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 2010 AMENDMENT NO.1
Guidance for the Survey and Construction of Steel Ships
Part B 2010 AMENDMENT NO.1

Rule No.24 / Notice No.42 15th April 2010
Resolved by Technical Committee on 5th February 2010
Approved by Board of Directors on 23rd February 2010

ClassNK
NIPPON KAIJI KYOKAI

RULES FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

RULES

Part B Class Surveys

2010 AMENDMENT NO.1

Rule No.24 15th April 2010

Resolved by Technical Committee on 5th February 2010

Approved by Board of Directors on 23rd February 2010

Rule No.24 15th April 2010
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

1.1.6 Modification of the Requirements

Sub-paragraph -1 has been amended as follows.

1 ~~At the~~With respect to Periodical Surveys and Planned Machinery Surveys~~,~~ in cases where considered appropriate by the Society, the Surveyor may modify the requirements specified in **Chapters 3** through **9** of this Part ~~having regard to~~based on the size, service engaged, construction, age, history, results of previous surveys and actual condition of the ship.

Paragraph 1.1.8 has been amended as follows.

1.1.8 Laid-up Ships

1 Laid-up ships are not subject to Class Maintenance Surveys specified in **1.1.2.** However, Occasional Surveys may be carried out at the request of owners.

2 When laid-up ships are about to be re-entering service, the following surveys and surveys for specific matters which have been postponed due to being laid-up, if any, are to be carried out.

(1) If the due dates for Periodical Survey or Planned Machinery Surveys have not transpired while the ship was laid-up, then ~~the next due periodical survey or Planned Machinery Surveys~~ a survey equivalent to the Annual Surveys specified in **Chapter 3** is to be carried out.

(2) If the due dates for Periodical Surveys or Planned Machinery Surveys have transpired while the ship was laid-up, then these Periodical Surveys or Planned Machinery Surveys are, in principal, to be carried out. However, where two or more kinds of Periodical Surveys are due, only the superlative survey may be carried out.

3 ~~If the survey to be carried out under the requirements of **-2** above is a Special Survey, the Special Survey is to be the one corresponding to the age of the ship~~ Surveys carried out under the requirements of **-2** above are to correspond to the age of the ship.

Chapter 5 SPECIAL SURVEYS

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

5.2.2 General Examination

Sub-paragraph -1 has been amended as follows.

1 At Special Surveys, all bilge and ballast piping systems in addition to hull, equipment, fire-extinction, and fittings specified in **4.2.2** are to be examined carefully. Automatic air pipe heads which are located on the exposed deck as well as ventilators and the closing appliances for machinery and cargo spaces are also to be examined carefully.

5.2.5 Close-up Surveys

Table B5.6-1 and Table B5.6-2 have 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 shell frames in all 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
Special Survey for ships over 5 *years* and up to 10 *years* of age (Special Survey No.2)	1. All shell frames in all 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. Both forward and aft transverse bulkheads (including stiffeners and girders) in one ballast tank (B) 6. All deck plating and under deck structure inside the line of hatch openings between cargo hold hatches 7. ~~Structural members specified in 4. of Special Survey No.1 above (A)~~ All piping arrangements in cargo holds. If the surveyor considers it necessary, airtight tests are to be carried out.
Special Survey for ships over 10 *years* and up to 15 *years* of age (Special Survey No.3)	1. All shell frames in all 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 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

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
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. Both forward and aft transverse bulkheads (including stiffeners and girders) in a transverse section including topside, bilge hopper and double side ballast tanks (B) 5. A sufficient number (at least 1/4 of total number) of stiffeners on side shell or longitudinal bulkhead at forward, middle, and aft parts on both sides of the foremost double side tanks (A) 6. All deck plating and under deck structure inside the line of hatch openings between cargo hold hatches ~~7. Structural members specified in 3. of Special Survey No.1 above~~ <u>All piping arrangements in cargo holds. If the surveyor considers it necessary, airtight tests are to be carried out.</u>
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 or longitudinal bulkhead at forward, middle, and aft parts on both sides of all double side tanks (A) 4. Structural members specified in 6. and 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 or 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 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
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. ~~Air pipes and sounding pipes in cargo holds in way of tank top~~ All piping arrangements in cargo holds. If the surveyor considers it necessary, airtight tests are to be carried out.
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. ~~All deck plating and under deck structure inside line of hatch openings between cargo hold hatches~~ Structural members specified in 6 and 7 of Special Survey No.2 above ~~6. Air pipes and sounding pipes in cargo holds in way of tank top~~
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) Abbreviations 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.

