

RULES FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

Part B

Class Surveys

RULES

2016 AMENDMENT NO.1

Rule No.40 30th June 2016

Resolved by Technical Committee on 28th July 2015 / 5th February 2016

Approved by Board of Directors on 14th September 2015 / 22nd February 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 1-1

Chapter 1 GENERAL

1.1 Surveys

1.1.3 Intervals of Class Maintenance Surveys

Sub-paragraph -1 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 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) Special Surveys

Special Surveys are to be carried out as specified in **(a) through and (eb)** below.

(a) Special Surveys are to be carried out within 3 *months* before the date of expiry of the *Certificate of Classification*;

(b) Special Surveys may be commenced at or after the 4th Annual Survey and be completed within 3 *months* before the date of expiry of the *Certificate of Classification* ; or

~~**(c)** Notwithstanding **(b)**, Special Surveys may be commenced prior to the 4th Annual Survey. In this case, the Special Survey is to be completed within 15 *months* from the date of commencement of the Special Survey.~~

((4) to (6) are omitted.)

(-2 and -3 are omitted.)

Paragraph 1.1.4 has been amended as follows.

1.1.4 Periodical Surveys Carried Out in Advance

~~1 Special Surveys may be carried out in advance of the due dates of the Special Survey upon application by the Owner.~~

~~2.1~~ Annual Surveys and Intermediate Surveys may be carried out in advance of the ~~due dates~~ times of each Survey specified in 1.1.3-1(1) upon application when requested by the Owner. In ~~this~~ such cases, additional Periodical Surveys are to be carried out ~~in accordance with the provisions~~ as specified otherwise by the Society.

2 Intermediate Surveys may be carried out in advance of the times specified in 1.1.3-1(2) when requested by the owner. In such cases, additional Periodical Surveys are to be carried out as specified otherwise by the Society. Furthermore, when an Intermediate Survey is carried out in advance at the time of an Annual Survey, the Annual Survey may be dispensed with.

~~3 Where a Periodical Survey other than an Annual Survey or an Intermediate Survey is~~ Special Surveys may be carried out based upon following (1) through (3) in advance ~~at the due time of the Annual Survey or Intermediate Survey, the following requirements may be applicable~~ of the times specified in 1.1.3-1(3) when requested by the owner.

- ~~(1) Where an Intermediate Survey or a Special Survey is carried out in advance at the due time of the a Annual Survey or Intermediate Survey, the Annual Survey or Intermediate Survey may be dispensed with.~~
- ~~(2) Where a Special Survey is carried out in advance at the due time of the Intermediate Survey, the Intermediate Survey may be dispensed with.~~ Where a Special Survey is commenced prior to the time of the fourth Annual Survey, the Special Survey is to be completed within 15 months from the date of its commencement.
- (3) Notwithstanding (2), where a Special Survey is commenced on or before the due date of the third Annual Survey and an Intermediate Survey is not carried out, the Special Survey is to be completed up to the following (a) or (b), whichever is earlier.
 - (a) Due date of third Annual Survey; or
 - (b) 15 months from the date of its commencement.

Chapter 2 CLASSIFICATION SURVEYS

2.1 Classification Survey During Construction

Paragraph 2.1.6 has been amended as follows.

2.1.6 Documents to be Maintained ~~on~~ 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.

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

~~(3) Finished plans specified in 2.1.7-4~~

2 In addition to the requirements in ~~-1~~ above, for ships engaged on international voyages, the Surveyor confirms that the Ship Construction File contains the necessary documents from the following drawings, plans, manuals and documents, and that the Construction File is on board the ship. Duplicate documents as in ~~-1~~ are not required.

~~(1) Finished plans of hull structural drawings specified in 2.1.7-4~~

((2) to (12) are omitted.)

3 In addition to the requirements in **-1** above, for ships subject to *SOLAS Chapter II-1 Regulation 3-10*, notwithstanding **-2** above, the Surveyor confirms that the Ship Construction File, which contains necessary documents from the following drawings and information, etc. as well as those specified in **Table B2.1**, is being kept on board the ship. Duplicate documents as in **-1** are not required. Moreover, part of the content of the Ship Construction File may be subject to various degrees of, or restricted access and that such documentation may be appropriately kept on shore archive deemed appropriate by the Society. In such cases, procedures to access the information kept in said archive are to be specified in the Ship Construction File kept on board the ship. Finally, all intellectual property provisions within the Ship Construction File are to be duly complied with.

(1) Finished plans of the hull structural drawings specified in **2.1.7-4**

((2) to (20) are omitted.)

(-4 to -7 are omitted.)

2.1.7 Finished Plans

Sub-paragraphs -2 and -3 have been deleted.

~~4~~ At the completion of a classification survey during construction, the applicant is to prepare finished plans regarding the following drawings, etc., and submit them to the Society.

(1) General arrangement

(2) Midship section, scantling plans (construction profile), deck plans, shell expansion, transverse bulkheads, plans for rudder and rudder stock, and plans for cargo hatch covers

(3) Bilge, ballast and cargo piping diagrams

(4) Fire protection plans

(5) Fire extinguishing appliances arrangement

(6) Plans and data showing the navigation bridge visibilities

~~2~~ For ships that are required to maintain a Ship Construction File on board in accordance with **2.1.6-2**, the documents contained in the Ship Construction File are also to be submitted to the Society, in addition to the documents specified in **-1** above. However, it is not necessary to submit duplicates of any of the documents specified in **-1** above and in **2.1.6-1**.

~~3~~ For ships that are required to maintain a Ship Construction File on board in accordance with **2.1.6-3**, the documents specified in **2.1.6-3(1) to (12)** from those contained in the Ship Construction File are also to be submitted to the Society, in addition to the documents specified in **-1** above. However, it is not necessary to submit duplicates of any of the documents specified in **-1** above and in **2.1.6-1**.

Chapter 4 INTERMEDIATE SURVEYS

4.1 General

Paragraph 4.1.3 has been added as follows.

4.1.3 Survey Results

Regardless of when Intermediate Surveys and Special Surveys are carried out, the results of surveys and thickness measurements of spaces carried out for Intermediate Surveys are not to be used as the results for Special Surveys and the results of surveys and thickness measurements of spaces carried out for Special Surveys are not to be used as the results for Intermediate Surveys.

Chapter 5 SPECIAL SURVEYS

5.1 General

Paragraph 5.1.1 has been amended as follows.

