



## **GUIDE FOR BUILDING AND CLASSING**

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# **INTERNATIONAL NAVAL SHIPS 2018**

### **NOTICES AND GENERAL INFORMATION**

**American Bureau of Shipping  
Incorporated by Act of Legislature of  
the State of New York 1862**

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ABS Plaza  
16855 Northchase Drive  
Houston, TX 77060 USA**

## Notices and General Information

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## Notices and General Information

### Introduction

1. The year 2018 edition of the *Guide for Building and Classing International Naval Ships* consists of the Parts shown in Table 1. Content has been added as necessary to extend its applicability to military vessels and other Government owned vessels in non-commercial service. The following is provided for information regarding each Part:
  - a) *Part 1*: The purpose of the generic title *ABS Rules for Conditions of Classification (Part 1)* is to reflect the expanded contents of PART 1, as a result of including consolidated requirements for “Classification” applicable to all types of and sizes of vessels, barges and specific shipboard arrangements/systems, etc., except for those in offshore service, as specified in the Foreword to Part 1.
  - b) *Part 2*: The purpose of the generic title *ABS Rules for Materials and Welding (Part 2)* is to reflect the common applicability of the requirements to all ABS-classed vessels, other marine structures and their associated machinery, and thereby make PART 2 more readily a common “PART” of various ABS Rules and Guides, as appropriate.
  - c) *Part 3*: The *ABS Guide for Building and Classing International Naval Ships (Part 3)* is based upon other existing ABS Rules and Guides to inherently incorporate baseline standards for hull design, construction, safety and environmental protection expected of all commercial vessels worldwide.
  - d) *Part 4*: The *ABS Guide for Building and Classing International Naval Ships (Part 4)* is based upon other existing ABS Rules and Guides to inherently incorporate baseline standards for machinery design, construction, safety and environmental protection expected of all commercial vessels worldwide.
  - e) *Part 5*: The *ABS Rules for Building and Classing Steel Vessels (Part 5A, 5B, 5C)* contains structural requirements for specific vessel types (tankers, bulk carriers, container carriers, liquefied gas carriers, passenger carriers, chemical carriers, and vessels intended to carry vehicles) that are normally classed in accordance with *ABS Rules for Building and Classing Steel Vessels*. The inclusion of this existing Part 5 in the *ABS Guide for Building and Classing International Naval Ships* is mainly for its potential application to certain naval ships (e.g., Oilers) and will require special consideration when applying its requirements since they were intended for application to commercial vessels and are therefore based heavily upon SOLAS and other IMO Convention standards; no modifications have been made to it at this time to tailor its applicability to military vessels or other Government-owned vessels in non-commercial service.
  - f) *Part 6*: The *ABS Guide for Building and Classing International Naval Ships (Part 6)* provides requirements regarding those optional notations offered by ABS that are most frequently requested and/or considered to be most applicable or unique to military vessels and other Government owned vessels in non-commercial service. A complete listing of available optional notations is on the ABS website ([www.eagle.org](http://www.eagle.org)). The requirements in Part 6 apply in addition to the basic requirements for Classification, but only apply for those optional notations that are requested.
  - g) *Part 7*: The purpose of the generic title *ABS Rules for Survey After Construction (Part 7)* is to reflect the common applicability of survey requirements to all ABS-classed vessels, other marine structures and their associated machinery.
2. The numbering system applied in the Guide is shown in Table 2.
3. The effective date of each technical change is shown in parentheses at the end of the subsection/paragraph titles within the text of each Part. Unless a particular date and month are shown, the years in parentheses refer to 1 January of the year shown.

This Guide becomes effective on 1 January 2018.

