RULES FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

GUIDANCE FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

Part B Class Surveys

Rules for the Survey and Construction of Steel Ships
Part B 2013 AMENDMENT NO.2
Guidance for the Survey and Construction of Steel Ships
Part B 2013 AMENDMENT NO.2

Rule No.80 / NoticeNo.69 27th December 2013
Resolved by Technical Committee on 29th July 2013
Approved by Board of Directors on 24th September 2013

ClassNK
NIPPON KAIJI KYOKAI

RULES FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

RULES

Part B Class Surveys

2013 AMENDMENT NO.2

Rule No.80 27th December 2013

Resolved by Technical Committee on 29th July 2013

Approved by Board of Directors on 24th September 2013

Rule No.80 27th December 2013
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 2 CLASSIFICATION SURVEYS

2.1 Classification Survey During Construction

2.1.2 Submission of Plans and Documents for Approval

Sub-paragraph -11 has been amended as follows.

11 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.

Sub-paragraph -12 has been amended as follows.

12 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.

2.1.6 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

(Omitted)

(l) 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) 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**)

(Omitted)

Sub-paragraph -2 has been amended as follows.

2 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.
(Omitted)
(9) Coating Technical File for dedicated seawater ballast tanks, etc. (**1.2.2 Section 5 Chapter 3, Part CSR-B** and **2.1.1.2 Section 6, Part CSR-T**)
(10) 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**)
(1~~0~~1) Plans and documents for Anti-Fouling Systems (**2.2.2, Rules for Anti-Fouling Systems on Ships**)
(1~~1~~2) Test plans, test records, measurement records, etc.
Paragraph 2.1.8 has been amended as follows.

2.1.8 Verification of Coating Application
1 The following items will be carried out by the Society prior to reviewing the Coating Technical File for dedicated seawater ballast tanks, etc. for the coatings of internal spaces subject to **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**:
(Omitted)
2 The following items will be carried out by the Society prior to reviewing the Coating Technical File for cargo oil tanks for the coatings of internal spaces subject to **25.2.3, Part C** or **22.4.3, Part CS**:
(Omitted)

Chapter 3 ANNUAL SURVEYS

Table B3.1 has been amended as follows.

Table B3.1 Examination of Plans and Documents

Items	Examination
(Omitted)	(Omitted)
10 Coating Technical File and/or Corrosion Resistant Steel Technical File	・ For ships required to have a Coating Technical File for dedicated seawater ballast tanks, etc. on board 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**, confirmation that the file is kept on board and that maintenance and repair work are properly recorded and kept on the file is to be made. ・ For ships required to have a Coating Technical File and/or a Corrosion Resistant Steel Technical File for cargo oil tanks on board in accordance with the requirements of **25.2.3, Part C** or **22.4.3, Part CS**, confirmation that the files are kept on board and that maintenance and repair work are properly recorded and kept on the files is to be made.

EFFECTIVE DATE AND APPLICATION (Amendment 2-1)

1. The effective date of the amendments is 27 December 2013.

Amendment 2-2

Chapter 1 GENERAL

1.1 Surveys

1.1.7 Bulk Carriers

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

4 For ships which are applicable to **31B.2.1-2, Part C** as a result of the survey specified in **-1**, the following surveys are to be carried out at periodical surveys in addition to the surveys required in this chapter.

(1) At annual surveys, in addition to the requirements stipulated in **Chapter 3**, the following items are to be carried out for the foremost hold.
   (a) For ships over 5 *years* and up to 15 *years* of age
      i) An overall survey of the cargo hold
      ii) A close-up survey of transverse bulkheads and a minimum of 25% of hold frames (including their upper and lower brackets and adjacent shell plating)
      Where considered necessary by the Surveyor as a result of the survey, the survey is to be extended to include a close-up survey of all of the hold frames (including their upper and lower brackets and adjacent shell plating)
      iii) ~~S~~A survey of suspect areas identified at previous surveys
   (b) For ships over 15 *years* of age
      i) An overall survey of the cargo hold
      ii) A close-up survey of transverse bulkheads and all hold frames (including their upper and lower brackets and adjacent shell plating)
      iii) ~~S~~A survey of suspect areas identified at previous surveys
   (c) The thickness measurement is to be carried out to the minimum extent specified in **(a)ii)** and **iii)** or **(b)ii)** and **iii)** above as applicable. This thickness measurement may be dispensed with provided the Surveyor is satisfied by the close-up survey, there is no structural diminution and the protective coating, where applied, remains effective. However, ~~W~~where substantial corrosion is found as a result of such thickness measurements, additional thickness measurements are to be taken in accordance with **Tables B5.16** through **B5.20** for the structural members in which such corrosion is found.

1.3 Definitions

1.3.1 Terms

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

(4) "Representative tanks/spaces" are those which are expected to reflect the condition of other tanks/spaces of similar types and service and with similar corrosion prevention systems. When selecting representative tanks/spaces, account ~~should~~is to be taken of the service and repair history on board and identifiable critical structural areas and/or suspect areas.

Chapter 3 ANNUAL SURVEYS

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

3.2.4 Internal Examinations of Spaces and Tanks

Table B3.4 has been amended as follows.

Table B3.4(1) Internal Examinations of Spaces and Tanks

Items	Examination
(Omitted)	
Requirements for Tankers, Ships Carrying Dangerous Chemicals in bulk and Ships Carrying Liquefied Gases in bulk	
1 Engine room and boiler room	・ An internal examination is to be carried out.
2 Cargo pump rooms, other pump rooms adjacent to cargo tanks, cargo compressor rooms and cargo pipe tunnels	・ An internal examination is to be carried out after the areas are thoroughly cleaned out and free of gas. Attention is to be paid to the sealing arrangements of all penetrations of bulkheads, ventilating arrangements, foundations and gland seals of pumps and compressors.
3 Ballast tanks	・ For oil tankers, ships carrying dangerous chemicals in bulk with integral tanks and ships carrying liquefied gases in bulk over 5 *years* of age, an internal examination of the tank(s), of which an internal examination is required as a consequence of the last intermediate Survey or special survey, is to be carried out. ~~・ For oil tankers other than double hull oil tankers, as defined in **B1.3.1 (12)** over 5 *years* of age, an internal examination of all tanks adjacent (i.e. with a common plane boundary) to a tank with heating coils is to be carried out. However, where coating was found to be in GOOD condition at the previous Intermediate Survey or Special Survey, that tank may be specially considered at the discretion of the Surveyor.~~ ~~・ For double hull oil tankers, as defined in **B1.3.1 (12)** over 15 *years* of age, an internal examination of all tanks adjacent (i.e. with a common plane boundary) to a tank with heating coils is to be carried out. However, where coating was found to be in GOOD condition at the previous Intermediate Survey or Special Survey, the tank may be specially considered at the discretion of the Surveyor.~~
(Omitted)	

Note:

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

Paragraph 3.2.6 has been amended as follows.

3.2.6 Thickness Measurements

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) ~~Suspect areas identified at previous survey (excluding cargo tanks of oil tankers, ships carrying dangerous chemicals in bulk and ships carrying liquefied gases in bulk)~~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 of the Rules**, ships carrying dangerous chemicals in bulk and ships carrying liquefied gases in bulk). For bulk carriers built under **Part CSR-B of the Rules**, 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.

Chapter 4 INTERMEDIATE SURVEYS

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

4.2.4 Internal Examinations of Spaces and Tanks

Table B4.2 has been amended as follows.