5.1.1 Examinations to be Carried out at the Commencement or Completion of Special Surveys

1 Where the Special Survey is commenced in accordance with the requirements in **1.1.3-1(3)(b)** or ~~(e)1.1.4-3~~, the thickness measurements required in **5.2.6** are to be carried out at the commencement of the Survey if possible in order to facilitate planning repairs. Where the Special Survey is commenced at or prior to the time of the 4th Annual Survey, at a minimum the examinations required in **Chapter 3** are to be carried out.

2 Where the Special Surveys is completed in accordance with the requirements in **1.1.3-1(3)(b)** or ~~(e)1.1.4-3~~, at a minimum the examinations required in **Chapter 3** are to be carried out at the completion of the Special Survey. However, the Surveyor may, based upon the above results, require examinations already carried out to be conducted again when deemed necessary.

Paragraph 5.1.4 has been added as follows.

5.1.4 Survey Results

Regardless of when Intermediate Surveys and Special Surveys are carried out, the results of surveys and thickness measurements of spaces carried out for Intermediate Surveys are not to be used as the results for Special Surveys and the results of surveys and thickness measurements of spaces carried out for Special Surveys are not to be used as the results for Intermediate Surveys.

EFFECTIVE DATE AND APPLICATION (Amendment 1-1)

1. The effective date of the amendments is 30 June 2016.

Chapter 3 ANNUAL SURVEYS

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

Paragraph 3.2.8 has been added as follows.

3.2.8 Alternative Design and Arrangements

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

3.3 Annual Surveys for Machinery

Paragraph 3.3.3 has been added as follows.

3.3.3 Alternative Design and Arrangements

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

EFFECTIVE DATE AND APPLICATION (Amendment 1-2)

1. The effective date of the amendments is 30 June 2016.
2. Notwithstanding the amendments to the Rules, the current requirements may apply to the surveys for which the application is submitted to the Society before the effective date.

Chapter 1 GENERAL

1.1 Surveys

1.1.5 Postponement of Surveys

Sub-paragraph -3 has been amended as follows.

3 In addition to -1 above, Boiler Surveys specified in **1.1.3-1(5)(a)** and **(b)** may be postponed up to 3 months, subject to approval by the Society in advance, in the following exceptional circumstances ~~such as: the unavailability of repair facilities;~~ the unavailability of essential materials, equipment or spare parts; or delays incurred by action taken to avoid severe weather conditions.

1.1.9 Machinery Verification Runs

Paragraph 1.1.9 has been amended as follows.

1 At the time of a special survey, a dock trial in the presence of the attending surveyor is to be carried out to confirm the satisfactory operation of main and auxiliary machinery. If significant repairs have been carried out to main or auxiliary machinery or steering gear, the Surveyor may deem a sea trial necessary.

2 At the time of extended drydocking, a dock trial may be required at the discretion of the attending surveyor to confirm the satisfactory operation of main and auxiliary machinery. If significant repairs have been carried out to main or auxiliary machinery or steering gear, the Surveyor may deem a sea trial necessary.

EFFECTIVE DATE AND APPLICATION (Amendment 1-3)

1. The effective date of the amendments is 1 July 2016.
2. Notwithstanding the amendments to the Rules, the current requirements may apply to the surveys for which the application is submitted to the Society before the effective date.

Chapter 1 GENERAL

1.4 Preparation for Surveys and Miscellaneous

Paragraph 1.4.6 has been amended as follows.

1.4.6 Firms Engaged in ~~Surveys~~Inspections, Measurements and Maintenance

1 Unless otherwise specified, where third parties engaged in thickness measurements, in-water surveys by divers or remote operated vehicles, or tightness testing of closing appliances such as hatches, doors, etc., with ultrasonic equipment are to be firms deemed appropriate by the Society.

2 Unless otherwise specified, third parties engaged in ~~surveys~~inspections and maintenance of fixed fire extinguishing systems, portable fire extinguishers, self contained breathing apparatuses, emergency escape breathing devices or fire detection and alarm systems are to be firms deemed appropriate by the Society.

3 Unless otherwise specified, third parties engaged in tightness testing of primary and secondary barriers of gas carriers with membrane cargo containment systems are to be firms deemed appropriate by the Society.

Chapter 11 SURVEYS OF SUBMERSIBLES

11.1 General

11.1.2 General Requirements on Surveys

Sub-paragraph -6 has been amended as follows.

6 Unless otherwise specified, where a third parties engaged in ~~surveys~~inspections and maintenance of portable fire extinguishers are to be firms deemed appropriate by the Society.

Chapter 13 SPECIAL REQUIREMENTS OF PERIODICAL SURVEYS FOR OFFSHORE STRUCTURES

13.2 Preparation of Surveys and Inspections

Paragraph 13.2.2 has been amended as follows.

13.2.2 Inspection Companies Carrying Out ~~Surveys~~Inspections, Measurements and Maintenance

1 Unless otherwise specified, third parties engaged in thickness measurements, in-water surveys by divers or remote operated vehicles, or tightness testing of closing appliances such as hatches, doors, etc. with ultrasonic equipment are to be firms deemed appropriate by the Society.

2 Unless otherwise specified, third parties engaged in ~~surveys~~inspections and maintenance of fixed fire extinguishing systems, portable fire extinguishers, self contained breathing apparatuses, emergency escape breathing devices or fire detection and alarm systems are to be firms deemed appropriate by the Society.

EFFECTIVE DATE AND APPLICATION (Amendment 1-4)

- 1.** The effective date of the amendments is 1 July 2016.
- 2.** Notwithstanding the amendments to the Rules, the current requirements may apply to manufacturing works and service suppliers approved by the Society before 1 July 2016 until 30 June 2019 or the expiry date of their certificate, whichever comes first.

Chapter 1 GENERAL

Section 1.5 has been added as follows.

1.5 Others

1.5.1 Portable Atmosphere Testing Instruments for Enclosed Spaces

Ships of not less than 500 gross tonnage engaged on international voyages (except steel barges, submersibles) are to carry an appropriate portable atmosphere testing instrument or instruments. As a minimum, these are to be capable of measuring concentrations of oxygen, flammable gases or vapours, hydrogen sulphide and carbon monoxide prior to entry into enclosed spaces. Instruments carried under other requirements may satisfy this regulation. Suitable means are to be provided for the calibration of all such instruments.

Chapter 3 ANNUAL SURVEYS

Table B3.2 has been amended as follows.