4. Until the next edition of the *Guide for Building and Classing International Naval Ships* is published, Rule Change Notices and/or Corrigenda, as necessary, will be published on the ABS website – [www.eagle.org](http://www.eagle.org) – only, and will be available free for downloading. It is not intended to publish hard copies of future Rule Change Notices and/or Corrigenda to existing Rules or Guides. The consolidated edition of the *Guide for Building and Classing International Naval Ships*, which includes Rule Change Notices and/or Corrigenda using different colors for easy recognition, will be published on the ABS website only when Rule Change Notices and/or Corrigenda are issued.
5. The listing of CLASSIFICATION SYMBOLS AND NOTATIONS is available from the ABS website <http://www.eagle.org> for download.
6. In association with the harmonization of the Common Structural Rules (CSR) for Bulk Carriers and Oil Tankers, on 1 July 2015, the three Sub-parts, 5A, 5B, and 5C, of Part 5 of the *Rules for Building and Classing Steel Vessels* are as follows:

*Contents*

Part 5A: General Hull Requirements (IACS CSR Part 1)

Part 5B: Ship Types (IACS CSR Part 2)

Part 5C: This Part is divided into two separate booklets as follows:

Chapters 1 to 6: Tankers and Bulk Carriers not covered by Part 5A and Part 5B and Container Carriers

Chapters 7 to 13: Passenger Vessels, Liquefied Gas Carriers, Chemical Carriers, Vessels Intended to Carry Vehicles, Water Carriers, Membrane Tank LNG Carriers, and Vessels Using Gases or other Low-Flashpoint Fuels.

*Application – Oil Tankers*

The structural requirements in Part 5A, Pt 1 and Part 5B, Pt 2, Ch 2 of the Rules are applicable for double hull oil tankers of 150 m in length and upward, with structural arrangements as specified in Part 5A, Pt 1, Ch 1, Sec 1, [1.3].

For oil tankers with structural arrangements not covered by Part 5A, Pt 1 and Part 5B, Pt 2, Ch 2, the requirements in Part 5C, Chapters 1 or 2, are to be complied with.

*Application – Bulk Carriers*

The structural requirements in Part 5A, Pt 1 and Part 5B, Pt 2, Ch 1 of the Rules are applicable for single side skin and double side skin bulk carriers of 90m in length and upward, with structural arrangements as specified in Part 5A, Pt 1, Ch 1, Sec 1, [1.2].

For vessels intended to carry ore or bulk cargoes, other than the single side skin or double side skin bulk carriers of 90 m in length and upward with structural arrangements as specified in Part 5A, Pt 1 and Part 5B, Pt 2, Ch 1, the requirements in Part 5C, Chapters 3 or 4 are to be complied with.

*Application – ABS Construction Monitoring Program*

These compulsory requirements for **CSR** notation are specified in Part 5C, Appendix 2.