Table B4.2 Internal Examinations of Spaces and Tanks

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

2 Ballast tanks	・For bulk carriers over 5 *years* and up to 10 *years* of age, an internal examination of representative ballast tanks and combined cargo/ballast tanks, if any, is to be carried out. Where a poor coating condition, corrosion or other defects are found in a ballast tank or where a protective coating has not been applied from the time of construction, the examination is to be extended to other ballast tanks of the same type. ・If such examinations reveal no visible structural defects, the examination may be limited to a verification that the corrosion prevention system remains effective. ・For ballast tanks where a protective coating is found in poor condition, and it is not renewed or where a protective coating has not been applied from the time of construction, excluding double bottom tanks, an internal examination is to be carried out at annual intervals. For double bottom ballast tanks in this condition, where considered necessary by the Surveyor, an internal examination is to be carried out at annual intervals.
3 Cargo holds	・For bulk carriers over 5 *years* of age, an internal examination of all cargo holds is to be carried out.
(Omitted)	

Note:

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

4.2.5 Close-up Surveys

Table B4.3 has been amended as follows.

Table B4.3 Close-up Surveys

Items	Examinations
(Omitted)	
Requirements for Bulk Carriers other than Double Skin Bulk Carriers[*3]	
1 Hatch covers and hatch coamings	・A close-up survey of all hatch cover plating and all hatch coaming plating and their stiffeners is to be carried out.
2 Structural members in cargo holds .1 Hold frames including their upper and lower end attachments, adjacent shell plating	・For ships over 5 *years* of age, a close-up survey of sufficient extent (i.e. a minimum of 25% of the frames) is to be carried out to establish the condition of shell frames including their upper and lower end attachments and adjacent shell plating in the forward cargo hold and one other selected cargo hold. Where considered necessary by the Surveyor as a result of the internal examination and close-up survey, the survey is to be extended to include a close-up survey of all of the shell frames and adjacent shell plating of that cargo hold as well as a close-up survey of sufficient extent (i.e. a minimum of 25% of the frames) of all remaining cargo holds. ・A close-up survey is to be carried out to establish the condition of areas found to be suspect areas at previous surveys
.2 Transverse bulkheads	・For ships over 5 *years* of age, a close-up survey is to be carried out to establish the condition of transverse bulkheads in the forward cargo hold and one other selected cargo hold. ・A close-up survey is to be carried out to establish the condition of areas found to be suspect areas at previous surveys
.3 Other structural members	・A close-up survey is to be carried out to establish the condition of areas found to be suspect areas at previous surveys ・Where considered necessary by the Surveyor as a result of the internal examination required in **Table B4.2**, a close-up survey is to be carried out.

3 Ballast tanks	・A close-up survey is to be carried out to establish the condition of areas found to be suspect areas at previous surveys
Requirements for Double Skin Bulk Carriers	
1 Hatch covers and hatch coamings	・A close-up survey of all hatch cover plating and all hatch coaming plating and their stiffeners is to be carried out.
2 Structural members in cargo holds	・Where considered necessary by the Surveyor as a result of the internal examination required in **Table B4.2**, a close-up survey is to be carried out.
3 Ballast tanks	・A close-up survey is to be carried out to establish the condition of areas found to be suspect areas at previous surveys
(Omitted)	

Notes:

*1: Including structural members adjacent to cross ties and/or transverse web frame rings, such as shell plating, longitudinal bulkheads, longitudinal stiffeners, brackets

*2: Including vertical and horizontal girders and adjacent structural members, and adjacent longitudinal bulkhead structure

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

Paragraph 4.2.6 has been amended as follows.

4.2.6 Thickness Measurements

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

(3) Substantial corrosion areas identified in the previous survey

Table B4.4 has been amended as follows.

Table B4.4 Thickness measurements

Items	Note
(Omitted)	
Requirements for the Bulk Carriers over 5 *years* of age	
1 Structural members in ballast tanks	・Thickness measurements of areas found to be suspect areas at previous surveys are to be carried out ・Where considered necessary by the Surveyor as a result of the survey specified in **Table B4.2**, thickness measurements are to be carried out at the discretion of the Surveyor, where a poor coating condition, corrosion or other defects are found in a ballast tank or where a protective coating has not been applied from the time of construction ・If the results of thickness measurements indicate that substantial corrosion is found, the extent of thickness measurements is to be increased in accordance with the provision of **5.2.6-5**. ・In addition to the above, for bulk carriers built under **Part CSR-B of the Rules**, identified substantial corrosion areas are to be in accordance with either the following **(1)** or **(2)**: (1) Be protected by coatings applied in accordance with coating manufacturer requirements and examined annually to confirm said coatings are still in good condition; or, (2) Have thickness measurements taken annually
2 Hatch covers and hatch coamings	・Thickness measurements of areas found to be suspect areas at previous surveys are to be carried out ・Where considered necessary by the Surveyor as a result of the close-up survey of the bulk carriers specified in **Table B4.3**, thickness measurements are to be carried out at the discretion of the Surveyor. If the results of thickness measurements indicate that substantial corrosion is found, the extent of thickness measurements is to be increased in accordance with the provision of **5.2.6-5**. ・In addition to the above, for bulk carriers built under **Part CSR-B of the Rules**, identified substantial corrosion areas are to be in accordance with either the following **(1)** or **(2)**: (1) Be protected by coatings applied in accordance with coating manufacturer requirements and examined annually to confirm said coatings are still in good condition; or, (2) Have thickness measurements taken annually
3 Structural members in cargo holds	・Thickness measurements of areas found to be suspect areas at previous surveys are to be carried out ・Thickness measurements are to be carried out to an extent that determines both general and local corrosion levels at the area subject to close-up survey. ・The thickness measurements may be dispensed with provided the Surveyor is satisfied by the results of the close-up survey: that there is no structural diminution and the protective coating ~~remains effective~~is found to be in a good condition. ・If the results of thickness measurements indicate that substantial corrosion is found, the extent of thickness measurements is to be increased in accordance with the provision of **5.2.6-5**. ・In addition to the above, for bulk carriers built under **Part CSR-B of the Rules**, identified substantial corrosion areas are to be in accordance with either the following **(1)** or **(2)**: (1) Be protected by coatings applied in accordance with coating manufacturer requirements and examined annually to confirm said coatings are still in good condition; or, (2) Have thickness measurements taken annually
(Omitted)	

Chapter 5 SPECIAL SURVEYS

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

5.2.4 Internal Examinations of Spaces and Tanks

Table B5.2 has been amended as follows.