Table B3.2 General Examination

Items	Examination
(Omitted)	
24 Portable gas detecting instruments	• Confirmation that portable gas detecting instruments are in good condition
Additional Requirement for Tankers, Ships Carrying Dangerous Chemicals in bulk and Ships Carrying Liquefied Gases in bulk	
24 ⁵ 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.
Additional Requirement for Bulk Carriers over 10 years of age	
25 ⁶ 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	
26 ⁷ Piping in the cargo holds	• Confirmation that all piping and penetrations in cargo holds, including overboard piping, are in good condition.

EFFECTIVE DATE AND APPLICATION (Amendment 1-5)

1. The effective date of the amendments is 1 July 2016.

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 **2.1.23**, **3.1.2** and **4.1.2, Part D** in relation to the kind of engine

Chapter 14 SURVEY FOR FLOATING OFFSHORE FACILITIES FOR CRUDE OIL/PETROLEUM GAS PRODUCTION, STORAGE AND OFFLOADING

14.2 Classification Surveys

14.2.2 Submission of Plans and Documents for Approval

1 At the Classification Surveys during construction of Floating Offshore Facilities, the following plans and documents are to be submitted to the Society for approval before the work is commenced.

(2) Machinery

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

(c) Prime movers including attached auxiliaries (plans and data specified in **2.1.23**, **3.1.2** and **4.1.2, Part D** corresponding to the kind of prime mover)

EFFECTIVE DATE AND APPLICATION (Amendment 1-6)

- 1.** The effective date of the amendments is 1 July 2016.
- 2.** Notwithstanding the amendments to the Rules, the current requirements may apply to diesel engines whose type is the same type of those for which the application for approval is submitted to the Society before the effective date.

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 **2.1.23**, **3.1.2** and **4.1.2, Part D** in relation to the kind of engine

Chapter 14 SURVEY FOR FLOATING OFFSHORE FACILITIES FOR CRUDE OIL/PETROLEUM GAS PRODUCTION, STORAGE AND OFFLOADING

14.2 Classification Surveys

14.2.2 Submission of Plans and Documents for Approval

1 At the Classification Surveys during construction of Floating Offshore Facilities, the following plans and documents are to be submitted to the Society for approval before the work is commenced.

(2) Machinery

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

(c) Prime movers including attached auxiliaries (plans and data specified in **2.1.23**, **3.1.2** and **4.1.2, Part D** corresponding to the kind of prime mover)

EFFECTIVE DATE AND APPLICATION (Amendment 1-7)

- 1.** The effective date of the amendments is 1 July 2016.
- 2.** Notwithstanding the amendments to the Rules, the current requirements may apply to diesel engines or exhaust driven turbochargers for which the date of application for approval is before the effective date.

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) and (2) are omitted.)

(3) Ships carrying liquefied gases in bulk

((a) to (s) are omitted.)

(t) Electric wiring plans and a table of electrical equipments in hazardous area ~~dangerous spaces~~

((u) is omitted.)

(v) Plans showing hazardous area ~~dangerous spaces~~

((w) is omitted.)

(x) For independent tank of Type *B*, programs of the non-destructive test for periodical surveys

(y) For membrane and semi-membrane tanks ~~and internal insulation tanks~~, programs of the examination and testing of cargo containment systems for periodical surveys

(z) An inspection/survey plan for the cargo containment system

~~(zaa)~~ Plans and documents other than those in (a) through (~~yz~~) required to be submitted in **Part N**

((4) to (6) are omitted.)

Sub-paragraph -7 has been amended as follows.

7 For ships carrying liquefied gases in bulk, an operation manual stipulated in ~~Chapter 18.2.1~~, **Part N** is to be submitted for approval by the Society. For ships carrying dangerous chemicals in bulk, an operation manual stipulated in ~~Chapter 16.1.1~~, **Part S** is to be submitted for approval 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) to (6) are omitted.)

(7) For ships carrying liquefied gases in bulk, the following plans and documents:

((a) to (c) are omitted.)

- (d) Data on design loads stipulated in ~~4.34.13~~ to **4.18, Part N**
- (e) Calculation sheets of cargo tanks and supports stipulated in ~~4.4 to 4.64.8~~ and **4.21 to 4.25, Part N**
- ((f) to (r) are omitted.)
- (s) Documents related to failure mode and effects analysis specified in **10.2.6, Part N**
- ((8) to (13) are omitted.)

Paragraph 2.1.6 has been amended as follows.

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.

- (1) Documents approved by the Society or their copies
 - ((a) to (d) are omitted.)
 - (e) Stability information booklets (**1.2.1, Part U, 2.2.23, 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 (**18.42, Part N**)
 - ((g) is omitted.)
 - (h) Cargo handling plans (~~17.2018.13-2~~ and ~~17.2223.12-10~~, **Part N and 15.3.2-15 and 15.8.32, Part S**)
 - (i) Lists of loading/filling limits (~~15.226.1 and 17.20.14~~, **Part N and 15.3.2-12, 15.8.33-3 and 15.14.7-3, Part S**)
 - ((j) to (n) are omitted.)
- (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 (~~18.2231.1~~, **Part N**)
 - ((o) to (q) are omitted.)
- ((3) is omitted.)

2 In addition to the requirements in -1 above, for ships engaged on international voyages, the Surveyor confirms that the Ship Construction File contains the necessary documents from the following drawings, plans, manuals and documents, and that the Construction File is on board the ship. Duplicate documents as in -1 are not required.

- ((1) is omitted.)
- (2) The following manuals and documents
 - (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) Stability information booklets (**1.2.1, Part U, 2.2.23, Part N and 2.2.2, Part S**)
- ((3) to (12) are omitted.)
- (-3 to -7 are omitted.)

2.2 Classification Survey of Ships not Built Under Survey

2.2.1 General

Sub-paragraph -4 has been amended as follows.

4 For ships carrying liquefied gases in bulk, the operation manual stipulated in ~~Chapter 18.2.1, Part N~~ is to be submitted for approval by the Society. For ships carrying dangerous chemicals in bulk, the operation manual stipulated in ~~Chapter 16.1.1, Part S~~ is to be submitted for approval by the Society.

Chapter 3 ANNUAL SURVEYS

Table B3.9 has been amended as follows.

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

Items	Examinations
(Omitted)	
9 Miscellaneous	<p>The general condition of the equipment shown in (a) through (j) 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.</p> <p>((a) to (i) are omitted.)</p> <p>(j) Electrical installations in <u>hazardous area</u> gas dangerous spaces or zones.</p> <p>(k) Cargo log book, operational records and manuals related to cargo containment system and cargo handling system.</p> <p>(l) The <i>IMO Code</i> for gas carriers or the Rules incorporating the provisions of this <i>Code</i></p>

EFFECTIVE DATE AND APPLICATION (Amendment 1-8)

1. The effective date of the amendments is 1 July 2016.
2. Notwithstanding the amendments to the Rules, the current requirements may apply to ships the keels of which were laid or which were at *a similar stage of construction* before the effective date.
(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.