Chapter 6 DOCKING SURVEYS

6.1 Docking Surveys

Table B6.1 has been amended as follows.

Table B6.1 Requirements for Docking Surveys

Items	Examinations
1 Shell plating including keel plate, stem and stern frame	・Discontinuous structures, structural parts liable to excessive corrosion and openings in the shell are to be examined carefully. Grillage covers are to be removed where deemed necessary by the Surveyor.
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** 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.
3 Scupper, overboard discharges and sea inlets including distance pieces below freeboard deck, and valves and cocks on shell plating, sea chest or distance piece	・The main parts of valves and cocks are to be dismantled and examined. The bolts or studs fastening these mountings to the hull are to be examined. The valves and cocks may not require dismantling at the discretion of the Surveyor provided they were dismantled and found to be in good order at the last Docking Survey.
4 After end of stern bush	・The wear down of the bearing is to be measured; or the clearance between the propeller shaft or stern tube shaft and the after bearing of the stern tube or the shaft bracket bearing.
5 Sealing devices for stern tube and shaft bracket bearing	・The efficiency of the oil gland is to be checked.
6 Propeller	・Propellers are to be examined. Where a controllable pitch propeller is fitted, the pitch control device is to be examined without dismantling.
7 Anchor, anchor chain, ropes, hose pipe, chain locker and cable clenches	・At the Docking Surveys carried out at the times specified in **1.1.3-1(4)(a)**, anchor and anchor chains are to be ranged and all chains and chain related equipment are to be verified and externally examined. At Special Survey No.2 and subsequent Special Surveys, the diameter of the anchor chain is to be measured. If the mean diameter of a link, at its most worn part, is reduced by 12% or more from its required nominal diameter, it is to be renewed.
8 Tanks and spaces	・The internal examination, close-up surveys and thickness measurements (if applicable and not already carried out) are to be carried out as stipulated below. (i) At Docking Surveys in the dry dock or on the slipway carried out in conjunction with Special Surveys or at the times specified in **4.1.1-2**, at least the portions below the light ballast water line of the cargo holds/tanks and water ballast tanks (ii) At Docking Surveys carried out at the times specified in **1.1.6-5** as far as practicable.
9 Installations for In-water Surveys	・With regard to ships having the approval for conducting In-water Surveys based on the requirements in **6.1.2**, Surveyors are to confirm that the means and installations specified in **6.1.2-3** are in good condition.

EFFECTIVE DATE AND APPLICATION (Amendment 1-1)

1. The effective date of the amendments is 15 April 2010.

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 1-2

Chapter 1 GENERAL

1.1 Surveys

1.1.2 Class Maintenance Surveys

Sub-paragraph -1 has been amended as follows.

1 Ships (except steel barges, submersibles, mobile offshore drilling units, work boats, etc., and floating offshore facilities for crude oil/petroleum gas production, storage and offloading classed with the Society are to be subjected to Class Maintenance Surveys by the Surveyor in accordance with the requirements of **Chapter 3** through **Chapter 9** of this Part. Class Maintenance Surveys of steel barges, submersibles, mobile offshore drilling units, work boats, etc., floating offshore facilities for crude oil/petroleum gas production, storage and offloading are to be in accordance with the requirements of **Chapter 10**, **11**, **12** and **14** respectively. In addition, in cases where any modification of ship registration details is needed, the ship is to comply with **2.5** in addition to the above requirements.

Chapter 2 CLASSIFICATION SURVEYS

2.5 Alterations

Paragraph 2.5.1 has been amended as follows.

2.5.1 Examinations of Altered Parts

~~When any alterations are intended to be made to the hull, machinery or equipment, which affect or may affect the classification of the ship, the requirements for Classification Survey during Construction apply.~~

In cases where ships classified by the Society undergo repairs, alternations, modifications and outfitting related thereto (hereinafter referred to as "modifications, etc."), such ships are to continue to at least comply with any previously applicable requirements. Moreover, such ships, if constructed before the date on which any relevant amendments enter into force, are, as a rule, to comply with any requirements for ships constructed on or after that date to at least the same extent as they did before undergoing such modifications, etc. The modification, etc. of any main particulars are to satisfy the requirements for ships constructed on or after the date on which any relevant amendments enter into force. In cases where ships undergo modifications, etc. which affect main particulars, unless otherwise permitted by the Society, the concerned ship is to comply with requirements in force at the time of such modifications, etc.