Table B5.2 Additional requirements of internal examinations for tankers, ships carrying dangerous chemicals in bulk and ships carrying liquefied gases in bulk

Special Survey	Tanks and spaces subject to examination	Notes
All Special Surveys	1 All cargo tanks (excluding those in ships carrying liquefied gases in bulk)	・For oil tankers, combined cargo/ballast tanks, if any, are to be examined carefully taking account of ballast history and the extent of the corrosion prevention system provided. ・For oil tankers, condition of the inner surface of the bottom plating of the tank is to be examined carefully in order to ascertain that the there is no excessive pitting of the plating. ・For oil tankers, bell mouths of the cargo suction pipes are to be removed and the bottom plating of the tank and bulkheads in that vicinity are to be examined as considered necessary by the Surveyor.
	2 All ballast tanks, and all tanks and spaces adjacent to cargo tanks (pump rooms, cargo compressor rooms, pipe tunnels, cofferdams and void spaces)	For tankers and ships carrying dangerous chemicals in bulk: ・As a result of internal examinations, ballast tanks with conditions shown in (a) ~~and (b)~~ to (c) require an internal examination to be carried out at annual intervals. (a) The protective coating is found to be in less than GOOD condition and is not repaired to the satisfaction of the Surveyor. (b) The protective coating has not been applied from the time of construction or the soft coating has been applied (the examination is to be extended to other ballast tanks of the same type) (c) Substantial corrosion is found within the tanks ・An internal examination of the pump room is to be carried out carefully paying attention to the sealing arrangements of all penetrations of bulkheads, ventilating arrangements, foundations and gland seals of pumps. For ships carrying liquefied gases in bulk: ・For ballast tanks, excluding double bottom tanks, where a protective coating is found in poor condition, and it is not renewed or where a protective coating has not been applied from the time of construction, an internal examination is to be carried out at annual intervals. For ballast double bottom tanks with the condition as specified, where considered necessary by the Surveyor, an internal examination is to be carried out at annual intervals. ・Ballast tanks converted to void spaces are to be examined applying the provisions for ballast tanks correspondingly.

5.2.5 Close-up Surveys

Sub-paragraphs -2 to -5 have been amended as follows.

2 At Special Surveys for oil tankers and ships carrying dangerous chemical in bulk with integral tanks, ~~in addition to~~ notwithstanding the provision of **-1** above, a Close-up Survey is to be carried out for structural members listed in **Table B5.5-1**.
3 At Special Surveys for ships carrying liquefied gases in bulk, ~~in addition to~~ notwithstanding the provision of **-1** above, a Close-up Survey is to be carried out for structural members and so forth listed in **Table B5.5-2**.
4 At Special Surveys for bulk carriers, ~~in addition to~~ notwithstanding the provision of **-1** above, a Close-up Survey is to be carried out for structural members listed in **Table B5.6-1**. For ore carriers, a Close-up Survey is to be carried out in accordance with the requirements in **Table B5.6-2** instead of **Table B5.6-1**.
5 At Special Surveys for general dry cargo ships of not less than 500 *gross tonnage*, ~~in addition to~~ notwithstanding the provision~~s~~ of **-1** above, a Close-up Survey is to be carried out for structural members listed in **Table B5.7**.

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

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

Special Survey	Structural members subject to Close-up Survey
Requirements for Bulk Carriers other than Double Skin Bulk Carriers[*1]	
Special Survey for ships up to 5 *years* of age (Special Survey No.1)	1. ~~All~~ A sufficient number (at least 1/4 of the total number) of shell frames ~~in all~~ at the forward, middle, and aft parts on both sides of forward cargo holds and selected frames in remaining cargo holds ~~including their end attachments and adjacent shell plating~~ (A) 2. Two selected cargo hold transverse bulkheads ~~and lower part of remaining transverse bulkheads~~ (including stiffeners and girders) (C) 3. One transverse web with associated plating and longitudinals in two representative ballast tanks of each type (topside or bilge hopper tank) (B) 4. Air pipes and sounding pipes in cargo holds in way of tank top 5. 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)	1. All shell frames in ~~all~~ forward cargo hold~~s~~ and a sufficient number (at least 1/4 of the total number for ships less than 100,000 DWT and at least 1/2 of the total number for ships of 100,000 DWT or more) of shell frames in each of the remaining cargo holds including their end attachments and adjacent shell plating (A) 2. All transverse bulkheads (including stiffeners and girders) in all cargo holds (C) 3. ~~About half of transverse webs with associated plating and longitudinals, and upper and lower parts of each bulkhead in a representative ballast tank of each type (topside or bilge hopper tank) (B)~~ ~~4.~~ One transverse web with associated plating and longitudinals in each ~~of the remaining~~ ballast tanks (B) ~~5~~4. Both forward and aft transverse bulkheads (including stiffeners and girders) in one ballast tank (B) ~~6~~5. All deck plating and under deck structure inside the line of hatch openings between cargo hold hatches ~~7~~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)	1. All shell frames in ~~all~~ the forward and one other selected cargo holds and a sufficient number (at least 1/2 of the total number) of shell frames in each of the remaining cargo holds including their end attachments and adjacent shell plating (A) 2. All transverse bulkheads (including stiffeners and girders) in all cargo holds (C) 3. All transverse webs with associated plating and longitudinals and all transverse bulkheads (including stiffeners and girders) in each ballast tank (B) 4. Structural members specified in ~~6. and~~ 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)	1. ~~As Special Survey No.3~~ All shell frames in all cargo holds including their end attachments and adjacent shell plating (A) 2. Structural members specified in 2. to 4. of Special Survey No.3 above

Notes:

(1) Letters in this table mean:
- (A): Cargo hold transverse frames, or stiffeners 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.

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

Table B5.6-1(2) 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)	1. Two selected cargo hold transverse bulkheads ~~and lower part of remaining 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)	1. One transverse bulkhead in each cargo hold ~~and lower part of remaining transverse bulkheads~~ (including stiffeners and girders) (C) 2. ~~About half of transverse webs with associated plating and longitudinals in a representative ballast tank of each type (topside, bilge hopper or side tank) (B)~~ ~~3~~. One transverse web with associated plating and longitudinals in each ~~of the remaining~~ ballast tanks (B) ~~4~~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) ~~5~~4. A sufficient number (at least 1/4 of total number) of stiffeners on side shell and longitudinal bulkhead at forward, middle, and aft parts on both sides of the foremost double side tanks (A) ~~6~~5. All deck plating and under deck structure inside the line of hatch openings between cargo hold hatches ~~7~~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)	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 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 ~~6. and~~ 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)	1. All stiffeners 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 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.

Table B5.6-2 has been amended as follows.

Table B5.6-2 Requirements of Close-up Surveys for Ore Carriers

Special Survey	Structural members subject to Close-up Survey
Special Survey for ships up to 5 *years* of age (Special Survey No.1)	1. One web frame rings in a ballast wing tank (A) 2. Lower part of one transverse bulkhead in a ballast wing tank (D) 3. Two selected cargo hold transverse bulkheads ~~and lower part of remaining transverse bulkheads~~ (including stiffeners and girders) (E) 4. Air pipes and sounding pipes in cargo holds in way of tank top 5. 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)	1. All web frame rings in a ballast wing tank (A) 2. One deck transverse in each remaining ballast tank (B) 3. Forward and aft transverse bulkheads in a ballast wing tank (C) 4. Lower part of one transverse bulkhead in each remaining ballast tank (D) 5. One transverse bulkhead in each cargo hold ~~and lower part of remaining transverse bulkheads~~ (including stiffeners and girders) (E) 6. All deck plating and under deck structure inside line of hatch openings between cargo hold hatches 7. All piping arrangements in cargo holds. If the surveyor considers it necessary, airtight tests are to be carried out. 8. 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)	1. All web frame rings in each ballast tank (A) 2. All transverse bulkheads in each ballast tank (C) 3. One web frame ring in all in each wing void space (A) However, additional close-up surveys may be carried out for other web frame rings in void spaces as deemed necessary by the Surveyor. 4. All transverse bulkhead in each cargo hold (including stiffeners and girders) (E) 5. Structural members specified in 6 ~~and 7~~ to 8. of Special Survey No.2 above
Special Survey for ships over 15 *years* of age (Special Survey No.4 and subsequent Special Surveys)	1. As for Special Survey No.3

Notes:

(1) Letters in this table mean:

(A): Cross Ties and complete transverse web frame rings including adjacent structural members such as shell plating, longitudinal bulkheads, longitudinal stiffeners, brackets, etc.