Chapter 3 ANNUAL SURVEYS

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

Paragraph 3.2.6 has been amended as follows.

3.2.6 Thickness Measurements

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 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.

2 For structures built with materials other than steel, alternative thickness measurement requirements may be developed and applied as deemed necessary by the Society.

Chapter 4 INTERMEDIATE SURVEYS

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

Paragraph 4.2.6 has been amended as follows.

4.2.6 Thickness Measurements

1 At Intermediate Surveys, thickness measurements of the area listed in **(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) Structural members, etc. listed in **Table B4.4**

(2) Suspect areas identified in the previous survey where deemed necessary by the Surveyor as a consequence of internal examination of spaces and tanks specified in **4.2.4**.

(3) Substantial corrosion areas identified in the previous survey

2 For structures built with materials other than steel, alternative thickness measurement requirements may be developed and applied as deemed necessary by the Society.

Chapter 5 SPECIAL SURVEYS

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

5.2.6 Thickness Measurements

Sub-paragraph -9 has been added as follows.

9 For structures built with materials other than steel, alternative thickness measurement requirements may be developed and applied as deemed necessary by the Society.

Table B5.6-1 has been amended as follows.

Table B5.6-1 Requirements of Close-up Surveys for Bulk Carriers (excluding Ore Carriers)

Special Survey	Structural members subject to Close-up Survey
Requirements for Double Skin Bulk Carriers (excluding Ore Carriers)	
Special Survey for ships up to 5 years of age (Special Survey No.1)	<ol style="list-style-type: none"> 1. Two selected cargo hold transverse bulkheads (including stiffeners and girders) (C) 2. One transverse web with associated plating and longitudinals in two representative ballast tanks of each type (this is to include the foremost topside and double side ballast tanks on either side) (B) 3. Air pipes and sounding pipes in cargo holds in way of tank top 4. All hatch cover plating, hatch coaming plating, and stiffeners
Special Survey for ships over 5 years and up to 10 years of age (Special Survey No.2)	<ol style="list-style-type: none"> 1. One transverse bulkhead in each cargo hold (including stiffeners and girders) (C) 2. One transverse web with associated plating and longitudinals in each ballast tank (B) 3. Both forward and aft transverse bulkheads (including stiffeners and girders) in a transverse section including topside, bilge hopper and double side ballast tanks on one side of the ship (B) 4. A sufficient number (at least 1/4 of total number) of stiffeners (<u>ordinary transverse frames for transverse framing systems or longitudinals for longitudinal framing systems</u>) on side shell and longitudinal bulkhead at forward, middle, and aft parts on both sides of the foremost double side tanks (A) 5. All deck plating and under deck structure inside the line of hatch openings between cargo hold hatches 6. All piping arrangements in cargo holds. If the surveyor considers it necessary, airtight tests are to be carried out. 7. All hatch cover plating, hatch coaming plating, and stiffeners
Special Survey for ships over 10 years and up to 15 years of age (Special Survey No.3)	<ol style="list-style-type: none"> 1. All transverse bulkheads (including stiffeners and girders) in all cargo holds (C) 2. All transverse webs with associated plating and longitudinals and all transverse bulkheads (including stiffeners and girders) in each ballast tank (B) 3. A sufficient number (at least 1/4 of total number) of stiffeners (<u>ordinary transverse frames for transverse framing systems or longitudinals for longitudinal framing systems</u>) on side shell and longitudinal bulkhead at forward, middle, and aft parts on both sides of all double side tanks (A) 4. Structural members specified in 5. to 7. of Special Survey No.2 above
Special Survey for ships over 15 years of age (Special Survey No.4 and subsequent Special Surveys)	<ol style="list-style-type: none"> 1. All stiffeners (<u>ordinary transverse frames for transverse framing systems or longitudinals for longitudinal framing systems</u>) on side shell and longitudinal bulkhead in all double side tanks (A) 2. Structural members specified in 1., 2. and 4. of Special Survey No.3 above

Notes:

- (1) Letters in this table mean:
 - (A): Cargo hold transverse frames, or stiffeners (ordinary transverse frames for transverse framing systems or longitudinals for longitudinal framing systems) on side shell or longitudinal bulkhead in double side tanks
 - (B): Transverse web frame ring or watertight transverse bulkhead in fore and aft peak, topside, bilge hopper and double side ballast tanks including adjacent structural members
 - (C): Including plating and internal structures of lower and upper stools, where fitted
- (2) Close-up Surveys of transverse bulkheads are to be carried out at least at four levels as specified as follows:
 - (i) Immediately above the inner bottom and immediately above the line of gussets (if fitted) and shedders for ships without lower stool.
 - (ii) Immediately above and below the lower stool shelf plate (for those ships fitted with lower stools), and immediately above the line of the shedder plates.
 - (iii) About mid-height of the bulkhead.
 - (iv) Immediately below the upper deck plating and immediately adjacent to the upper wing tank, and immediately below the upper stool shelf plate for those ships fitted with upper stools, or immediately below the topside tanks.
- (3) A double side tank of double skin bulk carriers is to be considered as a separate tank even if it is in connection to either the topside tank or the bilge hopper tank.

EFFECTIVE DATE AND APPLICATION (Amendment 1-9)

1. The effective date of the amendments is 1 July 2016.
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 by the owner.

GUIDANCE FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

Part B

Class Surveys

GUIDANCE

2016 AMENDMENT NO.1

Notice No.39 30th June 2016

Resolved by Technical Committee on 28th July 2015 / 5th February 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 1-1

B1 GENERAL

B1.1 Surveys

B1.1.3 Intervals of Class Maintenance Surveys

Sub-paragraph -1 has been amended as follows.

1 In applying the requirements specified in **1.1.3-1(3)(b), Part B of the Rules**, where Annual Surveys or Intermediate Surveys have been carried out in advance in accordance with **1.1.4-1 and -2, Part B of the Rules**, the Special Survey may be carried as specified in **(1)** or **(2)** below:

- (1) The Special Survey may commence up to 15 *months* before the date of expiry of the *Certificate of Classification* and be completed within 3 *months* before the date of expiry of the *Certificate of Classification*.
- (2) The Special Survey may be carried out during the period specified in accordance with **1.1.3-1(3)(e)1.1.4-3, Part B of the Rules**.