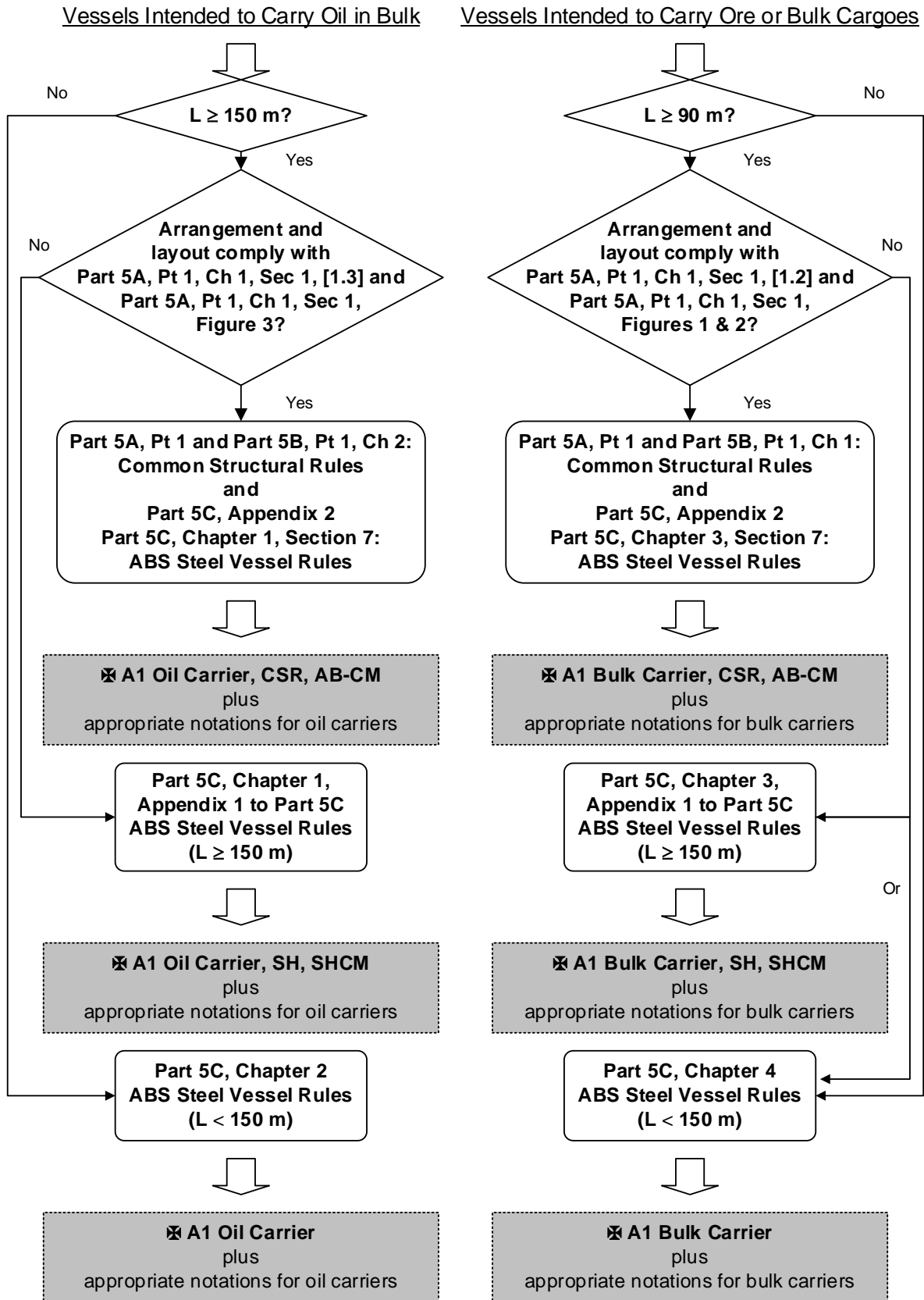
*Application – Onboard Systems for Oil Tankers and Bulk Carriers*

The onboard systems for all tankers are to comply with the requirements of Part 5C, Chapter 1, Section 7, and for all bulk carriers are to comply with the requirements of Part 5C, Chapter 3, Section 7 of the Rules.

*Application – References*

Other Parts of the ABS Rules that are referenced within Part 5A, 5B, or 5C are also to be applied.

The following flow chart indicates the application of the Rules and typical Class Notations for tanker and bulk carrier vessels, of which arrangements and scantlings are in full compliance with the Rules:



