding the amendments to the Rules, the current requirements apply to ships other than ships that fall under the following:

(1) for which the building contract is placed on or after the effective date; or

(2) in the absence of a building contract, the keels of which are laid or which are at *a similar stage of construction* on or after 1 July 2017; or

(Note) The term "*a similar stage of construction*" means the stage at which the construction identifiable with a specific ship begins and the assembly of that ship has commenced comprising at least 50 *tonnes* or 1%* of the estimated mass of all structural material, whichever is the less.

* For high speed craft, "1%" is to be read as "3%".

(3) the delivery of which is on or after 1 January 2021.

3. Notwithstanding the provision of preceding **2.**, the amendments to the Rules apply to the ships that fall under the following:

(1) which convert to using low-flashpoint fuels on or after the effective date; or

(2) which, on or after the effective date, undertake to use low-flashpoint fuels different from those which it was originally approved to use before the effective date.

Amendment 2-3

Chapter 2 CLASSIFICATION SURVEYS

2.1 Classification Survey during Construction

2.1.2 Submission of Plans and Documents for Approval*

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.

(2) Machinery

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

(b) Main and auxiliary engines (including their attachments):
Plans and data specified in **2.1.3**, **3.1.2** and **4.1.2, Part D** in relation to the kind of engine <u>as well as documents showing specifications of louvers for emergency generator rooms and closing appliances of ventilators fitted to the rooms (if they are of a power-operated type.)</u>

EFFECTIVE DATE AND APPLICATION (Amendment 2-3)

1. The effective date of the amendments is 1 January 2017.

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.

Amendment 2-4

Chapter 3 ANNUAL SURVEYS

3.3 Annual Surveys for Machinery

3.3.1 General Examinations*

Sub-paragraph -1 has been amended as follows.

1 At Annual Surveys for Machinery, general examination of all the machinery in the engine room and the following ~~examinations~~inspections **(1)** ~~through~~to **(~~3~~4)** are to be carried out:
((1) and (2) are omitted.)

(3) For ships adopting the preventive maintenance system in accordance with the requirements in **8.1.3**, the records of the parameters monitored are to be reviewed and a general examination is to be carried out in order to ascertain that the relevant installations have been well maintained.

(4) For ships affixed with the notation "*APSS・O*" or "*APSS・W*" which periodically perform oil analysis or freshwater sample tests, a general examination of the shafting system and a review of all the condition monitoring data available on board the ship are to be carried out in order to ascertain that the system is well maintained.

Chapter 4 INTERMEDIATE SURVEYS

4.3 Intermediate Surveys for Machinery

Paragraph 4.3.1 has been amended as follows.

4.3.1 General Examinations*

At Intermediate Surveys for Machinery, in addition to the general examinations and inspections specified in **3.3.1**, the examinations specified in **Table B4.5** are to be carried out. ~~For each ship adopting the preventive maintenance system for propulsion shafting systems in accordance with the requirements of **8.1.3**, a general examination of the shafting systems and a review of all their condition monitoring data available on board the ship are to be carried out in order to ascertain that the systems are well maintained.~~

Chapter 5 SPECIAL SURVEYS

5.3 Special Surveys for Machinery

Paragraph 5.3.1 has been amended as follows.

5.3.1 General Examinations*

At Special Surveys for Machinery, in addition to the general examination and inspections specified in **3.3.1**, the surveys specified in **Table B5.25** are to be carried out. ~~For each ship adopting the preventive maintenance system for the propulsion shafting system in accordance with the requirements of **8.1.3**, a general examination of the shafting system and a review of all their condition monitoring data available on board the ship are to be carried out in order to ascertain that the system is well maintained.~~

Chapter 6 DOCKING SURVEYS

6.1 Docking Surveys

Paragraph 6.1.3 has been amended as follows.

6.1.3 Other Surveys

1 For each ship adopting the preventive maintenance system for propulsion shafting system in accordance with the requirements in **8.1.3**, general examination of the shafting system and review of all condition monitoring data available on board the ship on the system are to be carried out in order to ascertain that the system is well maintained.

2 For ships affixed with the notation "*APSS・O*" or "*APSS・W*" which periodically perform oil analysis or freshwater sample tests, a general examination of the shafting system and a review of all the condition monitoring data available on board the ship are to be carried out in order to ascertain that the system is well maintained.

Chapter 8 PROPELLER SHAFT AND STERN TUBE SHAFT SURVEYS

8.1 Propeller Shaft and Stern Tube Shaft Surveys

8.1.2 Partial Surveys

1 At Partial Surveys for propeller shafts Kind 1 of oil lubricated stern tube bearings, the examinations specified in the following **(1)** to **(3)** are to be carried out.