(-2 to -8 are omitted.)

Paragraph B1.1.4 has been amended as follows.

B1.1.4 Periodical Surveys carried out in advance

1 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* 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.

~~**2** In cases where Special Surveys are carried out in advance of the due dates of Intermediate Surveys and such Intermediate Surveys are dispensed with in accordance with **1.1.4-3, Part B of the Rules**, then such Special Surveys are to be completed up to and including the due date of the third Annual Surveys.~~

B2 CLASSIFICATION SURVEYS

B2.1 Classification Survey during Construction

B2.1.4 Presence of the Surveyor

1 At the surveys for fire extinguishing systems referred to in **2.1.4-1(15), Part B of the Rules**, the following examinations are to be carried out. Where it is impractical to carry out the examinations on board the ship, the examinations may be replaced with examinations carried out at the place of manufacture under the presence of the Surveyor.

- (3) For fire extinguishing systems, fire detecting systems and manually operated call points:
- (a) Fire main line including associated pumps

Sub-paragraph i) has been amended as follows.

- i) ~~Confirmation that each fire main pump can be operated separately so that two jets of water (at least 12 m) are produced simultaneously from different hydrants at any part of the ship whilst the required pressure is maintained in the fire main~~ For fire main pumps, confirmation that two jets of water are simultaneously produced from the highest positioned hydrants and hydrants which impose the most strict condition, taking into account their distances from the fire pump, and that the pressures at each hydrant are to be not less than the minimum pressure required by 10.2.1-6(1), Part R of the Rules.

Paragraph B2.1.7 has been amended as follows.

B2.1.7 Finished Plans

1 Items to be indicated in hull structural drawings specified in **2.1.7-4(2), Part B of the Rules** are to be in accordance with **B2.1.2-1**.

2 Scantling plans specified in **2.1.7-4(2), Part B of the Rules** mean drawings containing construction arrangements and scantlings of hull structural members including fore and aft end structures unless specified otherwise. When the necessary information is available in other drawings submitted under the provisions of **2.1.7-4(2), Part B of the Rules**, scantling plans do not need to be submitted separately.

B4 INTERMEDIATE SURVEYS

B4.1 General

Paragraph B4.1.3 has been added as follows.

B4.1.3 Survey Results

“Surveys and thickness measurements of spaces” specified in 4.1.3, Part B of the Rules means internal examinations, close-up surveys and thickness measurements of spaces and tanks.

B5 SPECIAL SURVEYS

Section B5.1 has been added as follows.

B5.1 General

B5.1.4 Survey Results

“Surveys and thickness measurements of spaces” specified in 5.1.4, Part B of the Rules means internal examinations, close-up surveys and thickness measurements of spaces and tanks.

EFFECTIVE DATE AND APPLICATION (Amendment 1-1)

1. The effective date of the amendments is 30 June 2016.

B5 SPECIAL SURVEYS

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

B5.2.7 Pressure Tests

Sub-paragraph -4 has been amended as follows.

4 With respect to the pressure tests for the cargo tanks of tankers and ships carrying dangerous chemicals in bulk, when pressure tests are conducted in the presence of the Master or any other representative personnel of the ship, such pressure tests may be regarded as the pressure tests required for Special Surveys at the discretion of the Surveyor provided the following **(1)** to **(5)** conditions are complied with~~ed~~. For pressure tests conducted in the presence of the master or any other representative personnel, guidance is specified in **Annex B5.2.7-4**.

- (1) The procedure for the pressure test has been submitted by the owner and reviewed by the Society prior to the pressure test being carried out.
- (2) There is no record of leakage, distortion or substantial corrosion that would affect the structural integrity of the tank.
- (3) The pressure test has been satisfactorily carried out within special survey window not more than 3 months prior to the date of the survey on which the internal examination or close-up survey is completed.
- (4) The satisfactory results of the pressure test are recorded in the ship's logbook.
- (5) The internal and external condition of the tanks and associated structure are found satisfactory by the Surveyor at the time of the internal examination and close-up survey.

Annex B5.2.7-4 has been added as follows.

**Annex B5.2.7-4 GUIDANCE ON PRESSURE TESTING OF BOUNDARIES
OF CARGO TANKS UNDER DIRECTION OF THE MASTER
(in reference to MSC.1/Circ.1502 ANNEX)**

1 Introduction

- 1.1 This guidance gives information and advice on technical and formal matters related to the required testing of cargo tanks when this is undertaken under direction of the master according to B5.2.7-4.
- 1.2 Where the ship is in a shipyard or is under attendance of the surveyor, the testing of cargo tanks is to be carried out under the direction, and in the presence, of the surveyor. It is to be noted that all ballast tanks adjacent to cargo tanks are to be tested by the surveyors.

2 Objective and applicability

- 2.1 This guidance is prepared as a reference for Administrations, companies, masters and crews in order to facilitate a common understanding of the procedures for testing of cargo tanks when this is undertaken under the direction of the master.
- 2.2 This procedure applies to oil tankers and ships carrying dangerous chemicals in bulk with integral tanks to which the provision of B5.2.7-4 is applicable.

3 Testing of cargo tanks

- 3.1 The minimum requirements for cargo tank testing at renewal survey are given in 5.2.7, Part B of the Rules.
- 3.2 Tests of the cargo tanks carried out under this procedure are to be to the satisfaction of the master.
- 3.3 Boundaries of cargo tanks are to be tested with liquid to the highest point that the liquid will rise under service conditions. The minimum scope of bulkheads to be tested is to be in accordance with the requirements in Table B5.23-1, Part B of the Rules.
- 3.4 Testing of the boundaries of cargo tanks carried out by the ship's crew under the direction of the master may be accepted by the surveyor provided the following conditions are complied with:
 - .1 a tank testing procedure specifying fill heights, tanks being filled and boundaries being tested has been submitted by the owner and reviewed by the Society prior to the testing being carried out;
 - .2 there is no record of leakage, distortion or substantial corrosion that would affect the structural integrity of the tank;
 - .3 the tank testing has been satisfactorily carried out within the renewal survey window not more than three months prior to the date of the survey on which the overall or close-up survey is completed;
 - .4 the satisfactory results of the testing are recorded in the ship's logbook; and
 - .5 the internal and external condition of the tanks boundaries and associated structure are found satisfactory by the surveyor at the time of the overall and close-up survey.
- 3.5 "Failed test": where the outcome of tank testing reveals structural damage or leakage, the Society is to be advised with immediate effect, and attendance on board by (an) surveyor arranged.