**TABLE 1**  
**Applicable Editions of Booklets Comprising the 2018 Guide**

Notices and General Information		2018
Part 1:	Rules for Conditions of Classification <sup>(1)</sup>	2018
Part 1:	Conditions of Classification (Supplement to the ABS <i>Rules for Conditions of Classification</i> ) <sup>(1)</sup>	2018
Part 2:	Rules for Materials and Welding Rules for Testing and Certification of Materials Rules for Welding and Fabrication	2018 <sup>(2)</sup>
Part 2:	Rules for Materials and Welding – Aluminum and Fiber Reinforced Plastics (FRP) Materials for Hull Construction – Aluminum (Chapter 5) Materials for Hull Construction - Fiber Reinforced Plastics (Chapter 6)	2018 <sup>(2)</sup>
Part 3:	Hull Construction and Equipment	2018
Part 4:	Vessel Systems and Machinery	2018
Part 5A: (Booklet 1)	Specific Vessel Types General Hull Requirements (IACS CSR Part 1)	2018 (on and after 1 July 2017)
Part 5B: (Booklet 1)	Specific Vessel Types Ship Types (IACS CSR Part 2)	2018 (on and after 1 July 2017)
Part 5C:	Specific Vessel Types Chapter 1 & 2 Oil Carrier Chapter 3 & 4 Bulk Carrier Chapter 5 & 6 Container Carrier	2018 <sup>(2)</sup>
Part 5C:	Specific Vessel Types Chapter 7 Passenger Carrier Chapter 8 Liquefied Gas Carrier Chapter 9 Chemical Carrier Chapter 10 Vehicle Carrier	2018 <sup>(2)</sup>
Part 6:	Optional Notations Chapter 1 Strengthening for Navigation in Ice Chapter 2 Bridge Design Notations (NBL, NBLES, NIBS)	2018
Part 7:	Rules for Survey After Construction	2018 <sup>(2)</sup>

*Notes:*

- 1 The requirements for conditions of classification are contained in the separate, generic *ABS Rules for Conditions of Classification (Part 1)*. Additional specific requirements are contained in Part 1 of this Guide.
- 2 The latest edition of these Rules is to be referred to. These Rules may be downloaded from the ABS website at [www.eagle.org](http://www.eagle.org), Rules and Guides, Downloads or may be ordered separately from the ABS Publications online catalog at [www.eagle.org](http://www.eagle.org), Rules and Guides, Catalog.

**TABLE 2**  
**Division and Numbering of Rules and Guides**

<i>Division</i>	<i>Number</i>
Part	Part 1
Chapter	Part 1, Chapter 1
Section	Section 1-1-1
Subsection (see Note 1)	1-1-1/1
Paragraph (see Note 1)	1-1-1/1.1
Subparagraph	1-1-1/1.1.1
Item	1-1-1/1.1.1(a)
Subitem	1-1-1/1.1.1(a)i
Appendix	Appendix 1-1-A1 or Appendix 1-A1-1

*Note:*

- 1 An odd number (1, 3, 5, etc.) numbering system is used for the Rules. The purpose is to permit future insertions of even-numbered paragraphs (2, 4, 6, etc.) of text and to avoid the necessity of having to renumber the existing text and associated cross-references, as applicable, within the Rules and associated process instructions, check sheets, etc.

Change Notice (2018)

**TABLE 3**  
**Summary of Changes from the 2017 Guide**

**EFFECTIVE DATE 1 July 2017 – shown as (1 July 2017)**  
(based on the contract date for new construction between builder and Owner)

<i>Part/Para. No.</i>	<i>Title/Subject</i>	<i>Status/Remarks</i>
<b>PART 3</b>	<b>Hull Construction and Equipment</b>	
3-2-14/17.1	Strength	To reflect current practice for cover plates and address vortex shedding for spade rudders with embedded trunks. (Incorporates Notice No. 1)
3-2-14/Figure 5 (New)	<No Title>	To reflect current practice for cover plates and address vortex shedding for spade rudders with embedded trunks. (Incorporates Notice No. 1)
3-2-14/Figure 6 (New)	<No Title>	To reflect current practice for cover plates and address vortex shedding for spade rudders with embedded trunks. (Incorporates Notice No. 1)
3-2-14/Figure 7 (New)	<No Title>	To reflect current practice for cover plates and address vortex shedding for spade rudders with embedded trunks. (Incorporates Notice No. 1)
3-2-14/17.1.2	In way of Cutouts	To reflect current practice for cover plates and address vortex shedding for spade rudders with embedded trunks. (Incorporates Notice No. 1)
<b>PART 4</b>	<b>Vessel Systems and Machinery</b>	
4-2-1/13.9.2iv)	<No Title>	To include the alternative of normal continuous cruise power, in line with IACS UR M51 Rev.4, Feb. 2015. (Incorporates Notice No. 1)
4-2-1/Table 1	Required Material and Nondestructive Tests of Diesel Engine Parts	To clarify the scope of hydraulic testing for high pressure fuel injection pipes including common fuel rail and high pressure common servo oil systems, in line with IACS UR M72 rev. 1 Mar. 2016. (Incorporates Notice No. 1)
4-2-1/Table 2	Test Pressures for Parts of Internal-combustion Engines	To clarify the scope of hydraulic testing for high pressure fuel injection pipes including common fuel rail and high pressure common servo oil systems, in line with IACS UR M72 rev. 1 Mar. 2016. (Incorporates Notice No. 1)
4-2-2/1.1	Application	To clarify the categorization of turbochargers and the application of Type Approval. (Incorporates Notice No. 1)
4-2-2/1.3.1	Turbocharger	To clarify the categorization of turbochargers and the application of Type Approval. (Incorporates Notice No. 1)