EFFECTIVE DATE AND APPLICATION (Amendment 1-2)

1. The effective date of the amendments is 15 April 2010.

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

Amendment 1-3

Chapter 2 CLASSIFICATION SURVEYS

2.1 Classification Survey During Construction

2.1.6 Documents to be Maintained on Board

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.

(1) Finished plans of hull structural drawings specified in **2.1.7**
(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**)
~~(10)~~ (11) Test plans, test records, measurement records, etc.

Chapter 3 ANNUAL SURVEYS

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

3.2.1 Examination of Plans and Documents

Table B3.1 has been amended as follows.

Table B3.1 Examination of Plans and Documents

Items	Examination
1 Loading Manual	・ For ships required to have the manual on board in accordance with the requirements of **34.1.1** and **34.3.1, Part C**, and **25.1.1, Part CS**, confirmation that the manual is kept on board is to be made.
2 Stability Information Booklet	・ Confirmation as to whether the booklet is kept on board is to be made.
3 Damage Control Plan, Booklet and Damage Stability Information	・ For ships required to have a damage control plan on board in accordance with the requirements in **Chapter 33, Part C**, confirmation that the approved plan is exhibited and the booklet containing the information shown in the plan and the damage stability information are kept on board is to be made.
4 Fire Control Plan	・ Confirmation that the fire control plan is exhibited and properly stored is to be made.
5 Operating and Maintenance Manual for the door and inner door and notices indicating procedures for closing and securing	For ships required to have the manual and notices on board in accordance with the requirements in **Chapter 23, Part C**, and **Chapter 21, Part CS**; ・ Confirmation that the manual is kept on board is to be made. ・ Confirmation that the board is exhibited is to be made.
6 Instruction Manuals for the Inert Gas System	・ For ships required to have the manual on board in accordance with the requirements of **4.5.5, Part R**, confirmation that the manual is kept on board is to be made.
7 Towing and Mooring Fitting Arrangement Plan	・ Confirmation that the Towing and Mooring Fitting Arrangement Plan specified in **27.2, Part C** or **23.2, Part CS** is kept on board is to be made.
8 Ship Structure Access Manual	・ For ships required to have the manual on board in accordance with the requirements of **35.2.6, Part C** or **26.2.6, Part CS of the Rules**, confirmation that the manual is kept on board and updated as necessary is to be made.
9 Documents related to the surveys for bulk carriers, oil tankers and ships carrying dangerous chemicals in bulk	・ Confirmation that the documents are kept on board is to be made.

EFFECTIVE DATE AND APPLICATION (Amendment 1-3)

1. The effective date of the amendments is 1 July 2010.

Amendment 1-4

Chapter 2 CLASSIFICATION SURVEYS

2.1 Classification Survey During Construction

2.1.6 Documents to be Maintained on Board

Sub-paragraph -5 has been added as follows.

5 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.

(1) Fire pumps (including emergency fire pumps)
(2) Fire hoses and nozzles
(3) Fire extinguishers (including spare charges)
(4) Fire-fighter's outfits
(5) Emergency escape breathing devices
(6) Fixed fire-extinguishing systems
(7) Fire dampers and power-operated closing doors
(8) Fixed fire detection and fire alarm systems and automatic sprinkler systems
(9) Fire protection materials
(10) Additional equipment required for ships carrying dangerous goods (electrical equipment of an explosion-proof type, detection systems, full protective clothing, portable fire extinguishers and water spraying systems)
(11) Deck foam systems (nozzles and foam concentrates)
(12) Inert gas systems (portable oxygen content meters)
(13) Equipments for protection of cargo pump rooms (temperature sensing devices and hydrocarbon gases concentration meters)
(14) Watertight doors below the freeboard deck
(15) Side scuttles

EFFECTIVE DATE AND APPLICATION (Amendment 1-4)

1. The effective date of the amendments is 1 July 2010.

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

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

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

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

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

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

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

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

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

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

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

Note:
This Procedural Requirement applies from 1 July 2009.