4 Procedure for testing of cargo tanks

4.1 In order to comply with the cargo pressure testing requirements, section 4.2 or 4.3 below is to be completed.

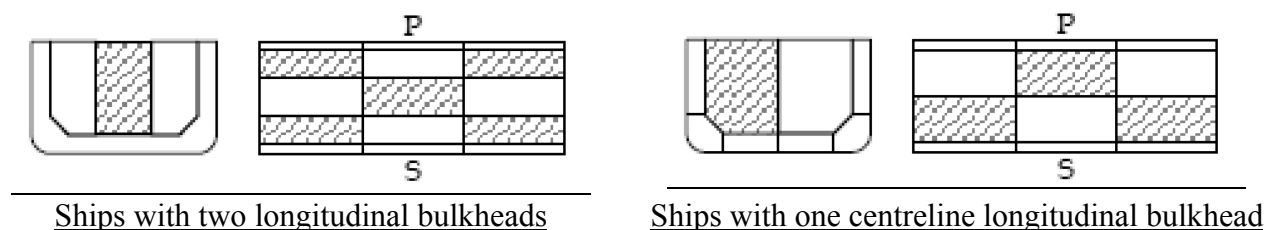
4.2 Strength testing using cargo

4.2.1 The required pressure testing condition is to be in accordance with the tank testing procedure reviewed by the Society (refer to **B5.2.7-4(1)**) but not less than the minimum as stated in section 3.3 above.

4.2.2 In order to test the relevant boundaries, the ship may be loaded in a checkerboard pattern (**Fig. 1**), so that each cargo tank internal bulkhead is subjected to a fully loaded head of pressure provided that the intended loading and stability conditions are checked and confirmed by the master.

4.2.3 The ship's logbook is to confirm that paragraph 4.2.2 and section 4.3 below have been successfully carried out and that it is to be signed by the master.

Fig. 1 - "Stagger test" - checkerboard pattern



4.3 Combined strength and tightness testing using ballast water

If practical with respect to the operation of the ship, it is acceptable to carry out combined strength and tightness testing using ballast water provided the relevant requirements in section 4.2 above are complied with and that the relevant tank boundaries are accessible for inspection. The boundaries and associated welds between the tank being tested and adjacent cargo tanks are to be fully inspected to ensure there is no indication of water leakage across the boundaries.

4.4 General

Water ballast tanks inclusive boundaries facing the cargo tanks, are to be tested in accordance with **5.2.7, Part B of the Rules**. These tests are to be witnessed and all boundaries are to be examined by the surveyor.

4.5 Safety

Careful consideration is to be given to the *REVISED RECOMMENDATIONS FOR ENTERING ENCLOSED SPACES ABOARD SHIP* (resolution A.1050(27)).

5 Master's inspections, assessments and reports

5.1 General

The following paragraphs describe the operations that are required of the master when carrying out the inspections of the boundaries of the tank which are to be submitted to a hydrostatic test. All safety precautions and facilities (lighting, ventilation, etc.) are to be provided according to the ship's Safety Management System (SMS) documentation and the cargo tank testing procedure as reviewed by the Society.

5.2 Places to be inspected

5.2.1 All boundaries of the cargo tank under testing are to be examined from positions outside of the cargo tank boundaries. Boundaries of commonly shaped tanks are constituted by the following:

- .1 a transverse aft bulkhead and associated structure;
- .2 a transverse fore bulkhead and associated structure;
- .3 two longitudinal bulkheads and relevant associated structure; and
- .4 an inner bottom plating and associated structure.

5.2.2 Each of these boundaries is the common division between the cargo tank under testing and another:

- .1 cargo tank, or
- .2 ballast tank/double bottom, or
- .3 fuel oil tank, or
- .4 void space or pump-room.

5.2.3 The inspection is to verify that:

- .1 the plating and structures of each boundary are not affected by evident geometrical defects, such as deflection/distortion of the structures supporting the plating of the boundaries, when hydrostatically loaded; and
- .2 the tightness of each boundary is not impaired, i.e., no leakages are to appear anywhere on surface of each boundary, especially at the welded joints connecting the plates which constitute the boundary itself.

5.2.4 Each boundary is to be closely inspected, noting any defective items from the two categories above.

5.3 Reporting

5.3.1 Following the inspection of all boundaries surrounding the cargo tank being tested, the master is required to report, in a simple manner, the results of the inspection. The report is to be recorded in the ship's logbook and include all data relevant to the following:

- .1 identification of the tank subjected to testing;
- .2 identification of the compartments surrounding the cargo tank subjected to testing;
- .3 date, time and place of testing;
- .4 ship's loading condition during the testing, including ship trim; and
- .5 outcome of the inspections carried out during the testing.

The report is to be retained on board for the attending surveyor's review.

5.3.2 Where no deficiencies have been found or noted, the testing of the cargo tank may be considered as having a satisfactory outcome.

EFFECTIVE DATE AND APPLICATION (Amendment 1-2)

1. The effective date of the amendments is 30 June 2016.
2. Notwithstanding the amendments to the Guidance, the current requirements may apply to the surveys for which the application is submitted to the Society before the effective date.

B1 GENERAL

B1.1 Surveys

B1.1.3 Intervals of Class Maintenance Surveys

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

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

(2) Cargo Hoses

For cargo hoses installed on board ships carrying liquefied gases in bulk and ships carrying dangerous chemicals in bulk on or after 1 July 2002, a survey is to be carried out to verify compliance with the requirements of **5.11.7.3, Part N of the Rules** or **5.7.3, Part S of the Rules**, as applicable, at the time of the installation.

B5 SPECIAL SURVEYS

B5.4 Special Requirements for Ships Carrying Liquefied Gases in Bulk

B5.4.2 Examinations

Sub-paragraph -1 has been amended as follows.

1 The wording “programs and acceptance criteria approved in advance” in item 2 of **Table B5.27, Part B of the Rules** refers to the programs and acceptance criteria prepared by cargo containment systems’ designers and approved by the Society in accordance with the provisions of **4.7.7.4.6.2(4), Part N of the Rules**.

EFFECTIVE DATE AND APPLICATION (Amendment 1-3)

1. The effective date of the amendments is 1 July 2016.
2. Notwithstanding the amendments to the Guidance, the current requirements may apply to ships the keels of which were laid or which were at *a similar stage of construction* before the effective date.

(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.

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-paragraph (20) has been added as follows.