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<i>Part/Para. No.</i>	<i>Title/Subject</i>	<i>Status/Remarks</i>
4-2-2/1.3.3 (New)	Generic Range	To clarify the categorization of turbochargers and the application of Type Approval. (Incorporates Notice No. 1)
4-2-2/1.5.1ii)	<No Title>	To clarify the categorization of turbochargers and the application of Type Approval. (Incorporates Notice No. 1)
4-2-2/3.3	Category A and B Turbochargers	To clarify the categorization of turbochargers and the application of Type Approval. (Incorporates Notice No. 1)
4-2-2/3.5	Category C Turbochargers	To clarify the categorization of turbochargers and the application of Type Approval. (Incorporates Notice No. 1)
4-2-2/3.7.3	Certification Under Quality Assurance Assessment PQA (IACS UR Z26 Alternative Certification Scheme)	To clarify the categorization of turbochargers and the application of Type Approval. (Incorporates Notice No. 1)
4-2-2/5.1	General	To clarify the categorization of turbochargers and the application of Type Approval. (Incorporates Notice No. 1)
4-2-2/5.3	Containment	To clarify the categorization of turbochargers and the application of Type Approval. (Incorporates Notice No. 1)
4-2-2/5.7	Type Testing (applicable to category B and C turbochargers)	To clarify the categorization of turbochargers and the application of Type Approval. (Incorporates Notice No. 1)
4-2-2/7	Piping Systems for Turbochargers	To clarify the categorization of turbochargers and the application of Type Approval. (Incorporates Notice No. 1)
4-2-2/8 (New)	Alarms and Monitoring	To clarify the categorization of turbochargers and the application of Type Approval. (Incorporates Notice No. 1)
4-2-2/11.1	Shop Inspection and Tests	To clarify the categorization of turbochargers and the application of Type Approval. (Incorporates Notice No. 1)
4-2-2/11.1.1	Material Tests	To clarify the categorization of turbochargers and the application of Type Approval. (Incorporates Notice No. 1)
4-2-2/11.1.5	Shop Trial	To clarify the categorization of turbochargers and the application of Type Approval. (Incorporates Notice No. 1)
4-2-2/11.3	Certification of Turbochargers	To clarify the categorization of turbochargers and the application of Type Approval. (Incorporates Notice No. 1)
4-3-4/13.1.9 (New)	System Response Under Failure	To detect failure in the steering gear control system and provide the operator with sufficient information to decide what action is required for the different failure scenarios, in line with IACS UR E25 June 2016. (Incorporates Notice No. 1)
4-3-4/Table 1	Steering Gear Instrumentation	To detect failure in the steering gear control system and provide the operator with sufficient information to decide what action is required for the different failure scenarios and to require a deviation alarm in addition to basic failure detection, in line with IACS UR E25 June 2016. (Incorporates Notice No. 1)
4-3-5/1.1	Application	To clarify the various terms used for steering systems and their associated equipment, in line with IACS UI SC242 Rev.1, Apr. 2016. (Incorporates Notice No. 1)
4-3-5/1.5.6 (New)	Steering System	To clarify the various terms used for steering systems and their associated equipment, in line with IACS UI SC242 Rev.1, Apr. 2016. (Incorporates Notice No. 1)
4-3-5/5.12.2(b)iii)	<No Title>	To clarify that the capacity requirements apply regardless whether the steering systems are arranged with common or dedicated power units that the requirements of 4-3-4/11.1 apply to each steering system in ships fitted with multiple steering systems, in line with IACS UI SC242 Rev.1, Apr. 2016. (Incorporates Notice No. 1)
4-3-5/5.12.4 (New)	Electric and Electrohydraulic Steering Systems	To clarify that the capacity requirements apply regardless whether the steering systems are arranged with common or dedicated power units that the requirements of 4-3-4/11.1 apply to each steering system in ships fitted with multiple steering systems, in line with IACS UI SC242 Rev.1, Apr. 2016. (Incorporates Notice No. 1)