(B): Including deck structures adjacent to deck transverse such as deck plating, longitudinal stiffeners, brackets, etc.

(C) and (D): Including vertical and horizontal girders, and adjacent structural members such as longitudinal bulkheads, inner bottom plating, hopper plating, bottom girders, brackets, stiffeners, etc.

(E): 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.

Table B5.7 has been amended as follows.

Table B5.7 Requirements of Close-up Surveys for General Dry Cargo Ships of not less than 500 *gross tonnage*

Special Survey	Structural members subject to Close-up Survey
Special Survey for ships up to 5 *years* of age (Special Survey No.1)	1. Selected shell frames in one forward and one after cargo holds and associated tween deck spaces and lower part of remaining shell frames including their end attachments and adjacent shell plating 2. Lower parts of shell frames in remaining cargo holds including their end attachments and adjacent shell plating 3. One selected transverse bulkhead and lower part of remaining transverse bulkheads (including stiffeners and girders) 4. Air pipes and sounding pipes in cargo holds in way of tank top 5. 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)	1. Selected shell frames in all cargo holds and associated tween deck spaces and lower part of remaining shell frames including their end attachments and adjacent shell plating 2. One transverse bulkhead and lower part of the remaining transverse bulkhead in each cargo hold (including stiffeners and girders) 3. Both forward and aft bulkhead (including stiffeners and girders) in one side ballast tank 4. One transverse web with associated plating and longitudinals in two representative ballast tanks of each type (topside, bilge hopper, side tank or double bottom tank) 5. Selected area of deck plating and under deck structure inside the line of hatch openings between cargo hatches (2) 6. Selected area of inner bottom plating 7. Air pipes and sounding pipes in cargo holds in way of tank top 8. 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)	1. All shell frames in the forward lower cargo hold, and 25% of frames in each of the remaining cargo holds and tween deck spaces, and lower part of remaining shell frames including their end attachments and adjacent shell plating 2. All transverse bulkheads (including stiffeners and girders) in all cargo holds 3. All transverse bulkheads (including stiffeners and girders) in all ballast tanks 4. All transverse webs with associated plating and longitudinals in each ballast tank (topside, bilge hopper, side tank or double bottom tank) 5. All deck plating and under deck structure inside the line of hatch openings between cargo hold hatches (2) 6. All area of inner bottom plating 7. Air pipes and sounding pipes in cargo holds in way of tank top 8. All hatch cover plating, hatch coaming plating, and stiffeners
Special Survey for ships over 15 *years* of age (Special Survey No.4 and subsequent Special Surveys)	1. All shell frames in all cargo holds and associated tween deck spaces including their end attachments and adjacent shell plating 2. Structural members specified in 2. to ~~7~~8. of Special Survey No.3 above

Notes:

(1) Close-up Surveys of transverse bulkheads are to be carried out at least at three levels as specified as follows:
  (A) Immediately above the inner bottom and immediately above the tween decks, as applicable.
  (B) Mid-height of the bulkheads for holds without tween decks.
  (C) Immediately below the upper deck plating and tween deck plating.

(2) Deck plating and under deck structure inside the line of hatch openings between cargo hold hatches

5.2.6 Thickness Measurements

Table B5.15 has been amended as follows.

Table B5.15(1) Requirements of Thickness Measurements for Bulk Carriers

Special Surveys	Structural members subject to thickness measurement
Special Survey for ships up to 5 *years* of age (Special Survey No.1)	1. Suspect areas 2. At least ~~the following~~ structural members subject to close-up survey for general assessment and recording of corrosion pattern~~:~~ ~~(1) Lower parts of webs and lower end brackets of at least three hold frames at forward, middle, and aft parts on both sides of each cargo hold of single side skin~~ ~~(2) At least one plate of lowest strake of each transverse bulkhead~~ ~~(3) Other structural members subject to close-up survey~~
Special Survey for ships over 5 *years* and up to 10 *years* of age (Special Survey No.2)	1. Suspect areas 2. Structural members within the cargo length area: (1) Two transverse sections of deck plating, outside the line of cargo hatch openings (2) All strength deck plating, where log cargoes or other cargoes that are prone to accelerate corrosion are loaded 3. At least ~~the following~~ structural members subject to close-up survey for general assessment and recording of corrosion pattern~~:~~ ~~(1) All shell frames including their end brackets in the forward cargo hold of single side skin~~ ~~(2) A sufficient number (at least 1/4 of total number for ships less than 100,000DWT and at least 1/2 of total number for ships of 100,000DWT or more) of shell frames including their end brackets at forward, middle, and aft parts on both sides of each remaining cargo hold of single side skin~~ ~~(3) Other structural members subject to close-up survey~~ 4. Wind and water strakes in way of the transverse sections of 2.(1) above 5. Selected wind and water strakes outside the cargo length area
Special Survey for ships over 10 *years* and up to 15 *years* of age (Special Survey No.3)	1. Suspect areas 2. Structural members within the cargo length area: (1) Each deck plating outside the line of cargo hatch openings (2) Two transverse sections, one in the midship area, outside the line of cargo hatch openings. When the selected section is a transversely framed section, adjacent frames and their end connections in way of the transverse section are to be included. 3. At least ~~the following~~ structural members subject to close-up survey for general assessment and recording of corrosion pattern~~:~~ ~~(1) All shell frames including their end brackets in the forward and one other cargo hold of single side skin~~ ~~(2) A sufficient number (at least 1/2 of total number) of shell frames including their end brackets at forward, middle, and aft parts on both sides of each remaining cargo hold of single side skin~~ ~~(3) Other structural members subject to close-up survey~~ 4. Internals in fore and aft peak tanks 5. All wind and water strakes within the cargo length area 6. Selected wind and water strakes outside the cargo length area

Special Survey for ships over 15 *years* of age (Special Survey No.4 and subsequent Special Surveys)	1. Suspect areas 2. Structural members within the cargo length area: (1) Each deck plating outside the line of cargo hatch openings (2) Three transverse sections, one in the midship area, outside the line of cargo hatch openings. When the selected section is a transversely framed section, adjacent frames and their end connections in way of the transverse section are to be included. (3) Each bottom plate 3. At least ~~the following~~ structural members subject to close-up survey for general assessment and recording of corrosion pattern: ~~(1) All shell frames including their end brackets in all cargo holds of single side skin~~ ~~(2) Other structural members subject to close-up survey~~ 4. Internals in fore and after peak tanks 5. All exposed main deck plating outside the cargo length area 6. Representative exposed superstructure deck plating (poop, bridge and forecastle deck) 7. All keel plates, full length, and an appropriate number of bottom plates in way of cofferdams, machinery space, and aft end of tanks 8. Plating of sea chests, and shell plating in way of overboard discharges (as deemed necessary by the Surveyor) 9. All wind and water strakes

Table B5.17 has been amended as follows.