(20) Portable Atmosphere Testing Instruments for Enclosed Spaces

For ships of not less than 500 *gross tonnage* engaged on international voyages which had been at the beginning stage of construction before 1 July 2016, it is to be verified that portable atmosphere testing instruments complying with **1.5.1, Part B of the Rules** are provided on board by the first survey on or after 1 July 2016.

EFFECTIVE DATE AND APPLICATION (Amendment 1-4)

1. The effective date of the amendments is 1 July 2016.

B1 GENERAL

B1.1 Surveys

B1.1.6 Modification of the Requirements

Sub-paragraph -3(5)(d) has been deleted.

3 The procedures for internal examination, close-up survey, thickness measurements and hydrostatic tests of tanks and compartments required at Special Surveys carried out on the continuous survey basis in accordance with the requirements in **1.1.6-4, Part B of the Rules** are to conform to the following requirements in **(1) to (5)**.

((1) to (4) are omitted.)

(5) Cancellation of CHS

- (a) Where an application for cancellation of CHS is made by the Owner or his representative, ordinary examinations required for compartments or tanks of ships not adopting CHS are to be carried out henceforth. However, where there are compartments or tanks that will not be covered by a Special Survey within 5 *years* of the previous survey, those compartments and tanks are to be examined within those 5 *years*.
- (b) CHS may be cancelled if the CHS is not carried out in accordance with the Guidance. In this case, the ship is to be handled in accordance with the requirements in (a).
- (c) Where the Owner changes, the CHS is, as a rule, discontinued. Where the new Owner wishes to continue CHS, an application is to be made in accordance with the requirements specified in **(1)** above.
- ~~(d) CHS for general dry cargo ships of not less than 500 gross tonnage is to be cancelled. The changeover from CHS to special survey is to be carried out as early as possible and is to be not later than the due date of the next Intermediate Survey or Special Survey, whichever comes first after 1 July 2005. However, the following applies:~~
 - ~~(i) All items credited for CHS within the 15 months prior to the date of changeover may be accepted without further survey at the Surveyor's discretion~~
 - ~~(ii) All other items are to be surveyed and credited at the date of changeover~~

EFFECTIVE DATE AND APPLICATION (Amendment 1-5)

1. The effective date of the amendments is 1 July 2016.
2. Notwithstanding the amendments to the Guidance, the current requirements may apply to the surveys for which the application is submitted to the Society before the effective date.

B1 GENERAL

B1.4 Preparation for Survey and Other Items

B1.4.2 Preparation for Surveys

Sub-paragraph -16 has been added as follows.

16 The following preparations are to be made before carrying out the engine tests specified in 2.3.1-1(5), Part B of the Rules and 2.6.1-2, Part D of the Rules:

- (1) All relevant equipment for the safety of attending personnel such as oil mist detection arrangements, overspeed protective devices and any other shut down functions are to be made available and are to be operational.
- (2) The overspeed protective device is to be set to a value which is not higher than the allowable overspeed value. This set point is to be verified by the surveyor.
- (3) The engines are to be run as prescribed by the engine manufacturer.
- (4) All fluids used for testing purposes (fuel oils, lubrication oils, cooling water, etc., including all fluids used temporarily or repeatedly for testing purposes only) are to be suitable for their intended purposes (i.e., they are to be clean, preheated if necessary and cause no harm to engine parts).

EFFECTIVE DATE AND APPLICATION (Amendment 1-6)

1. The effective date of the amendments is 1 July 2016.
 2. Notwithstanding the amendments to the Guidance, the current requirements may apply to engine tests that fall under the following:
 - (1) engine tests conducted during the sea trials of diesel engines for which the date of application for approval is before the effective date and which are installed on ships for which the date of contract for construction* is before the effective date; or
 - (2) engine tests conducted during the shop tests of diesel engines for which the date of application for approval 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.

B1 GENERAL

B1.4 Preparation for Survey and Other Items

Title of Paragraph B1.4.6 has been amended as follows.

B1.4.6 Firms Engaged in ~~Surveys~~Inspections, Measurements and Maintenance

B13 SPECIAL REQUIREMENTS OF PERIODICAL SURVEYS FOR OFFSHORE STRUCTURES

B13.2 Preparation for Surveys by Inspection Company

Paragraph B13.2.2 has been amended as follows.

B13.2.2 Inspection Companies Carrying Out ~~Surveys~~ Inspections, Measurements and Maintenance

1 The wording “firm deemed appropriate by the Society” in **13.2.2-1, Part B of the Rules** refers to firms complying with the requirements of **Chapter 2, 3 or 8, Part 3 of the Rules for Approval of Manufacturers and Service Suppliers** and approved by the Society.

2 The wording “firm deemed appropriate by the Society” in **13.2.2-2, Part B of the Rules** refers to any of the following: firms complying with the requirements of **Chapter 6, Part 3 of the Rules for Approval of Manufacturers and Service Suppliers** and approved by the Society; firms approved by the Administration; firms approved by duly authorized organizations acting on behalf of the Administration; or firms approved by other organizations which are acceptable to the Administration.

3 Where the inspection company wishes to use ~~survey inspection~~ equipment or ~~survey inspection~~ robots for the ~~survey inspection~~ of offshore structures, it is to submit an application together with the documents specified in the following **(a) to (i)** to the Society before inspections are carried out. Inspection companies approved by the Society as a provider of in-water inspection services or thickness gauging services are to submit a copy of the relevant approval certificate.

- (1) Specifications of equipment
- (2) Structural assembly drawings of equipment
- (3) Operating instruction manuals (including the correlation between equipment and inspection areas), maintenance manuals and calibration manuals of equipment
- (4) Outline of the company
- (5) Organisation and management system of the group implementing the inspection
- (6) Guidance for inspection services (including work system, work procedures, measures for safety and security, operating and inspection procedures for equipment)
- (7) Qualifications of divers, thickness gauging engineers, non-destructive testing engineers, and skilled operators such as welding operators
- (8) Education programs for skilled operators
- (9) Formats of inspection records

EFFECTIVE DATE AND APPLICATION (Amendment 1-7)

- 1.** The effective date of the amendments is 1 July 2016.
- 2.** Notwithstanding the amendments to the Guidance, the current requirements may apply to manufacturing works and service suppliers approved by the Society before 1 July 2016 until 30 June 2019 or the expiry date of their certificate, whichever comes first.

B2 CLASSIFICATION SURVEYS

B2.3 Sea Trials and Stability Experiments

B2.3.1 Sea Trials

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.

(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**.

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

- (a) For ships with a diesel engine, ~~a period of 10 minutes or~~ until the astern speed (rotational speed in rpm) stabilizes, ~~whichever is the greater~~

Sub-paragraph -5 has been amended as follows.