GUIDANCE FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

GUIDANCE

Part B Class Surveys

2010 AMENDMENT NO.1

Notice No.42 15th April 2010

Resolved by Technical Committee on 5th February 2010

Notice No.42 15th April 2010
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

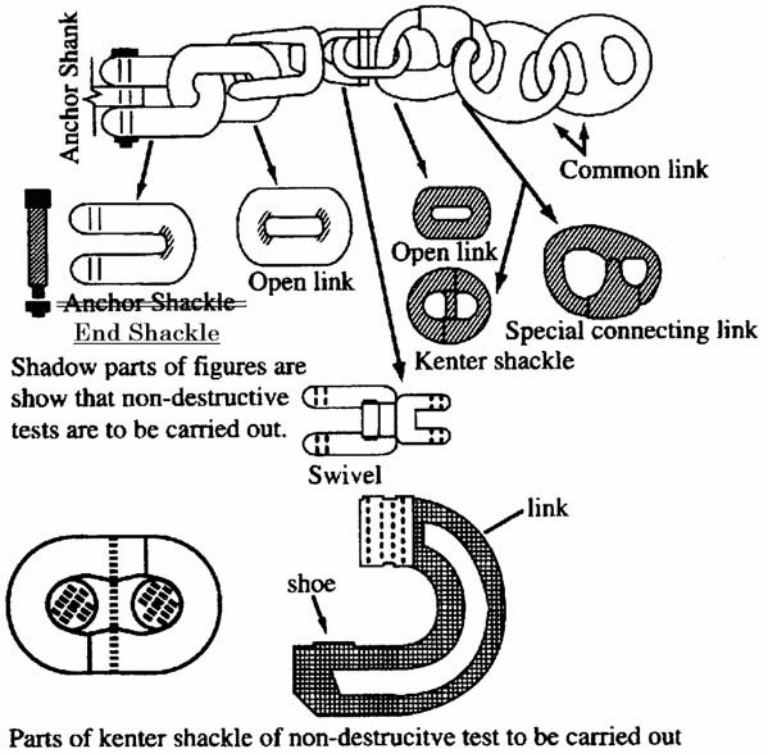
B12 SURVEYS FOR MOBILE OFFSHORE DRILLING UNITS, WORK SHIPS, AND SPECIAL PURPOSE BARGES

B12.5 Special Surveys

B12.5.2 Special Surveys for Hull, Equipment, Fire Extinguishing Systems, and Fittings

Fig. B12.5.2-2(3) has been amended as follows.

Fig. B12.5.2-2(3) Parts applicable to non-destructive testing



EFFECTIVE DATE AND APPLICATION (Amendment 1-1)

1. The effective date of the amendments is 15 April 2010.

Amendment 1-2

B1 GENERAL

B1.1 Surveys

Paragraph B1.1.6 has been amended as follows.

B1.1.6 Modification of the Requirements

1 ~~Where damages have occurred in similar ships or similar tanks, the scope of examinations may be expanded.~~ "In cases where considered appropriate by the Society" specified in **1.1.6-1, Part B of the Rules** means those cases where the examinations specified in **Table B1.1.6-1** are carried out during Periodical Surveys and Planned Machinery Surveys. However, this regulation is not to be applied to surveys required by international regulations or the requirements of flag states.

~~**2** Pressure test for cargo tanks of tankers and ships carrying dangerous chemicals in bulk~~

~~When pressure tests of certain cargo tanks are conducted in accordance with the Rules at an appropriate time under the presence of the Master or any other representative personnel of the ship before the due date of the examination, such pressure tests may be regarded as the pressure tests required for the Special Survey, provided the following conditions **(1)** and **(2)** are met. In this case, the Surveyor will carry out an examination on the bulkhead in question based on the results given in **(1)** and the test records.~~

~~(1) The cargo tank subject to the pressure test is readily accessible by crew members for examination for leakage at sea such as a tank located contiguous to a cargo pump room and the records of such tests are available on board the ship.~~

~~(2) The bulkhead of the compartment stated in **(1)** above is provided with protective coating. The bulkhead is to be such that when leakage takes place, the trace of the leak is left on the bulkhead for easy confirmation.~~

~~**3** Ships carrying timber cargoes~~

~~For ships carrying timber cargoes that have sustained serious damage to their structure, the following protective measures are to be implemented according to the condition of the damage.~~

~~(1) Any of the following measures is to be implemented for reinforcement of the hold frames:~~

~~(a) Side longitudinals or tripping brackets are to be provided at regular intervals of approximately 2 *m*.~~

~~(b) Angles are to be fitted longitudinally to the face plate of frames at regular intervals of approximately 1.5 *m*.~~