(1) Visual inspection of all accessible parts of the shafting system

(2) Verification that the main engines have not been operated within the barred speed range for torsional vibration.

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

(3) Examinations specified in 2, 6, 9, 12 and 13 in **Table B8.1** as well as the following **(a)** to **(~~d~~c)**. However, the requirements of 2 and 9 in **Table B8.1** may be omitted for shafts having keyless propeller attachments or coupling flanges at their aft end, if general examinations are proved satisfactory.

(a) Checking and recording measurements of the bearing weardown of the propeller shaft or the stern tube shaft at the after bearing of the stern tube

~~(b) Verification that the propeller is free of damages which may cause the propeller to be out of balance~~

(~~c~~b) Seal liner found to be or placed in a satisfactory condition

(~~d~~c) Verification of the satisfactory conditions of inboard and outboard seals

Paragraph 8.1.3 has been amended as follows.

8.1.3 Preventive Maintenance System*

Notwithstanding the requirements in **8.1.1** above, where the ship is equipped with oil lubricated stern tube bearings and appropriate stern tube oil sealing devices as approved by the Society, the survey items of -1, -3, -4, -5, -7 and -8 in **Table B8.1** may be replaced with a general examination of the shafting system provided that all condition monitoring data taken according to the approved preventive maintenance system is found to be within permissible limits. For requirements other than -1, -3, -4, -5, -7 and -8 in **Table B8.1**, ~~T~~the propeller shaft may be examined in accordance with the requirements for the partial surveys of ~~as a~~ propeller shafts Kind 1*C* ~~for the remaining requirements except -1, -3, -4, -5, -7 and -8 in **Table B8.1**~~. The examination required by survey item -9 in **Table B8.1** may be partly dispensed with where deemed appropriate by the Society.

(1) Based upon Society approved preventive maintenance systems, at least the following **(a)** to **(d)** are to be properly monitored and recorded for diagnosing lubricating conditions of shafting systems and performing preventive system maintenance. Moreover, the notation "*Propeller Shaft Condition Monitoring System*" (abbreviated as "*PSCM*") is to be affixed to the classification characters of ships whose preventive maintenance systems are approved by the Society.

(a) Lubricating oil sampling and analysis is to be carried out regularly at intervals not exceeding 6 *months*, with at least the following **i)** to **iv)** being analyzed each time:

i) Water content
ii) ~~Chloride content~~ Salinity (Sodium)
iii) Content of shaft metal and bearing metal particles
iv) Oxidation of oil

(b) Lubricating oil consumption rate
(c) Bearing temperature
(d) Weardown of the propeller shaft or the stern tube shaft at the after bearing of the stern tube ~~The values specified in item -8 of **Table B8.1**~~

(2) Based upon Society approved preventive maintenance systems, at least the following **(a)** to **(e)** are to be properly monitored and recorded for diagnosing lubricating conditions of shafting systems and performing preventive system maintenance. Moreover, the notation "*Propeller Shaft Condition Monitoring System・A*" (abbreviated as "*PSCM・A*") is to be affixed to the classification characters of ships whose preventive maintenance systems are approved by the Society.

(a) Lubricating oil sampling and analysis is to be carried out regularly at intervals not exceeding 6 *months*, with at least the following **i)** to **iv)** being analyzed each time:
i) Water content
ii) ~~Chloride content~~ Salinity (Sodium)
iii) Content of shaft metal and bearing metal particles
iv) Oxidation of oil

(b) The monthly onboard checking of lubricating oil water content. Such checking, however, may be omitted when the oil sampling and analysis specified in **(a)** above is carried out regularly at intervals not exceeding 3 *months*.
(c) Lubricating oil consumption rate
(d) Bearing temperature
(e) Weardown of the propeller shaft or the stern tube shaft at the after bearing of the stern tube ~~The values specified in item -8 of **Table B8.1**~~

EFFECTIVE DATE AND APPLICATION (Amendment 2-4)

1. The effective date of the amendments is 1 January 2017.
2. Notwithstanding the amendments to the Rules, the current requirements apply to ships other than ships the delivery of which is on or after 1 January 2016 until the first propeller shaft and stern tube shaft survey scheduled on or after 1 January 2016.