Table B5.17 Requirements of Additional Thickness Measurements for Bulk Carriers (Transverse Bulkheads in Cargo Holds)

Structural member	Extent of Measurement	Pattern of Measurement
1. Lower Stool	a) Transverse band within 25 *mm* of welded connection to inner bottom b) Transverse band within 25 *mm* of welded connection to shelf plate	5 point over 1 *metre* length between stiffeners
2. Transverse Bulkhead	a) Transverse band at approximately middle height b) Transverse band at part of bulkhead adjacent to upper deck or below upper stool shelf plate (for those ships fitted with an upper stool)	~~5 point over 1 *metre* length between stiffeners~~5 point pattern over 1 *sq. metre* of plating

Paragraph 5.2.7 has been amended as follows.

5.2.7 Pressure Tests

1 At Special Surveys, a pressure test of tanks is to be carried out according to **(1)** through **(3)** below.

(1) A pressure test is to be carried out under the pressure specified below:
  (a) For tanks: the pressure corresponding to the maximum head that can be experienced in service
  (b) For piping: the working pressure

(2) A pressure test of tanks may be carried out when the ship is afloat, provided that an internal examination of the bottoms of the tanks has also been carried out while afloat.

(3) At Special Surveys for ships having many water tanks and oil tanks, some of the tanks may be exempted from a pressure test where deemed appropriate by the Surveyor taking into account the ship's present condition, age and interval from the previous test.

2 At Special Surveys for cargo ships, a pressure test is to be carried out according to **-1** above for tanks listed in **Table B5.22**. ~~Any testing of double bottom tanks and other watertight compartments not designed to carry liquids may be omitted, provided that satisfactory internal and/or external examinations are carried out.~~

3 At Special Surveys for oil tankers and ships carrying dangerous chemicals in bulk with integral tanks, notwithstanding the provisions of **-2** above, a pressure test is to be carried out for tanks listed in **Table B5.23-1**. For double hull oil tankers and ships carrying dangerous chemicals in bulk with integral tanks, any testing of double bottom tanks and other watertight compartments not designed to carry liquids may be omitted, provided that satisfactory internal and/or external examinations are carried out.

4 At Special Surveys for ships carrying liquefied gases in bulk, notwithstanding the provision of **-2** above, a pressure test is to be carried out for tanks listed in **Table B5.23-2**.

5 At Special Surveys for bulk carriers and dry cargo ships of not less than 500 *gross tonnage*, notwithstanding the provisions of **-2** above, a pressure test is to be carried out according to **-1** above for tanks listed in **Table B5.24**. For bulk carriers, any testing of double bottom tanks and other watertight compartments not designed to carry liquids may be omitted, provided that satisfactory internal and/or external examinations are carried out.

Table B5.24 has been amended as follows.

Table B5.24 Requirements of Pressure Tests of Bulk Carriers and Dry Cargo Ships of not less than 500 *gross tonnage*

Special Survey	Tanks subject to pressure tests
All Special Surveys	1. All boundaries of ballast tanks, deep tanks and cargo holds used for ballast within the cargo length area 2. Representative ~~fresh water tanks,~~ fuel oil tanks ~~and lubrication oil tanks~~ within the cargo length area. When deemed appropriate by the Society, pressure tests ~~of fuel oil tanks~~ may be specially considered. 3. All water tanks Pressure tests of fresh water tanks ~~outside the cargo length area~~ may be specially considered when deemed appropriate by the Society. 4. All fuel oil tanks outside the cargo length area Pressure tests may be specially considered when deemed appropriate by the Society. 5. All lubrication oil tanks ~~outside the cargo length area~~ Pressure tests may be specially considered when deemed appropriate by the Society.

EFFECTIVE DATE AND APPLICATION (Amendment 2-2)

1. The effective date of the amendments is 1 January 2014.

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.

Amendment 2-3

Chapter 2 CLASSIFICATION SURVEYS

2.1 Classification Survey During Construction

2.1.5 Hydrostatic Tests, Watertight Tests, and Relevant Tests

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

In the Classification Survey during construction, hydrostatic tests, watertight tests, and other relevant tests are to be carried out in accordance with the following:

(1) Hull and equipment
   (a) Hydrostatic tests or watertight tests are to be carried out after all work in connection with watertightness are completed but before painting, in accordance with the requirements specified in **Table B 2.~~1~~2**.
   (b) A part or all of the hose tests may be dispensed with at the discretion of the Society.
   (c) Watertight tests may be replaced by airtight tests at the discretion of the Society, provided that certain tanks designated by the Society are to be subjected to hydrostatic tests specified in **Table B 2.~~1~~2**, while afloat.

((2) and (3) 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
   (Omitted)
(2) Other documents
   (Omitted)
(3) Finished plans specified in **2.1.7-1**

2 In addition to the requirements in **-1** above, ~~F~~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 **2.1.7-1**
(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**, **2.2.2, Part N** and **2.2.2, Part S**)
(3) Ship structure access manuals (**35.2.6, Part C** or **26.2.6, Part CS**)
(4) Copies of certificates of forgings and castings welded into the hull structures
(5) Plans showing locations, sizes and details of equipment forming part of the watertight and weather-tight integrity of the ship, including piping (**2.1.2-1(1)(q)**)

(6) Corrosion prevention scheme (**2.1.3-1(3)**)
(7) Plans and documents for in-water surveys (**6.1.2-2**)
(8) Docking plan including locations and other necessary information of all penetrations specified in item 3 in **Table B6.1**
(9) Coating Technical File (**1.2.2 Section 5 Chapter 3, Part CSR-B** and **2.1.1.2 Section 6, Part CSR-T**)
(10) Plans and documents for Anti-Fouling Systems (**2.2.2, Rules for Anti-Fouling Systems on Ships**)
(11) Test plans, test records, measurement records, etc.

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 **2.1.7-1**
(2) The following manuals and documents
  (a) Operating and maintenance manuals for doors and inner doors
  (b) Damage control plans
  (c) Loading manuals
  (d) Stability information booklets
(3) Ship structure access manuals
(4) Copies of certificates of forgings and castings welded into the hull structure
(5) Plans showing the locations, sizes and details of equipment forming part of the watertight and weather-tight integrity of the ship, including piping
(6) Corrosion prevention scheme
(7) Plans and documents for in-water surveys
(8) Docking plan, including locations and other necessary information of all penetrations specified in item 3 in **Table B6.1**
(9) Coating Technical File for dedicated sea water ballast tanks, etc.
(10) Coating Technical File and/or Corrosion Resistance Steel Technical File for cargo oil tanks
(11) Plans and documents for anti-fouling systems
(12) Test plans, test records, measurement records, etc.
(13) Areas requiring special attention throughout the ship's life, including critical structural areas
(14) All design parameters limiting the operation of the ship
(15) Any alternatives to the rules, including structural details and equivalency calculations
(16) "As built" drawings and information which are verified to incorporate all alterations approved by the Society during the construction process. This includes scantling details, material details, location of butts and seams, cross section details and the locations of all partial and full penetration welds.
(17) Net (renewal) scantlings for all structural constituent parts, as built scantlings and voluntary addition thickness
(18) Minimum hull girder section modulus along the length of the ship which has to be maintained throughout the ship's life, including cross section details such as the values of the areas of the deck zone and bottom zone, the renewal value for the neutral axis zone
(19) A listing of materials used for the construction of the hull structure, and provisions for

documenting changes to any of the above during the ship's service life.

(20) List of documents constituting the Ship Construction File

4 For ships subject to *SOLAS Chapter II-1 Regulation 3-10*, the Surveyor confirms that Ship Construction File specified in **-3** above is available to the Society and flag state throughout the ship's life.