~~(c) When reinforcements are made only with flat bars, those with approximate dimensions of 150×10 (*mm*) are to be fitted longitudinally to the face plate of frames at regular intervals of approximately 500 *mm*.~~

~~(2) On the upper face of the free edge of tank side brackets, either angle steels or flat bars are to be fitted longitudinally at proper intervals.~~

~~(3) Where frames come right below hatch openings in the vicinity of the bow or stern of the ship, further reinforcements are to be arranged as appropriate.~~

~~(4) Bulkheads within the cargo area are to be reinforced in a similar manner to the above.~~

~~(5) Where no inner bottom ceilings are provided, suitable ceilings are to be laid (wood ceiling acceptable).~~

~~(6) Special protections are to be provided for hold pillars.~~

~~(7) Bulwark plating is to be adequately reinforced.~~

~~(8) Additional stays for hatch coamings are to be fitted.~~

~~(9) Any other areas (air pipes, ladders, doors, etc.) that are highly vulnerable to damages by cargo logs are to be provided with necessary protections or reinforcements.~~

~~**4** Examination of auxiliary machinery and pressure vessels~~

~~With the exception of general examinations, auxiliary machinery and pressure vessels subject to examinations in accordance with the Rules are as below.~~

~~(1) Essential auxiliary machinery as specified in **1.1.6, Part D of the Rules**~~

~~(2) Pressure vessels (Group I and II) and pressure vessels (Group III) for essential uses as specified in **10.1.3, Part D of the Rules**~~

~~**5** Examination of machinery and equipment of small capacity or infrequent use~~

~~Examinations of the following machinery and equipment in working condition and general examinations are to be carried out at Special Surveys. An open-up examination is required based on the results of the examination.~~

~~(1) Air compressors for emergency use and their motors~~

~~(2) Starting devices of boilers in cold conditions~~

~~(3) Forced draft fans, pumps, and related parts attached to small packaged boilers~~

~~(4) Electrical heaters with a capacity of not more than 10 *kW*~~

~~(5) Oil tanks with a capacity of not more than 1 m^3~~

~~(6) Lubricating oil tanks~~

~~(7) Hand pumps (for bilge, transfer of fuel oil, etc.)~~

~~**6** At Boiler Surveys, the following requirements in **(1)** and **(2)** may be applied.~~

~~(1) The examinations of boilers other than those of water tube type subject to the Classification Survey may be modified at the first boiler Survey after the Classification Survey at the discretion of the Surveyor based on the present conditions.~~

~~(2) The required examinations for pressure vessels less than 8 *years* of age used for processing fish may be modified at the Surveyor's discretion.~~

Table B1.1.6-1 Modification of Requirements

Survey	Extent and contents of survey
1 General	The surveyor may extend the contents of an examination based on the survey history of the ship.
2 Surveys for similar ships or similar tanks	In cases where damage has occurred in similar ships or similar tanks, the scope of examinations may be expanded.
3 Examination of auxiliary machinery and pressure vessels	With the exception of general examinations, auxiliary machinery and pressure vessels subject to examinations in accordance with the Rules are as follows: (1) Essential auxiliary machinery as specified in **1.1.6, Part D of the Rules**. (2) Pressure vessels (Group I and II) and pressure vessels (Group III) for essential uses as specified in **10.1.3, Part D of the Rules**.
4 Examination of machinery and equipment of small capacity or infrequent use	Examinations of the following machinery and equipment in working condition and general examinations are to be carried out during Special Surveys. An open-up examination is required based on the results of the examination. (1) Air compressors for emergency use and their motors (2) Starting devices of boilers in cold conditions (3) Forced draft fans, pumps, and related parts attached to small packaged boilers (4) Electrical heaters with a capacity of not more than 10 *kW* (5) Oil tanks with a capacity of not more than 1 m^3 (6) Lubricating oil tanks (7) Hand pumps (for bilge, transfer of fuel oil, etc.)

5 Boiler Surveys	With respect to Boiler Surveys, the following requirements **(1)** and **(2)** may be applied. (1) The examinations of boilers other than those of water tube type subject to Classification Surveys may be modified at the first Boiler Survey after the Classification Survey at the discretion of the Surveyor based on present conditions. (2) The required examinations for pressure vessels less than 8 *years* of age used for processing fish may be modified at the discretion of the Surveyor.
6 Others	With respect to other surveys in cases where specially approved by the Society, examinations are to be carried out in accordance with approved measures.