GUIDANCE FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

GUIDANCE

Part B Class Surveys

2016 AMENDMENT NO.2

Notice No.83 27th December 2016

Resolved by Technical Committee on 27th July 2016

Notice No.83 27th December 2016
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 2-1

B1 GENERAL

B1.1 Surveys

B1.1.3 Intervals of Class Maintenance Surveys

3 The timing (survey due date) of Ordinary Surveys of propeller shafts Kind 1 and stern tube shafts Kind 1 specified in **1.1.3-1(6)(a), Part B of the Rules** may be extended subject to the carrying out of Occasional Surveys in accordance with the following **(1)** to **(4)**:

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

(2) For freshwater lubricated bearings, the following **(a)** to **(~~c~~d)** are to apply:
  (a) The survey due date may be extended for up to 1 *year* in cases where, after the execution of a survey consisting of the following **i)** to **v)**, examined parts are proven to be in good condition. In this case, only one more "one-year extension" may be granted.
    i) The review specified in the preceding **(1)(a)iv)**;
    ii) Review of service records, regularly recorded data showing in-service conditions of the shaft(s), which may include water flow, water temperature, salinity, pH, make-up water and water pressure;
    iii) Review of test records of freshwater sample tests carried out in accordance with the following **1)** to **~~4~~5)** to verify that the test results comply with the criteria for parameters determined by the ship's management based upon the reference standards shown in **(d)** below and by taking into account its experience and knowledge. After the review, freshwater sample tests are to be carried out in accordance with the following **2)** to **~~4~~5)** in the presence of a surveyor.
      1) Freshwater sample tests are to be carried out at regular intervals, in principle, not exceeding six months.
      2) Freshwater sample tests are to include, as parameter, chlorides and sodium content, pH value, and presence of bearing particles or other particles (only for laboratory analysis, not required for tests carried out in presence of the surveyor).
      3) Sampling is to be carried out in accordance with the following:
        ・ Samples are to be taken under service conditions (i.e., with a rotating shaft

and the system at service temperature) and are to be representative of the water circulating within the stern tube.

- Samples are to be taken from the same pre-determined suitable position (before the filters, if any are fitted) in the system.
- Samples are to be collected under the direct supervision of the Chief Engineer, except when taking in the presence of a Surveyor.

4) Analysis results are to be retained on board and made available to the surveyor.
5) The extent of make-up water in the system is to be checked.

iv) The verifications and examinations, etc. specified in the preceding **(1)(a)i)** to **iii)**, **vii)** as well as **viii)**; and
v) Verification of the effectiveness of the inboard seal and outboard seals.

(b) The survey due date may be extended for up to 3 *month* in cases where, after the execution of a survey consisting of the following **i)** and **ii)**, examined parts are proven to be in good condition.
i) The verifications and examinations, etc. specified in the preceding **(a)i)** to **iv)**; and
ii) Verification of the effectiveness of the inboard seal.

(c) The surveys specified in the preceding **(a)** and **(b)** may be carried out sequentially; the survey due date, however, may only be extended for a maximum of 1 *year*.

(d) The reference standards for the criteria of the parameters specified in **(a)iii)** above are as follows:
i) Chloride and sodium content (upper limits)
1) Chloride content: 60 *ppm*
2) Sodium content: 70 *ppm*
ii) PH value
Lower limit values determined based upon characteristics of the corrosion inhibitors used, but not to be less than 11
iii) Bearing particles and other particles
1) Metallic content (upper limits)
Iron (Fe): 25 *ppm*
Chromium (Cr): 5 *ppm*
Nickel (Ni): 5 *ppm*
Copper (Cu): 40 *ppm*
Silicon (Si): 30 *ppm*
2) Bearing particles (non-metallic content)
No polymer resins are to be found by micro-filter and/or microscopic testing.

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

(4) Occasional Surveys are, in principle, to be carried out within 1 *month* of the survey due date ~~(including extended due dates)~~. If the Occasional Survey is carried out more than 1 *month* prior to the survey due date, then the period of extension counts from the date on which the Occasional Survey was completed.

B3 ANNUAL SURVEYS

B3.3 Annual Surveys for Machinery

Paragraph B3.3.1 has been amended as follows.

B3.3.1 General Examinations

1 Where controlled atmosphere systems are installed onboard, the general examination of gas freeing equipment as well as control, alarm and monitoring equipment of controlled atmosphere systems specified in **D17.3(1) and (3), Part D of the Guidance** is to be included in the general examination. Furthermore, where rubber couplings are installed, a visual inspection and measurements of surface hardness or permanent deformation of rubber elements are to be conducted.

2 The phrases "lubricating oil analysis" and "freshwater sample tests" specified in **3.3.1-1(4), Part B of the Rules** refer to the "lubricating oil analysis" and "freshwater sample tests" specified in **2.2.1-2(2)** and **2.3.1-2(2)** of **Annex B1.1.3-7 "Alternative Propeller Shaft Survey Methods"**, respectively.

B6 DOCKING SURVEYS

B6.1 Docking Surveys

Paragraph B6.1.3 has been added as follows.

B6.1.3 Other Surveys

The phrases "lubricating oil analysis" and "freshwater sample tests" specified in **6.1.3-2, Part B of the Rules** refer to the "lubricating oil analysis" and "freshwater sample tests" specified in **2.2.1-2(2)** and **2.3.1-2(2)** of **Annex B1.1.3-7 "Alternative Propeller Shaft Survey Methods"**, respectively.