~~**3**~~**5** Considering the purpose, characteristics, etc. of the ship, the submission of additional documents may be deemed necessary by the Society.

~~**4**~~**6** For ships of not less than 500 *gross tonnage* engaged on international voyages, it is recommended that all documents listed in **-1** above are marked with the *IMO* ship identification number.

~~**5**~~**7** At the completion of classification surveys, Surveyors confirm that certificates showing that the following devices have passed all required examinations or tests are maintained on board.

(Omitted)

Table B2.1 has been renumbered to Table B2.2, and Table B2.1 have been added as follows.

Table B2.1 List of Information to be Included in the Ship Construction File (SCF)

Items		Information to be included	Further explanation of the content	Example documents	Normal storage location
DESIGN					
1	Design life	• assumed design life in years	• statement or note on midship section	• SCF-specific	on board ship
				• midship section plan	on board ship
2	Environmental conditions	• assumed environmental conditions	• statement referencing data source or Rule (specific rule and data); or • in accordance with Rule (date and revision)	• SCF-specific	on board ship
3	Structural strength				
3.1	General design	• applied Rule (date and revision)	• applied design method alternative to Rule and subject structure(s)	• SCF-specific	on board ship
		• applied alternative to Rule		• capacity plan	on board ship
3.2	Deformation and failure modes	• calculating conditions and results	• allowable loading pattern	• loading manual	on board ship
-	-	• assumed loading conditions	• maximum allowable hull girder bending moment and shear force	• trim and stability booklet	on board ship
3.3	Ultimate strength	• operational restrictions due to structural strength	• maximum allowable cargo density or storage factor	• loading instrument instruction manual	on board ship
				• operation and maintenance manuals	on board ship
3.4	Safety margins	• strength calculation results	• bulky output of strength calculation	• strength calculation	on shore archive
-	-	-	• plan showing highly stressed areas (e.g. critical structural areas) prone to yielding and/or buckling	• areas prone to yielding and/or buckling	on board ship

-	-	• gross hull girder section modulus	-	-	-
-	-	• minimum hull girder section modulus along the length of the ship to be maintained throughout the ship's life, including cross section details such as the value of the area of the deck zone and bottom zone, the renewal value for the neutral axis zone	-	• general arrangement plan	on board ship
-	-	• gross scantlings of structural constituent parts	• structural drawings	• key construction plans	on board ship
-	-	• net scantlings of structural constituent parts, as built scantlings and voluntary addition thicknesses	• rudder and stern frame	-	-
-	-	-	• structural details of typical members	• rudder and rudder stock plans	on board ship
-	-	-	-	• structural details	on board ship
-	-	-	-	• yard plans	on shore archive
-	-	-	-	• dangerous area plan	on board ship
-	-	• hull form	-	-	-
-	-	-	• hull form information indicated in key construction plans	• lines plan	on shore archive
-	-	-	• hull form data stored within an onboard computer necessary for trim and stability and longitudinal strength calculations	or	-
-	-	-	-	equivalent	on board ship
4	Fatigue life	• applied Rule (date and revision)	• applied design method alternative to Rule and subject structures	• SCF-specific	on board ship
-	-	• applied alternative to Rule		-	-

		• calculating conditions and results	• assumed loading conditions and rates	• structural details	on board ship
		• assumed loading conditions			
		• fatigue life calculation results	• bulky output of fatigue life calculation	• fatigue life calculation	on shore archive
			• plan showing areas (e.g. critical structural areas) prone to fatigue	• areas prone to fatigue	on board ship
5	Residual strength	• applied Rule (date and revision)		• SCF-specific	on board ship
6	Protection against corrosion				
6.1	Coating life	• coated areas and target coating life and other measures for corrosion protection in holds, cargo and ballast tanks, other structure-integrated deep tanks and void spaces	• plans showing areas (e.g. critical structural areas) prone to excessive corrosion	• SCF-specific	on board ship
6.2	Corrosion addition			• Coating Technical File required by PSPC (Performance standard for Protective Coatings for Dedicated Seawater Ballast Tanks in All Types of Ships and Double-side Skin Spaces of Bulk Carriers, adopted as IMO Resolution MSC.215(82), as amended and Performance Standard for Protective Coatings for Cargo Oil Tanks of Crude Oil Tankers, adopted as IMO Resolution MSC.288(87), as amended)	on board ship
		• specification for coating and other measures for corrosion protection in holds, cargo and ballast tanks, other structure-integrated deep tanks and void spaces		• areas prone to excessive corrosion	on board ship
		• gross scantlings of structural constituent parts		• key construction plans	on board ship
		• net scantlings of structural constituent parts, as built scantlings and voluntary addition thicknesses			
7	Structural redundancy	• applied Rule (date and revision)		• SCF-specific	on board ship
8	Watertight and weathertight integrity	• applied Rule (date and revision)		• SCF-specific	on board ship
		• key factors for watertight and weathertight integrity	• details of equipment forming part of the watertight and weathertight integrity	• structural details of hatch covers, doors and other closings integral with the shell and bulkheads	on board ship

9	Human element considerations	• list of ergonomic design principles applied to ship structure design to enhance safety during operations, inspections and maintenance of ship		• SCF-specific	on board ship
10	Design transparency	• applied Rule (date and revision) • applicable industry standards for design transparency and IP protection		• intellectual property provisions	on board ship
		• reference to part of SCF information kept ashore		• summary, location and access procedure for part of SCF information on shore	on board ship
CONSTRUCTION					
11	Construction quality procedures	• applied construction quality standard	• recognized national or international construction quality standard	• SCF-specific	on board ship
12	Survey during construction	• survey regime applied during construction (to include all owner and class scheduled inspections during construction)	• applied Rules (date and revision) • copies of certificates of forgings and castings welded into the hull	• SCF-specific • tank testing plan	on board ship on board ship
		• information on non-destructive examination		• non-destructive testing plan	on board ship
				• Coating Technical File required by PSPC	on board ship
IN-SERVICE CONSIDERATIONS					
13	Survey and maintenance	• maintenance plans specific to the structure of the ship where higher attention is called for	• plan showing highly stressed areas (e.g. critical structural areas) prone to yielding, buckling, fatigue and/or excessive corrosion	• SCF-specific • operation and maintenance manuals (e.g. hatch covers and doors)	on board ship on board ship
		• preparations for survey	• arrangement and details of all penetrations normally examined at dry-docking	• docking plan	on board ship
		• gross hull girder section modulus	• details for dry-docking	• dangerous area plan	on board ship

		• minimum hull girder section modulus along the length of the ship to be maintained throughout the ship's life, including cross section details such as the value of the area of the deck zone and bottom zone, the renewal value for the neutral axis zone	• details for in-water survey	• Ship Structure Access Manual	on board ship
				• Means of access to other structure-integrated deep tanks	on board ship
				• Coating Technical File required by PSPC	on board ship
		• gross scantlings of structural constituent parts		• key construction plans	on board ship
		• net scantlings of structural constituent parts, as built scantlings and voluntary addition thicknesses		• rudder and rudder stock	on board ship
				• structural details	on board ship
				• yard plans	on shore archive
			• hull form information indicated in key construction plans	• lines plan	on shore archive
		• hull form		or	
				equivalent	on board ship
14	Structural accessibility	• means of access to holds, cargo and ballast tanks and other structure-integrated deep tanks	• plans showing arrangement and details of means of access	• Ship Structure Access Manual	on board ship
				• means of access to other structure-integrated deep tanks	on board ship
RECYCLING CONSIDERATIONS					
15	Recycling	• identification of all materials that were used in construction and may need special handling due to environmental and safety concerns	• list of materials used for the construction of the hull structure	• SCF-specific	on board ship

Notes:

1 “SCF-specific” means documents to be developed especially to meet the requirements of this Table.