~~**7**~~**2** (Omitted)
~~**8**~~**3** (Omitted)
~~**9**~~**4** (Omitted)

B5 SPECIAL SURVEYS

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

B5.2.2 General Examination

Sub-paragraph -3 has been added as follows.

3 With respect to the provisions of **5.2.2-1, Part B of the Rules**, in addition to the general examination, ventilators for machinery and cargo spaces are to be examined internally at special surveys as specified below.

(1) Special Survey for ships up to 5 *years* of age (Special Survey No.1)
   (a) One ventilator for machinery spaces
   (b) One ventilator for cargo spaces
   (c) Ventilators to be examined are selected by the attending Surveyor.
   (d) According to the results of the above inspection, other ventilators as required by the Surveyor

(2) Special Survey for ships over 5 *years* and up to 10 *years* of age (Special Survey No.2)
   (a) All ventilators for machinery spaces
   (b) At least 20% of the ventilators for cargo spaces
   (c) Ventilators to be examined are selected by the attending Surveyor.
   (d) According to the results of the above inspection, other ventilators as required by the Surveyor

(3) Special Survey for ships over 10 *years* (Special Survey No.3 and subsequent Special Surveys)
   (a) All ventilators for machinery and cargo spaces
   (b) Notwithstanding the preceding **(a)**, ventilators that show substantiated evidence of the replacement of closing appliances within the past five years may be exempted; however, the number is not to be less than that required in **(1)** above.

Paragraph B5.2.7 has been amended as follows.

B5.2.7 Pressure Tests

1 With respect to **5.2.7 Part B of the Rules**, bilge, sludge and other similar tanks are to comply with the requirements for fresh water tanks.

2 Pressure tests of air pipes, sounding pipes, and other pipes may be required where deemed necessary by the Surveyor as a result of examinations.

3 In oil tankers, all bulkheads which form the boundaries of each cargo tank are to be tested with pressure from either side without fail at Special Survey No. 3 and subsequent Special Surveys.

4 With respect to the pressure tests for the cargo tanks of tankers and ships carrying dangerous chemicals in bulk, when pressure tests of certain cargo tanks are conducted in accordance with the Rules at an appropriate time under the presence of the Master or any other representative personnel of the ship before the due date of the examination, such pressure tests may be regarded as the pressure tests required for Special Surveys provided that the following conditions **(1)** and **(2)** are met. In such cases, the Surveyor will carry out an examination on the bulkhead in question based on the results given in **(2)** and test records.

(1) The cargo tank subject to the pressure test is readily accessible by crew members for examination for leakage at sea such as a tank located contiguous to a cargo pump room.
(2) Records of examination for leakage are kept by the crew.

~~4~~**5** "In cases where deemed appropriate by the Society stipulated in **Table B5.22** to **B5.24**, **Part B of the Rules"** means that satisfactory external examinations of tank boundaries and confirmations from Masters stating that all pressure testing has been carried out according to the requirements with satisfactory results.

EFFECTIVE DATE AND APPLICATION (Amendment 1-2)

1. The effective date of the amendments is 15 April 2010.

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 1-3

B2 CLASSFICATION SURVEYS

B2.5 Alteration

Paragraph B2.5.1 has been amended as follows.

B2.5.1 Examination of Altered Parts

1 ~~"Alterations" referred to in **2.5.1, Part B of the Rules** means alterations which affect or may affect the ship's longitudinal strength or stability.~~ In applying the requirements specified in **2.5.1, Part B of the Rules**, in the case of the "application of modification, etc. which affects a main particular of a ship" (hereinafter referred to as "application of major conversion"), the following are to apply, except in cases where specified by the Society or Administration:

(1) A "Major Conversion", for example, refers to (but is not limited to) the following cases:
   (a) Alteration of the dimensions of a ship; for example, the lengthening of a ship by adding a new midbody.
   (b) Change of ship type; for example, the conversion from tanker to bulk carrier.
   (c) Modification of construction which affects necessary requirements related to ship subdivisions. In this case, with respect to Required Subdivision Index (*R*) and Attained Subdivision Index (*A*) that are specified in **4.2, Part C of the Rules**, it is demonstrated that the *A/R* ratio calculated for the ship after such a modification is not less than the *A/R* ratio calculated for the ship before the modification. However, in cases where the ship's *A/R* ratio before modification is equal to or greater than 1, it is necessary that the ship's *A/R* ratio after modification be equal to or greater than 1.