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<i>Part/Para. No.</i>	<i>Title/Subject</i>	<i>Status/Remarks</i>
4-3-5/7.5 (New)	Failure Detection and Response	To detect failure in the steering gear control system and provide the operator with sufficient information to decide what action is required for the different failure scenarios, in line with IACS UR E25 June 2016. (Incorporates Notice No. 1)
4-3-7/15.11	Instrumentation	To detect failure in the steering gear control system and provide the operator with sufficient information to decide what action is required for the different failure scenarios, in line with IACS UR E25 June 2016. (Incorporates Notice No. 1)
4-6-2/5.7.3(c)	Fire Resistance	To clarify the cases in which flexible hoses need not be of fire-resistant type. (Incorporates Notice No. 1)
4-6-2/5.9.1(c) (Deleted)	Operational Conditions	To minimize the use of slip-on joints for pipe connection except for cases where compensation of axial pipe deformation is necessary and to clarify the requirements, in line with IACS UR P2 Rev.2, Mar. 2016. (Incorporates Notice No. 1)
4-6-2/5.9.1(e)	Fire Testing	To clarify the requirements, in line with IACS UR P2 Rev.2, Mar. 2016. (Incorporates Notice No. 1)
4-6-2/5.9.1(f)	Locations	To clarify the requirements, in line with IACS UR P2 Rev.2, Mar. 2016. (Incorporates Notice No. 1)
4-6-2/5.9.1(h) (Deleted)	Application	To clarify the requirements, in line with IACS UR P2 Rev.2, Mar. 2016. (Incorporates Notice No. 1)
4-6-2/5.9.1(g)	Joints	To clarify the requirements, in line with IACS UR P2 Rev.2, Mar. 2016. (Incorporates Notice No. 1)
4-6-2/5.9.1(i)	Slip-on Joints	To minimize the use of slip-on joints for pipe connection except for cases where compensation of axial pipe deformation is necessary and to clarify the requirements, in line with IACS UR P2 Rev.2, Mar. 2016. (Incorporates Notice No. 1)
4-6-2/5.9.1(j)	Application	To clarify the requirements, in line with IACS UR P2 Rev.2, Mar. 2016. (Incorporates Notice No. 1)
4-6-2/5.9.2(e)ii)	Selection of Test Specimen	To clarify the requirements, in line with IACS UR P2 Rev.2, Mar. 2016. (Incorporates Notice No. 1)
4-6-2/5.9.2(e)v 1(a)	<No Title>	To clarify the requirements, in line with IACS UR P2 Rev.2, Mar. 2016. (Incorporates Notice No. 1)
4-6-2/5.9.2(e)v)2	Vibration (Fatigue) Test	To clarify the requirements, in line with IACS UR P2 Rev.2, Mar. 2016. (Incorporates Notice No. 1)
4-6-2/5.9.2(e)v)4	Burst Pressure Test	To clarify the requirements, in line with IACS UR P2 Rev.2, Mar. 2016. (Incorporates Notice No. 1)
4-6-2/5.9.2(e)v)5	Pull-out Test	To clarify the requirements, in line with IACS UR P2 Rev.2, Mar. 2016. (Incorporates Notice No. 1)
4-6-2/5.9.2(e)v)6	Fire Endurance Test	To clarify the requirements, in line with IACS UR P2 Rev.2, Mar. 2016. (Incorporates Notice No. 1)
4-6-2/5.9.2(e)v)7	Vacuum Test	To clarify the requirements, in line with IACS UR P2 Rev.2, Mar. 2016. (Incorporates Notice No. 1)
4-6-2/Table 9	Examples of Mechanical Joints	To update the figures for “Machine Grooved Type” and “Slip Type” slip-on joints, in line with IACS UR P2 Rev.2, Mar. 2016. (Incorporates Notice No. 1)
4-6-2/Table 10	Application of Mechanical Joints	To clarify the restrictions for on slip-on joints and flexible hoses used for L.O. lines and other flammable oils, and installed on open decks, in line with IACS UR P2 Rev.2, Mar. 2016. (Incorporates Notice No. 1)
4-8-2/7.25	Harmonics	To specify that the harmonic distortion calculation report is to be kept on board for exceptions to the 8% limit in cases where all installed equipment and systems have been designed for higher THD levels, in line with IACS UR E24 June 2016. (Incorporates Notice No. 1)
4-8-2/9.24 (New)	Harmonic Distortion for Ship Electrical Distribution System including Harmonic Filters	To introduce requirements for survey of harmonic filters and harmonic distortion levels, in line with IACS UR E24 June 2016. (Incorporates Notice No. 1)