5 The performance tests of machinery installations required by **2.3.1-1(5), Part B of the Rules** are to include the following **(1)** to ~~**(78)**~~ in order to verify that the machinery installations have sufficient normal functions and reliability and are free from detrimental vibration within the numbers of revolutions used. However, these tests may be dispensed with where such tests have been conducted while the ship was anchored or at dockside. The details of these tests may be found in *JIS F 0801 "Test Code of Propelling Machinery at Sea Trials"* or other documents considered equivalent thereto. The preparations specified in **B1.4.2-16** are to be made before tests are carried out.

~~**(1)**~~ to ~~**(5)**~~ are omitted.)

(6) Governor tests

For engines for main sources of electrical power (including engines driving generators for both propulsion and main power supply), the characteristics for governors specified in **2.4.2-1, Part H of the Rules** are to be confirmed.

~~**(7)**~~ Function tests of the safety devices and alarms of boilers

~~**(8)**~~ Function tests of the safety devices and alarms of exhaust gas economizers

Sub-paragraph -9 has been amended as follows.

9 The measurements of the torsional vibration for shafting systems required by **2.3.1-1(9), Part B of the Rules** are to be carried out in accordance with the requirement of **8.1.3, Part D of the Rules**.

In cases where the confirmation of engine running conditions specified in **8.1.3-2, Part D of the Rules** is performed at the estimated upper and lower borders by calculation, it is recommended that the fuel index around estimated borders also be confirmed with consideration given to possible differences between estimated borders and actual borders confirmed through measurements.

Table B2.3.1-5 has been amended as follows.

Table B2.3.1-5 Sea Trials of Diesel Engines

Test items	Use of engines		
	Main engines of diesel ships ⁽¹⁾	Main engines of electric propulsion ships ⁽²⁾	Engines driving generators or auxiliaries (excluding auxiliary machinery for specific use etc.) ⁽²⁾
110% power run ⁽²⁾	30 minutes at engine speed in accordance with nominal propeller curve	30 minutes at n_0 (n_0 is the rated engine speed.)	Capability of supplying 110% power is to be demonstrated
100% power = (rated power) run ⁽⁴⁾	4 hours at engine speed in accordance with nominal propeller curve	4 hours at n_0	4 hours at n_0 ⁽⁴⁾⁽⁵⁾ (100% power run is to be included.)
Normal continuous cruise power run ⁽⁴⁾	2 hours at engine speed in accordance with nominal propeller curve	2 hours at n_0	
75% power run 50% power run 25% power run	An adequate time at engine speed in accordance with nominal propeller curve (one or two items may be omitted.)	An adequate time at n_0 (One or two items may be omitted.)	
Minimum revolution test of main engine	— ⁽⁶⁾	—	—

Test items		Use of engines		
		Main engines of diesel ships ⁽¹⁾	Engine driving generators (including main engines of electric propulsion ships) ⁽²⁾	Engines driving auxiliaries (excluding auxiliary machinery for specific use etc.)
Load test	110% power run	—	10 minutes at n_0 (n_0 is the rated engine speed.) ⁽³⁾	—
	100% power (rated power) run	4 hours at engine speed in accordance with propeller curve ⁽⁴⁾⁽⁵⁾⁽⁶⁾	1 hour at n_0 ⁽³⁾	30 minutes at n_0
Overspeed run		30 minutes at 1.032 n_0 or more ⁽⁷⁾⁽⁸⁾	—	—
Minimum revolution test of main engine ⁽⁹⁾		○ ⁽⁷⁾	—	—
Intermittent overload ⁽¹⁰⁾		○		○

Notes:

- (1) ~~In the case of controllable pitch propellers, the tests with various propeller pitches are to be included.~~
- (1) After testing has been completed, the fuel delivery system is to be blocked so as to limit the engines to run at not more than 100% power, excluding propulsion engines for which intermittent overload is approved as well as propulsion engines also driving generators.
- (2) The tests are ~~to be performed at a rated speed with a constant governor setting and~~ to be performed based on the rated electrical powers of the driven generators.
- (3) ~~The tests may be dispensed with where deemed appropriate by the Society in consideration of the test results of shop tests specified in D2.6.1, Part D of the Guidance.~~
- (3) This may, if possible, be done during the electrical propulsion plant test, which is tested at 100% propulsion power (i.e., total electric motor capacity for propulsion) by distributing the power on as few generators as possible. The duration of this test is to be sufficient to reach the stable operating temperatures of all rotating machines or for at least 4 hours. When some of the generator set(s) cannot be tested due to insufficient time during the propulsion system test mentioned above, those required tests are to be carried out separately.

- ~~(4) The duration of the tests may be shortened (however, the tests at 100% power run for main engines are to be conducted for not less than one hour.) where deemed appropriate by the Society in consideration of the test results of shop tests specified in **D2.6.1, Part D of the Guidance**.~~
- (4) In the case of controllable pitch propellers, the test is to be performed at rated engine speed n_0 at a propeller pitch leading to 100% power, or to the maximum achievable power if 100% power cannot be reached.
- ~~(5) The test loads may be decreased if the engine is unable to handle the specified loads.~~
- (5) In the case of propulsion engines also driving generators, tests are to be also carried out for 2 hours at 100% propeller branch power (unless already covered in the test at 100% power) and 1 hour with 100% power take off branch power at rated engine speed n_0 in addition to the test for 4 hours at 100% power.
- (6) For ships in which the tests specified in **2.2.5-2(1), Rules for Automatic and Remote Control Systems** are performed for not less than 4 hours at 100% power, the 100% power test specified in this table may be omitted.
- (7) Only for engines driving fixed pitch propellers.
- (8) The test may be omitted if a 100% power test is performed at $1.032n_0$ or more. In cases where engine speed cannot reach the specified speed due to the planned propeller curve, etc., an overspeed test may be performed at maximum achievable continuous revolution (i.e., maximum engine speed within the range of torque limit, etc.).
- ~~(9) The test is to be carried out to identify the minimum working revolution of the main engine when the ship is steered to the maximum rudder angle.~~
- (10) Only for engines for which intermittent overload is approved. The test is to be performed for the duration agreed upon with the manufacturer.

EFFECTIVE DATE AND APPLICATION (Amendment 1-8)

1. The effective date of the amendments is 1 July 2016.
 2. Notwithstanding the amendments to the Guidance, the current requirements may apply to diesel engines for which the date of application for approval is before the effective date and which 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.