(2) In cases where a major conversion is performed, unless otherwise specified in the requirements, the hull structure, machinery and equipment are to comply with all requirements in force at time of alteration. For example, in the case of the lengthening of a ship, the new midbody is to comply with all relevant requirements (for example, longitudinal strength and equipment numbers, etc.) which are affected by such alteration.

(3) "Requirements in force at the time of alteration" are those requirements, unless otherwise specified, for a conversion constructed after either of the following dates:
   (a) the date on which the contract is placed for the conversion; or
   (b) in the absence of a contract, the date on which the work identifiable with the specific conversion begins.

2 In applying the requirements specified in **2.5.1, Part B of the Rules**, in cases where single hull tankers are converted to double hull tanker or bulk carriers (including ore carriers), except where specified by the Society or Administration, in addition the above requirement **-1**, the following requirements are to be complied with:

(1) With respect to the requirements on subdivision specified in **Chapter 4, Part C of the Rules**, the requirements in accordance with ship's type after conversion are to be complied with.

(2) With respect to the requirements on stability, the following requirements are to be complied with:
   (a) In the case of a conversion to a double hull tanker, **3.2.2, Part 3 of Rules for Marine Pollution Prevention Systems** is to still be applied.
   (b) In the case of a conversion to a bulk carrier, **(5)** is to be applied.

(3) The requirements on protective coating in seawater ballast tank, etc. specified in **25.2.2, Part C of the Rules** are not required to be complied with, except in cases where the entire internal

structure of the seawater ballast tank are newly made.

(4) With respect to the requirements on towing and mooring equipment specified in **27.2, Part C of the Rules**, the following are to be complied with:
   (a) In cases where existing equipment or fittings are only relocated, this regulation applies only to their supporting structures.
   (b) Except in cases where equipment and fittings for mooring and towing are totally replaced or modified, the indication of Safe Work Loads and the provisions of towing and mooring arrangement plans are not required.

(5) In the case of conversion to a bulk carrier, the requirements specified in **31A and 34.2, Part C of the Rules** are to be applied. However, the requirements on permanent means of access are to comply with **(6)**.

(6) The requirements on permanent means of access, except in the case of the addition of substantial new structures, are not required to be complied with. The wording "addition of substantial new structures" refers to hull structures that are entirely renewed or augmented by new double bottom and/or double side construction (e.g., replacing the entire structure within cargo areas or adding a new double bottom and/or double side section to existing cargo areas). Additionally, an approved access manual is to be provided.

(7) In the case of conversion to a bulk carrier, the requirements on dewatering arrangements and water level detection and alarm systems specified in **13.5.10 and 13.8.5, Part D of the Rules** are to be applied.

(8) The requirements on navigation bridge visibility specified in **2.1, Part W of the Rules** is to be applied only in cases where a fore end structural is altered.

(9) The requirements on fire protection, escape and fire fighting specified in **Part R of the Rules** may be applied only to those parts which are altered.

3 In applying the requirements specified in **2.5.1, Part B of the Rules**, "permitted by the Society" refers to those cases where the Society agrees that it is difficult to apply a new requirement, and the Administration agrees to waive the concerned requirement.

~~**2**~~**4** The stability experiment may be dispensed with in accordance with **B2.3.2-5**, where sufficient reliable stability data can be obtained from the stability experiments conducted before the alterations were made or from other adequate means and a special approval is given by the Society.

EFFECTIVE DATE AND APPLICATION (Amendment 1-3)

1. The effective date of the amendments is 15 April 2010.

2. Notwithstanding the amendments to the Guidance, the current requirements may apply to ships for which the date of contract for conversion is before the effective date.

Amendment 1-4

B3 ANNUAL SURVEYS

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

Paragraph B3.2.1 has been amended as follows.

B3.2.1 Examination of Plans and Documents

~~For oil tankers, bulk carriers and ships carrying dangerous chemicals in bulk with integral tanks, the management conditions of plans and documents specified in **B1.4.2-6** are to be examined in addition to the plans and documents listed in **Table B3.1, Part B of the Rules**.~~

1 The wording "For ships required to have a damage control plan on board in accordance with the requirements in **Chapter 33, Part C**" in **Table B3.1, Part B of the Rules** refer to the ships specified in the following **(1)** and **(2)**.