B8 PROPELLER SHAFT AND STERN TUBE SHAFT SURVEYS

B8.1 Propeller Shaft and Stern Tube Shaft Surveys

Paragraph B8.1.1 has been amended as follows.

B8.1.1 Ordinary Surveys

~~**1** "An efficient crack detection method" stipulated in item 1 and 2 of **Table B8.1, Part B of the Rules** generally refers to the magnetic particle method.~~

~~**2**~~ When the clearance and/or wear down at the aft end of the stern tube or the shaft bracket bearing exceed the value given below, the bearing is to be replaced or repaired.

((1) to (3) are omitted.)

Table B8.1.3-1 has been amended as follows.

Table B8.1.3-1 Approval Procedure of Preventive Maintenance System for Oil Lubricated Propeller Shafts

(Omitted)	
5. After Approval	(-1 to -3 are omitted) -4 The ship is to be subject to the applicable survey items specified in **Table B8.1**, **Part B of the Rules** (excluding survey items 1, 3, 4, 5, 7 and 8 for parts covered by the preventive maintenance system) as well as checking and recording the measurements of bearing weardown of the propeller shaft or the stern tube shaft at the after bearing of the stern tube, visual inspection of all accessible parts of the shafting system, seal liner found to be or placed in a satisfactory condition and verification of the satisfactory condition of inboard and outboard seals at the propeller shaft surveys in accordance with **1.1.3-1(6)(a), Part B of the Rules**. However, for propeller shafts with keyless propeller attachments or having coupling flanges at the aft end, survey items 2, 9 and 10 in **Table B8.1, Part B of the Rules** may be extended[1] until the earlier date of the following **(1)** or **(2)**. In cases where survey items 2, 9 and 10 specified in **Table B8.1**, **Part B of the Rules** are carried out, verification of the satisfactory re-installation of the propeller including verification of the satisfactory condition of inboard and outboard seals is to be carried out. (1) The date when the propeller shaft is withdrawn for an examination due to some reason such as an abnormality being found by the analysis of monitoring parameters (2) The date 15 *years* after the propeller shaft survey (including survey items 2, 9 and 10 in **Table B8.1, Part B of the Rules**) was completed <u>except in the case when one extension for no more than three months is granted[2]</u>
(Omitted)	

(Note)

1 The carrying out of survey items 2, 9 and 10 specified in **Table B8.1**, **Part B of the Rules** is recommended in cases where the next survey due date will be earlier than 15 *years* after the date of completion of the previous survey which included the survey items 2, 9 and 10 specified in **Table B8.1**, **Part B of the Rules**.

2 <u>No further extension can be granted.</u>

Annex B1.1.3-7 ALTERNATIVE PROPELLER SHAFT SURVEY METHODS

Chapter 2 SHAFT SURVEYS

2.1 General

Paragraph 2.1.2 has been amended as follows.

2.1.2 Extensions of Survey Due Date

The survey due dates specified in **2.1.1** may be extended in accordance with the following **(1)** and **(2)**:

(1) For shafts with oil lubricated or freshwater lubricated bearings, survey due dates may be extended in accordance with the following **(a)** to **(c)**. When the results of verification, recording and examination are not satisfactory, however, survey due dates for shafts with oil lubricated bearings are to be according to **2.2** and survey due dates for shafts with freshwater lubricated bearings are to be according to **2.3.**

(a) Extension up to 30 *months*

When the results of ~~a review, verification and examination or inspection, etc. specified in~~ the following **i)** to **vii)** are satisfactory, the survey due date may be extended up to 30 *months*. In cases where the survey due date is extended in accordance with this provision, no more than one extension may be granted and no further extension, of another type, can be granted until an Ordinary Survey is carried out.

i) verification in accordance with **2.2.1-2(1)** to **(3)**, as applicable, for oil lubricated bearings or for **2.3.1-2(1)** to **(3)**, as applicable, for freshwater lubricated bearings; and confirmation from the chief engineer that the shafting arrangement is in good working condition;

ii) checking and recording the bearing weardown measurements, as far as practicable;

iii) visual inspection of all accessible parts of the shafting system;

iv) verification that the propeller is free of damages which may cause the propeller to be out of balance;

v) verification of the effectiveness of the inboard seal and outboard seals;

vi) examination of the low oil level alarms of the lubricating oil or lubricating freshwater tanks, lubricating oil or lubricating freshwater temperature measuring devices and lubricating oil or lubricating freshwater circulation piping and pumps for maintaining stern tube bearing conditions; and

vii) examination of the lubricating oil or lubricating freshwater record book.