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<i>Part/Para. No.</i>	<i>Title/Subject</i>	<i>Status/Remarks</i>
4-8-2/9.25	Protection of Harmonic Filter Circuits Associated with Electric Propulsion	To introduce requirements for survey of harmonic filters and harmonic distortion levels, in line with IACS UR E24 June 2016. (Incorporates Notice No. 1)
4-8-3/9.1	Standard of Compliance	To identify the standards that have been withdrawn or replaced by new ones and to consider approaches for cables not manufactured to IEC standards identified, in line with IACS UR E7 Rev.4 Apr. 2016. (Incorporates Notice No. 1)
4-9-6/Table 1	Instrumentation and Safety System Functions in Centralized Control Station – Medium and High Speed (Trunk Piston) Diesel Engines	To require turbocharger speed alarm for Categories B and C turbochargers, in line with IACS UR M35 rev. 7 Mar. 2016. (Incorporates Notice No. 1)
4-9-6/Table 3B	Instrumentation and Safety System Functions in Centralized Control Station – Generator Prime Mover for Electric Propulsion	To require turbocharger speed alarm for Categories B and C turbochargers, in line with IACS UR M35 rev. 7 Mar. 2016. (Incorporates Notice No. 1)
4-9-6/Table 4	Instrumentation and Safety System Functions in Centralized Control Station – Auxiliary Turbines and Diesel Engines	To require turbocharger speed alarm for Categories B and C turbochargers, in line with IACS UR M35 rev. 7 Mar. 2016. (Incorporates Notice No. 1)

**EFFECTIVE DATE 1 January 2018 – shown as (2018)**  
(based on the contract date for new construction between builder and Owner)