2 “Key construction plans” means plans such as midship section, main O.T. and W.T. transverse bulkheads, construction profiles/plans, shell expansions, forward and aft sections in cargo tank (or hold) region, engine-room construction, forward construction and stern construction drawings.

3 “Yard plans” means a full set of structural drawings, which include scantling information of all structural members.

4 “Hull form" means a graphical or numerical representation of the geometry of the hull. Examples would include the graphical description provided by a lines plan and the numerical description provided by the hull form data stored within an onboard computer.

5 “Lines plan” means a special drawing which is dedicated to show the entire hull form of a ship.

6 “Equivalent (to Lines plan)” means a set of information of hull form to be indicated in key construction plans for SCF purposes. Sufficient information is to be included in the drawings to provide the geometric definition to facilitate the repair of any part of the hull structure.

7 “Normal storage location” means a standard location where each SCF information item is to be stored. However, those items listed as being on board in the table above are to be on board as a minimum.

8 “Shore archive” is to be operated in accordance with applicable international standards.

Paragraph 2.1.7 has been amended as follows.

2.1.7 Finished Plans

1 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**.

2.2 Classification Survey of Ships not Built Under Survey

2.2.2 Hydrostatic Tests, Watertight Tests, and Relevant Tests

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

In the Classification Survey prescribed in **2.2.1**, sea trials are to be carried out after the following items have been completed: hydrostatic tests and watertight tests in accordance with the requirements shown below in **(1)** through **(3)**; maintenance of machinery and determination of the working pressure of the boilers; and adjustment of safety valves and accumulation tests of the boilers. Tests and trials may be dispensed with at the discretion of the Society with the exception of hydrostatic tests of boilers and pressure vessels of which important parts have been newly repaired, main steam pipes, and air tanks of which the interior cannot be inspected; and tests for gas leakage of refrigerating machinery on board.

(1) Double bottoms, both peaks, tanks, cofferdams and chain lockers, watertight bulkheads and shaft tunnels are to be tested as specified in **Table B 2.~~1~~2**.

((2) and (3) are omitted)

Chapter 3 ANNUAL SURVEYS

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

Paragraph 3.2.1 has been amended as follows.

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.

2 For ships subject to *SOLAS Chapter II-1 Regulation 3-10*, the following **(1)** to **(3)** related to the Ship Construction File are to be verified upon completion of the survey:

(1) The Ship Construction File has been updated whenever any modification of the documentation included in it has taken place.

(2) Any addition and/or renewal of materials used for the construction of the hull structure are documented within the list of materials specified in **2.1.6-3(19)**.

(3) The Ship Construction File is available to the Society and the flag state throughout ship's life.

Table B3.3 has been amended as follows.

Table B3.3 Performance Tests

Items	Tests
1 Weathertight hatch covers	・ Hose test listed in **Table B2.~~1~~2** (when deemed necessary by the Surveyor) ・ Random checking of the satisfactory operation of mechanically operated hatch covers including hydraulic and power components, wires, chains and link drives ・ For mechanically operated hatch covers on bulk carriers, hatch cover sets within the forward $0.25L_f$ and at least one additional set, including hydraulic and power components, wires, chains and link drives, are to be checked for satisfactory operation so that all sets on the ship are checked at least once every 5 *years* between special surveys
2 Closing appliances of watertight door on watertight bulkheads and openings on superstructure end bulkheads, deckhouses or companions protecting hatchways giving access to spaces below freeboard deck	・ Checking whether the appliances work in good order is to be made as deemed necessary by the Surveyor. ・ Hose tests listed in **Table B2.~~1~~2** or equivalent tests are to be carried out. Such tests may be dispensed with at the discretion of the Surveyor.
(Omitted)	

Chapter 4 INTERMEDIATE SURVEYS

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

Paragraph 4.2.1 has been amended as follows.

4.2.1 Examination of Plans and Documents

1 At Intermediate Surveys, the management conditions of plans and documents specified in **3.2.1** are to be examined.

2 For ships subject to *SOLAS Chapter II-1 Regulation 3-10*, the following **(1)** to **(3)** related to the Ship Construction File are to be verified upon completion of the survey:

(1) The Ship Construction File has been updated whenever any modification of the documentation included in it has taken place.

(2) Any addition and/or renewal of materials used for the construction of the hull structure are documented within the list of materials specified in **2.1.6-3(19)**.

(3) The Ship Construction File is available to the Society and the flag state throughout ship's life.

Table B4.1 has been amended as follows.

Table B4.1 Performance Test

Items	Tests
(Omitted)	
2 Doors on watertight bulkheads and closing appliances on superstructure end bulkheads, deckhouses or companions protecting hatchways giving access to spaces below freeboard deck	・ Confirmation that the doors and closing appliances work in order is to be made. ・ Hose tests listed in **Table B2.~~1~~2** or equivalent tests are to be carried out. Such tests may be dispensed with at the discretion of the Surveyor.
(Omitted)	
Additional Requirements for Bulk Carriers	
(Omitted)	
14 Weathertight hatch covers	・ Hose tests listed in **Table B2.~~1~~2** or equivalent, for all hatch covers for ships over 10 *years* of age.
(Omitted)	

Chapter 5 SPECIAL SURVEYS

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

Paragraph 5.2.1 has been amended as follows.

5.2.1 Examination of Plans and Documents

1 At Special Surveys, the management conditions of plans and documents specified in **3.2.1** are to be examined.

2 For ships subject to *SOLAS Chapter II-1 Regulation 3-10*, the following **(1)** to **(3)** related to the Ship Construction File are to be examined upon completion of the survey:

(1) The Ship Construction File has been updated whenever any modification of the documentation included in it has taken place.

(2) Any addition and/or renewal of materials used for the construction of the hull structure are documented within the list of materials specified in **2.1.6-3(19)**.

(3) The Ship Construction File is available to the Society and the flag state throughout ship's life.

5.2.3 Performance Test

Sub-paragraph -2 has been amended as follows.

(Omitted)

2 In addition to **-1** above, the performance tests and operation tests specified in **(1)** to **(10)** below are to be carried out.

(1) (Omitted)

(2) Hose tests listed in **Table 2.~~1~~2** or equivalent, for all weathertight hatch covers

((3) and (4) are omitted)

(5) The hose tests listed in **Table 2.~~1~~2** or equivalent tests, for the doors of watertight bulkheads and the closing appliances of superstructure end bulkheads, deckhouses or companions protecting hatchways giving access to spaces below freeboard deck

((6) to (10) are omitted)

Chapter 6 DOCKING SURVEYS

Table B6.1 has been amended as follows.