(b) Extension up to 1 *year*

When the results of ~~a review, verification and examination, etc. carried out in accordance with~~ the following **i)** and **ii)** are satisfactory, the survey due date may be extended up to 1 *year*. In cases where the survey due date is extended in accordance with this provision, no more than two consecutive "one-year extensions" may be granted ~~and no further extension of other type,~~ can be granted until an Ordinary Survey is carried out. In the event an additional extension is requested the provisions of **(a)** above are to be applied and the shaft survey due date, prior to the previous extension(s), may be extended for a

maximum of 30 *months*.

i) review of the previous weardown and/or clearance recordings, and

ii) ~~verification and examination or inspection, etc. as~~those specified in **(a)i)**, **iii)**, **iv)**, **v)**, **vi)** and **vii)** above.

(c) Extension up to 3 *months*

When the results of ~~a review, verification and examination, etc. carried out in accordance with~~ the following **i)** and **ii)** are satisfactory, the survey due date may be extended up to 3 *months*. In cases where the survey due date is extended in accordance with this provision, no more than one "three-month extension" in accordance with this provision can be granted until an Ordinary Survey is carried out. In the event an additional extension is requested, the provisions of **(a)** or **(b)** above is to be applied and the survey due date, prior to the previous extension, ~~is~~may be extended for a maximum of 30 *months* or one *year*.

i) ~~review, verification and examination, etc. as~~those specified in **(b)i)** above as well as in **(a)i)**, **iii)**, **vi)**, and **vii)** above; and

ii) verification of the effectiveness of the inboard seal.

(2) The review, checking, measurement, verification, inspection, recording and examination~~, etc.~~ specified in **(1)(a)** to **(c)** above are normally to be carried out within 1 *month* of the survey due date. If the extension survey is carried out more than 1 *month* prior to the survey due date, then the period of extension counts from the date of such review, checking, measurement, verification, inspection, recording and examination~~, etc~~.

2.3 Ordinary Surveys of Freshwater Lubricated Shafts

Paragraph 2.3.1 has been amended as follows.

2.3.1 Ordinary Surveys

1 Ordinary Surveys of shafts with freshwater lubricated bearings are to be carried out in accordance with **Table 2.1**, **2.2** or **2.3**. In the case of keyed connections, Ordinary Surveys are to be carried out in accordance with **Table 2.1** or **2.2**.

2 Before carrying out surveys in accordance with **Table 2.2** or **2.3**, the items specified in the following **(1)** to **(3)** are carried out. When the results of the verification specified in the following **(1)** to **(3)** or the results of surveys in accordance with the following **Table 2.2** or **2.3** are not satisfactory, an Ordinary Survey in accordance with **Table 2.1** is to be carried out.

(1) Review of service records, regularly recorded data showing in-service conditions of the shaft(s), which may include water flow, water temperature, salinity, pH, make-up water and water pressure (for closed loop freshwater lubricated bearings;

(2) Review of test records of freshwater sample tests carried out in accordance with the following **(a)** to **(~~d~~e)** to verify that the test results comply with the criteria for parameters determined by the ship's management based upon the reference standards shown in **-3** below and by taking into account its experience and knowledge. After the review, freshwater sample tests are to be carried out in accordance with the following **(b)** to **(~~d~~e)** in the presence of a surveyor.

(a) Freshwater sample tests are, in principle, to be carried out at regular intervals not exceeding six *months*.

(b) Freshwater sample tests are to include the parameters specified in the following **i)** to **iii)**:

i) chloride and sodium content;

ii) pH value; and

iii) presence of bearing particles or other particles (only for laboratory analysis, not required for tests carried out in the presence of a surveyor).

(c) Sampling is to be carried out in accordance with the following **i)** to **iii)**:

i) Samples are to be taken under service conditions (i.e., with a rotating shaft and the system at service temperature) and are to be representative of the water circulating within the stern tube.

ii) Samples are to be taken from the same pre-determined suitable position (before the filters, if any are fitted) in the system.

iii) Samples are to be collected under the direct supervision of the Chief Engineer, except when taking in the presence of a Surveyor.

(d) Analysis results are to be retained on board and made available to the surveyor.

(e) The extent of make-up water in the system is to be checked.

(3) Verification of no reported repairs by grinding or welding of shaft and propeller.

3 The reference standards for the criteria of the parameters specified in **-2(2)** above are specified in the following **(1)** to **(3)**:

(a) Chloride and sodium content (upper limits)

i) Chloride content: 60 *ppm*

ii) Sodium content: 70 *ppm*

(b) PH value

Lower limit values determined based upon characteristics of the corrosion inhibitors used, but not to be less than 11

(c) Bearing particles and other particles

i) Metallic content (upper limits)

Iron (Fe): 25 *ppm*
Chromium (Cr): 5 *ppm*
Nickel (Ni): 5 *ppm*
Copper (Cu): 40 *ppm*
Silicon (Si): 30 *ppm*

ii) Bearing particles (non-metal content)

No polymer resins are to be found by micro-filter and/or microscopic testing.