(1) Cargo ships of 500 *gross tonnage* and above engaged on international voyages, which were at the beginning stage of construction on or after 1 February 1992, except for ships intended for the carriage of liquid cargoes

(2) Cargo ships of 500 *gross tonnage* and above engaged on international voyages, which were at the beginning stage of construction on or after 1 January 2009

2 The wording "Documents related to the surveys for bulk carriers, oil tankers and ships carrying dangerous chemicals in bulk" in **Table B3.1, Part B of the Rules** refers to the documents specified in **B1.4.2-6**.

B5 SPECIAL SURVEYS

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

B5.2.7 Pressure Tests

Sub-paragraph -3 has been amended as follows.

3 In oil tankers, all bulkheads which form the boundaries of each cargo tank are to be tested with pressure from either side without fail at Special Survey ~~No. 3~~ No.2 and subsequent Special Surveys.

EFFECTIVE DATE AND APPLICATION (Amendment 1-4)

1. The effective date of the amendments is 1 July 2010.

Amendment 1-5

B2 CLASSIFICATION SURVEYS

B2.1 Classification Survey during Construction

B2.1.6 Documents to be Maintained on Board

Sub-paragraph -3 has been added as follows.

3 The certificates specified in **2.1.6-5, 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 1-5)

1. The effective date of the amendments is 1 July 2010.

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

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

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

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

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

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

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

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

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

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

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

Note:
This Procedural Requirement applies from 1 July 2009.

Amendment 1-6

B2 CLASSIFICATION SURVEYS

B2.1 Classification Survey during Construction

B2.1.4 Presence of the Surveyor

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

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 onboard the ship, the examinations may be replaced with examinations carried out at the place of manufacture under the presence of the Surveyor.

(1) (Omitted)
(2) (Omitted)
(3) For fire extinguishing systems, fire detecting systems and manually operated call points:
  (a) (Omitted)
  (b) Fixed carbon dioxide fire extinguishing system
    i) For high pressure carbon dioxide fire-extinguishing systems:
      ~~i~~1) Airtight tests of piping at the following pressures:
      For starting line and lines between manifolds and selection valves: 3.5 *MPa*
      For lines between selection valves and open ends: 1.0 *MPa*
      ~~Ii~~2) Testing piping by delivering air
      ~~Iii~~3)Performance tests of alarm system
    ii) Test for vessels and their associated equipment are to be in accordance with the relevant requirements of **Part D of the Rules**, and additionally to comply with the following requirements:
      1) Shop test
        The vessels are to be subjected to magnetic particle inspections for welded joints after completion of hydraulic tests, and then subjected to tightness tests at a pressure equal to the designed pressure together with their fitting.
      2) On board test
        a) The pipes from the release valves on the distribution manifold to the nozzles are to be tested for tightness and the free flow of carbon dioxide gas (or air), after having been assembled on board. Test pressure is 1.0 *MPa*.
        b) The vessels are, after having been installed on board, to be subjected to operational tests with the charged condition of liquefied carbon dioxide gas to ensure no leakage of carbon dioxide gas and operations of the alarms, pressure gauges and liquid level indicators.
        c) The refrigerating plants are, after having been installed on board, to be subjected to an operational test with the charged condition of liquefied carbon dioxide gas including the pressure control function test.

((c) to (i) are omitted)

Annex B2.3.2-2 GUIDANCE FOR INCLINING TEST

1.2 Preparation for the Test

Paragraph 1.2.5 has been amended as follows.

1.2.5 Inclining Weights

1 As a rule, not less than four solid weights are to be used for the inclining test. Use of water ballast transfer to incline the ship may be permitted only in cases where it is impracticable to incline the ship using solid weights. However, the procedure is to be submitted to the Society for approval prior to commencement.

2 The solid weights are to be heavy enough to comply with the requirements in **1.3.3-1**. Each solid weight is to be almost equal in mass.

3 Each weight is to be compact, impervious to water. Its centre of gravity is to be accurately determined.

4 Each inclining weight is to be marked with an identification number. The inclining weights are to be weighted with a calibrated instrument ~~to the satisfaction of the Surveyor~~. In such cases, a report including the identification number, weight, weight measuring date, a instrument and calibration date is to be prepared to show to the Surveyor at the time of the survey.

EFFECTIVE DATE AND APPLICATION (Amendment 1-6)

1. The effective date of the amendments is 1 July 2010.

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.

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