Table B6.1 Requirements for Docking Surveys

Items	Examinations
(Omitted)	
2 Rudder	・The rudder is to be lifted or removed and visible parts of the rudder, rudder pintles, gudgeons, rudder stocks and couplings and stern frame are to be examined. Where applicable, a pressure test of the rudder according to **Table B2.~~1~~2** may be required as deemed necessary by the Surveyor. The rudder bearing clearance is to be measured. The rudder may not require lifting or removal provided the Surveyor is satisfied with the condition of the rudder by measurement of the clearance.
(Omitted)	

EFFECTIVE DATE AND APPLICATION (Amendment 2-3)

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

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

(1) for which the building contract is placed on or after 1 July 2016; 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 January 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.

(3) the delivery of which is on or after 1 July 2020

GUIDANCE FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

GUIDANCE

Part B Class Surveys

2013 AMENDMENT NO.2

Notice No.69 27th December 2013

Resolved by Technical Committee on 29th July 2013

Notice No.69 27th December 2013
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

B1.3 Definition

B1.3.1 Terms

Sub-paragraph -5 has been added as follows.

5 "Critical structural areas" as specified in **1.3.1(4), Part B of the Rules** means locations which have been identified from calculations to require monitoring or from the service history of the subject ship or from similar or sister ships to be sensitive to cracking, buckling or corrosion which would impair the structural integrity of the ship.

B1.4 Preparation for Survey and Other Items

B1.4.2 Preparation for Surveys

Sub-paragraph -4 has been amended as follows.

4 Surveys of tanks by means of boats or rafts may only be made with the agreement of the Surveyor, who takes into account the safety arrangements provided, including weather forecasts and ship response under foreseeable conditions; and provided the expected rise of water within the tank does not exceed 0.25 *m*. In this case, in addition to preparations as specified in **-1** to **-3**, the applicant is to ensure the following.

(1) A communication system is to be arranged between the survey party on the boats or rafts in the tank and the personnel in charge of ballast pump handling
(2) Appropriate life jackets are to be available for all participants
(3) The tank or space is to contain clean ballast water only.
(4) The boat or raft is to be tethered to the access ladder and an additional person is to be stationed down the access ladder with a clear view of the boat or raft.
(5) ~~When raising the water level in a tank or space, necessary attention is given to the boat or raft not being isolated from an escape route by the deck transverses.~~ The surface of the water in the tank or hold is to be calm and the water level stationary. On no account is the level of the

water to be rising while the boat or raft is in use.

(6) At no time is the water level to be allowed to be within 1 *m* of the deepest under deck web face flat, so that the survey team is not isolated from a direct escape route to the tank hatch. Filling to levels above the deck transverses is only to be contemplated if a deck access manhole is fitted and open in the bay being examined, so that an escape route for the survey party is available at all times. Other effective means of escape to the deck may be considered.

(7) If the tanks are connected by a common venting system, or inert gas system, the tank in which the boat or raft is used is to be isolated to prevent a transfer of gas from other tanks.

Sub-paragraph -6(2) has been amended as follows.

6 In oil tankers, bulk carriers and ships carrying dangerous chemicals in bulk with integral tanks, the following documents from **(1)** to **(9)** are to be kept on board the ship to be readily available for the Surveyor. In general dry cargo ships of not less than 500 *gross tonnage*, at least **(1)** and **(3)** of the following documents are to be kept on board the ship.

(1) Records on structural surveys

(2) Condition evaluation report. Where the language used in preparation of the report is not English, a translation into English is to be included. (and see the requirement in **B5.2.6-6(5)** for bulk carriers built under **Part CSR-B of the Rules** and all oil tankers)

(3) Thickness measurement reports

(4) Main structural plans for hull (for ships built under **Part CSR-B** or **CSR-T of the Rules**, these plans are to include both as-built and renewal thickness. Any thickness for voluntary additions is also to be clearly indicated on the plans. A midship section plan to be supplied on board the ship is to include the minimum allowable hull girder sectional properties for transverse sections in all cargo holds of bulk carriers or cargo tanks of double hull oil tankers specified in either **1.4 Section 2 Chapter 13, Part CSR-B** or **Section 12, Part CSR-T of the Rules**.)

(5) Cargo and ballast history

(6) Previous repair history

(7) Records of inspections by ship's personnel with reference to structural deterioration in general, the leakage in bulkheads and piping and the condition of coating or corrosion prevention system, if any

(8) In oil tankers and ships carrying dangerous chemicals in bulk, extent of use of inert gas plant and tank cleaning procedures

(9) Any other information that will help identify Suspect Areas requiring inspection

However, ships which do not engage in international voyages and are classed for restricted service such as having class notation "Coasting Service", "Smooth Water Service", etc., as specified in **1.4.2-2, Part B of the Rules** need not keep onboard the document of (2) above.

EFFECTIVE DATE AND APPLICATION (Amendment 2-1)

1. The effective date of the amendments is 1 January 2014.

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.

Amendment 2-2

B2 CLASSIFICATION SURVEYS

B2.1 Classification Survey during Construction

B2.1.2 Submission of Plans and Documents for Approval

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

1 The plans required to be submitted for approval in **2.1.2, Part B of the Rules** are to indicate the following items.

(1) Hull structural drawings are to include scantling details, material details, location of butts and seams, cross section details as necessary, details of welding such as sizes and proportions applicable to the ship, and other necessary information unless specified otherwise. For hull structures subject to the requirements of **20.1.3, Part C**, **31A.3.6, Part C**, **Part CSR-B** or **Part CSR-T of the Rules**, renewal thicknesses are to be indicated in the relevant drawings. In addition, for structural members of ships subject to *SOLAS Chapter II-1 Regulation 3-10*, net (renewal) scantlings, as built scantlings and voluntary addition thickness are to be indicated.

((2) to (6) are omitted)

(-2 to -7 are omitted)

Paragraph B2.1.6 has been amended as follows.

B2.1.6 Documents to be Maintained on Board

1 Test plans, test records, and measurement records for the ship specified in **2.1.6-2(11)** and **-3(12), Part B of the Rules** are to include the following items. The allowable deviations referred to in **(1)** below mean allowable values stipulated in appropriate standards such as *JSQS* or other equivalent values that are applied to the ship.

(1) Measurement records of the ship's principal dimensions including allowable deviations

(2) Details of markings for the load lines and their measurement records including allowable deviations

(3) For hydrostatic tests, watertight tests, and relevant tests, approved test plans including details of the test requirements

2 Documents to be included in the Ship Construction File stipulated in **2.1.6-2** and **-3, Part B of the Rules** do not need to be actually in the File nor stored in the same location, provided that the location, status and other necessary information of such documents are addressed in the File.

3 The Ship Construction File stipulated in **2.1.6-3, Part B of the Rules** is to be in accordance with the following **(1)** and **(2)**:

(1) The Ship Construction File, limited to the items to be retained on board, is to be available on board.

(2) The Ship Construction File is to be appropriately updated at any major event, including, but not limited to, substantial repair and corrosion, or any modification to the ship structure. Documented procedures for updating the Ship Construction File are to be included within the Safety Management System.

~~3~~4 The certificates specified in **2.1.6-~~5~~7, Part B of the Rules** are those such as the ones issued for each piece of equipment, device, etc., type approval certificates valid at the time of the Classification Survey, or others applicable. With regard to fire pumps, hose test records after

installation on board may be accepted. In addition, unless equipment or devices on board are renewed after the ship has entered service, these certificates need not be updated.

EFFECTIVE DATE AND APPLICATION (Amendment 2-2)

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 other than ships that fall under the following:

(1) for which the building contract is placed on or after 1 July 2016; 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 January 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.

(3) the delivery of which is on or after 1 July 2020