EFFECTIVE DATE AND APPLICATION (Amendment 2-1)

1. The effective date of the amendments is 1 January 2017.

2. Notwithstanding the amendments to the Guidance, the current requirements apply to ships other than ships the delivery of which is on or after 1 January 2016 until the first propeller shaft and stern tube shaft survey scheduled on or after 1 January 2016.

Amendment 2-2

B1 GENERAL

B1.1 Surveys

B1.1.3 Intervals of Class Maintenance Surveys

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

Sub-paragraphs (3) and (7) have been amended as follows.

(3) For ice class ships with I*A Super* and I*A* defined in **1.2.5-2, Part A of the Rules**, which had been at the beginning stage of construction before 1 September 2003, a survey is to be carried out to verify compliance with the requirements of ~~5~~**8.4.2-2, Part I of the Rules** by 1 January in the year 20 *years* since the year the ship was delivered.

(7) With respect to the provisions of ~~5~~**8.1.2-3, Part I of the Rules**, ships built before 1 July 2007 and whose summer load line is located at a higher level than the *UIWL*, are to be provided with a warning triangle and with an ice class draught mark at the maximum permissible ice class draught amidships by the date of the first scheduled dry docking after 1 July 2007. In such cases, the engine output and the maximum and minimum ice class draught fore, amidships and aft are to be indicated in the classification certificate.

Sub-paragraph (21) has been added as follows.

(21) Ships operating in polar waters

For ships operating in polar waters defined in **1.1.1-2**, **Part I of the Rules** at the beginning stage of construction before 1 January 2017, a survey is to be carried out to verify compliance with the requirements of **Chapter 1** (except for **1.1.1-4**, **1.1.1-5**, **1.1.2**, **1.1.3** and **1.1.4-2**) to **Chapter 7, Part I of the Rules** by the first Intermediate Survey or Special Survey after 1 January 2018, whichever occurs first.

Sub-paragraph (22) has been added as follows.

(22) Ships Using Low-flashpoint Fuels

For ships that fall under the following **(a)** or **(b)**, a survey is to be carried out to verify compliance with the requirements of **Part GF of the Rules** before using low-flashpoint fuels or undertaking to use below specified different low-flashpoint fuels.

(a) Ships which convert to using low-flashpoint fuels on or after 1 January 2017; or

(b) Ships 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.

Paragraph B1.1.10 has been added as follows.

B1.1.10 Self-unloading Ships

With respect to the provisions of **1.1.10**, **Part B of the Rules**, surveys for self-unloading ships are to be carried out in accordance with the requirements for bulk carriers except for the requirements specified in **B1.1.3-9(5)**, **B1.3.1-3**, **B1.4.2-12**, **B2.5.1-2**, **B3.2.3-5** and **B3.2.3-6**.

B1.3 Definition

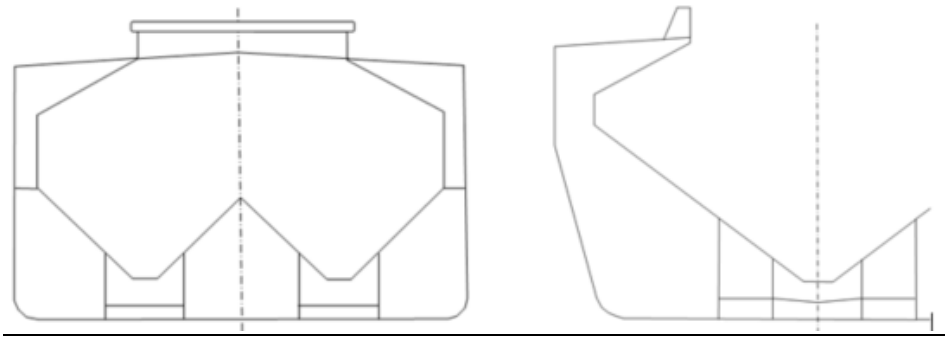
B1.3.1 Terms

Sub-paragraph -6 has been added as follows.

6 An example of typical midship sections of the "Self-unloading ships" defined in **1.3.1(19)**, **Part B of the Rules** is shown in **Fig. B1.3.1-6**.

Fig. B1.3.1-6 has been added as follows.

Fig. B1.3.1-6 Typical Midship Sections of Self-unloading ships



B4 INTERMEDIATE SURVEYS

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

Paragraph B4.2.3 has been amended as follows.

B4.2.3 Performance Tests

1 With respect to item 1 in **Table B4.1**, **Part B of the Rules**, in cases where an air quality control system is provided in accordance with **20.3.1-2(3)**, **Part R of the Rules**, the performance of the air quality control system is to be confirmed in conjunction with the performance test of ventilation system specified in item 7 in **Table B3.3**, **Part B of the Rules**.

2 For details on the examinations stipulated in items 4 through 11 in **Table B4.1, Part B of the Rules**, refer to **B2.1.4-1(3)**.

EFFECTIVE DATE AND APPLICATION (Amendment 2-2)

1. The effective date of the amendments is 1 January 2017.

Amendment 2-3

B2 CLASSIFICATION SURVEYS

B2.1 Classification Survey during Construction

B2.1.2 Submission of Plans and Documents for Approval

Sub-paragraphs -7 and -8 have been amended as follows.

7 For the coatings of internal spaces, the Coating Technical File specified in **2.1.2-1~~1~~2** and **-1~~2~~3**, **Part B of the Rules** must contain at least the following items:
((1) to (7) are omitted.)
8 The Corrosion Resistant Steel Technical File specified in **2.1.2-1~~2~~3, Part B of the Rules** is to contain at least the following items:
((1) to (3) are omitted.)

B2.1.6 Documents to be Maintained On Board

Sub-paragraph -5 has been amended as follows.

5 "Noise survey report" in **2.1.6-1(2)(~~e~~r), Part B of the Rules** refers to the report in **4.2**, **Annex B2.3.1-1.(11) "PROCEDURES FOR ON BOARD NOISE MEASUREMENTS"**. It is recommended that documents containing the noise exposure level determined in accordance with **3.3.6**, **Annex B2.3.1-1.(11) "PROCEDURES FOR ON BOARD NOISE MEASUREMENTS"** are attached to the "Noise survey report".

B3 ANNUAL SURVEYS

Section B3.6 has been added as follows.

B3.6 Special Requirements for Ships Using Low-flashpoint Fuels

B3.6.2 Examinations

1 When applying the requirements of (g) of items 7 of **Table B3.11, Part B of the Rules**, resistance testing is to be carried out for all electrical bonding to confirm that resistance is not greater than 1 *MΩ* in cases where bonding straps are not provided as electrical bonding between fuel tanks or fuel piping and hull structures.

2 When applying the requirements of item 5 of **Table B3.11, Part B of the Rules**, it is to be verified that ship masters have checked the inert gas control system for each thermal insulation layer of membrane tanks to verify proper operation.

B4 INTERMEDIATE SURVEYS

Section B4.6 has been added as follows.

B4.6 Special Requirements for Ships Using Low-flashpoint Fuels

B4.6.2 Examinations

1 The sentence "it is to be confirmed that such non-metallic membranes are maintained in good condition" in item 2 of **Table B4.8, Part B of the Rules** means the following: visual examinations are to be carried out to verify no cracks and deterioration; and it is to be confirmed membranes are renewed at intervals not exceeding 3 *years*, have been properly adjusted, and have been tested for performance. In cases where relief valves are approved for use for membranes whose renewal intervals exceed 3 *years* in accordance with **6.4.1-3, Annex 1, Part GF of "Guidance for Equipment and Fittings of Ships Using Low-flashpoint Fuels"**, it is to be confirmed that they are renewed at approved intervals.

2 The term "hazardous areas" in item 3 of **Table B4.8, Part B of the Rules** means the hazardous areas specified in **12.5, Part GF**, and **-4** and **-5** of **4.2.3, Part H of the Rules**.

3 In applying the requirements of item 4 of **Table B4.8, Part B of the Rules**, resistance testing is to be carried out for all electrical bonding to confirm that the resistance is not greater than 1 *MΩ* in cases where bonding straps are not provided as electrical bonding between fuel tanks or fuel piping and hull structures.

B5 SPECIAL SURVEYS

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

B5.2.6 Thickness Measurements

6 "Ship's longitudinal strength evaluation" required in **5.2.6-8, Part B of the Rules** is to be carried out in accordance with the following.

Sub-paragraphs (3) and (4) have been amended as follows.

(3) For double hull oil tankers built under **Part CSR-T** or **Part CSR-B&T of the Rules**, notwithstanding provisions **(1)** and **(2)** above, it is to be confirmed that the condition of the ship satisfies the criteria specified in **1.5 Section 12, Part CSR-T** or **Section 2, Chapter 13, Part 1, Part CSR-B&T of the Rules** by using the thickness of structural members measured in the transverse sections specified in **Table B5.10** and **Table B5.~~30~~31**.

(4) For bulk carriers built under **Part CSR-B** or **Part CSR-B&T of the Rules**, notwithstanding provisions **(1)** and **(2)** above, it is to be confirmed that the condition of the ship satisfies the criteria specified in **1.4 Section 2 Chapter 13, Part CSR-B** or **2.2, Section 2, Chapter 13, Part 1, Part CSR-B&T of the Rules** by using the thickness of structural members measured in the transverse sections specified in **Table B5.15** and **Table B5.~~29~~30**.

Section B5.6 has been added as follows.

B5.6 Special Requirements for Ships Using Low-flashpoint Fuels

B5.6.2 Examinations

1 The phrase "programme and acceptance criteria approved" in item 2 of **Table B5.29, Part B of the Rules** means those prepared by fuel containment system designers and approved by the Society.

2 The term "hazardous areas" in item 7 of **Table B5.29, Part B of the Rules** means the hazardous areas specified in **12.5, Part GF**, and **-4** and **-5** of **4.2.3, Part H of the Rules**.

EFFECTIVE DATE AND APPLICATION (Amendment 2-3)

1. The effective date of the amendments is 1 January 2017.

2. Notwithstanding the amendments to the Guidance, the current requirements apply to ships other than ships that fall under the following:

(1) for which the building contract is placed on or after the effective date; or

(2) in the absence of a building contract, the keels of which are laid or which are at *a similar stage of construction* on or after 1 July 2017; or

(Note) The term "*a similar stage of construction*" means the stage at which the construction identifiable with a specific ship begins and the assembly of that ship has commenced comprising at least 50 *tonnes* or 1%* of the estimated mass of all structural material, whichever is the less.

* For high speed craft, "1%" is to be read as "3%".

(3) the delivery of which is on or after 1 January 2021.

3. Notwithstanding the provision of preceding **2.**, the amendments to the Guidance apply to the ships that fall under the following:

(1) which convert to using low-flashpoint fuels on or after the effective date; or

(2) which, on or after the effective date, undertake to use low-flashpoint fuels different from those which it was originally approved to use before the effective date.

Amendment 2-4

B2 CLASSIFICATION SURVEYS

B2.3 Sea Trials and Stability Experiments

B2.3.1 Sea Trials

Sub-paragraphs -13 and -14 have been added as follows.

13 In applying **2.3.1-2(1), Part B of the Rules**, if the rudder cannot be fully submerged at even keel, the draught that the rudder is fully submerged (at zero speed waterline) in which the vessel is in an acceptable trim condition can be accepted.

14 In applying **2.3.1-2(3), Part B of the Rules**, the following **(1)** or **(2)** is to be applied. Alternatively, the designer or builder may use computational fluid dynamic (CFD) studies or experimental investigations to predict the rudder stock moment (torque in the rudder stock) in the full load condition and at the service speed. These calculations or experimental investigations are to be verified by the Society.

(1) The rudder torque in the the full load condition and at the speed of ship defined in **2.1.8, Part A of the Rules** is to be predicted using the following extrapolation formula. There is, however, no need for extrapolation where A_T is greater than $0.95A_F$.

$$Q_F = Q_T \alpha$$

Q_F: the rudder stock moment (torque in the rudder stock) for the full load condition and the speed of ship defined in **2.1.8, Part A of the Rules**

Q_T: the rudder stock moment (torque in the rudder stock) for the trial condition

α: the extrapolation factor in accordance with the following formula:

$$\alpha = 1.25\left(\frac{A_F}{A_T}\right)\left(\frac{V_F}{V_T}\right)^2$$

A_F: the total immersed projected area of the movable part of the rudder in the full load condition

A_T: the total immersed projected area of the movable part of the rudder in the trial condition

V_F: the contractual design speed of the vessel corresponding to the maximum continuous revolutions of the main engine in the full load condition

V_T: the measured speed of the vessel (considering current) in the trial condition

(2) Where the rudder actuator system pressure is shown to have a linear relationship to the rudder stock torque, the above equation can be taken in accordance with the following formula. Where constant volume fixed displacement pumps are utilized, **15.2.2(1)** or **15.2.3(1), Part D of the Rules** can be deemed satisfied if the estimated steering actuator hydraulic pressure in the full load condition is less than the specified maximum working pressure of the rudder actuator. Where a variable delivery pump is utilized, pump data are to be supplied and

interpreted to estimate the delivered flow rate corresponds to the full load condition in order to calculate the steering time and allow it to be compared to the required time.

$P_F = P_T \alpha$

P_F: the estimated steering actuator hydraulic pressure in the full load condition
P_T: the maximum measured actuator hydraulic pressure in the trial condition

EFFECTIVE DATE AND APPLICATION (Amendment 2-4)

1. The effective date of the amendments is 1 January 2017.

2. Notwithstanding the amendments to the Guidance, 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.