<i>Part/Para. No.</i>	<i>Title/Subject</i>	<i>Status/Remarks</i>
<b>PART 3</b>	<b>Hull Construction and Equipment</b>	
3-1-1/3.1.1	Scantling Length ( $L$ )	To align the requirements with ICLL 1966/Reg. 3 & IACS UR S2.
3-1-1/3.1.2	Freeboard Length ( $L_f$ )	To align the requirements with ICLL 1966/Reg. 3 & IACS UR S2.
3-1-1/3.15.1	Freeboard Deck	To align the requirements with ICLL 1966/Reg. 3 & IACS UR S2.
3-1-1/3.17.2	Lightship Weight	To incorporate interpretation made in IACS UI SC273 and MPC128.
3-1-2/Table 2	Material Class or Grade of Structural Members	To identify the minimum steel grades for deck plating other than strength deck (Line No. C4) at corners of cargo hatch openings adjacent to the engine room and/or deck house.
3-2-11/13.3.7 (New)	Bolted Connections	To specify requirements for bolted connections on helidecks.
3-2-11/13.5	Material	To clarify the requirements for aluminum helideck escape stairs and intermediate platforms.
3-2-11/13.9.2	Means of Escape and Access	To clarify the requirements for aluminum helideck escape stairs and intermediate platforms.
3-2-13/1.1	Plate Stems	To consider the material factor in the net thickness of the plate stem, in line with CSR-H.
3-2-14/7.3	Lower Rudder Stocks	To make the stress units consistent with the allowable stress.
3-2-14/Figure 4	Tapered Couplings	To be consistent with the requirements of 3-2-14/11.7.
3-2-14/17.5	Diaphragm Plates	To allow larger openings on diaphragm plates when the effects of openings are considered in the strength assessment.
3-2-15/3.3.1	Cargo Hatch Covers in Position 1	To align the requirements with IACS UR S21, S21A, and 3-2-15/3.3.1 of the <i>Steel Vessel Rules</i> for less than 100 m.
3-3-A2 (Title)	Computer Software for Onboard Stability Calculations	To align the Rules with IACS UR L5, Revision 3.
3-3-A2/5	Types of Stability Software	To align the Rules with IACS UR L5, Revision 3.
3-3-A2/7.1	Calculation Program	To align the Rules with IACS UR L5, Revision 3.
3-3-A2/7.5	Warning	To align the Rules with IACS UR L5, Revision 3.

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<i>Part/Para. No.</i>	<i>Title/Subject</i>	<i>Status/Remarks</i>
3-3-A2/7.15 (New)	Computer Model	To align the Rules with IACS UR L5, Revision 3.
3-3-A2/7.17 (New)	Further Requirements for Type 4 Stability Software	To align the Rules with IACS UR L5, Revision 3.
3-3-A2/Table 1	Acceptable Tolerances	To align the Rules with IACS UR L5, Revision 3.
3-3-A2/11.1	Conditions of Approval of the Onboard Software for Stability Calculations	To align the Rules with IACS UR L5, Revision 3.
3-3-A2/11.5	Specific Approval	To align the Rules with IACS UR L5, Revision 3.
3-3-A2/15	Installation Testing	To align the Rules with IACS UR L5, Revision 3.
3-4-A1/1.1	<No Title>	To align the requirements with ASTM F3059-15, in line with IACS, IMO, and USCG policy.
3-4-A1/5	Fire Test Requirements	To align the requirements with ASTM F3059-15, in line with IACS, IMO, and USCG policy.
3-4-A1/7	Structural Fire Integrity Test Procedures	To align the requirements with ASTM F3059-15, in line with IACS, IMO, and USCG policy.
3-4-A1/Table 1	Structural Fire Integrity Matrix	To align the requirements with ASTM F3059-15, in line with IACS, IMO, and USCG policy.
3-6-1/Figure 3	<No Title>	To align with the wording “Conning Position” as indicated in 3-6-1/1.1.1(c).
3-6-1/Figure 5	<No Title>	To shift the location of the main steering position.
3-7-1	Tank, Bulkhead and Rudder Tightness Testing	To reflect the comments from Administrations, Industry Organizations and IMO considered during review of the proposed Testing Guidelines associated with SOLAS Chapter II-1, Regulation 11, reflected in IACS UR S14 (Rev.6, Sept 2016).
<b>PART 4 Vessel Systems and Machinery</b>		
4-3-1/5.13	Alternative Gear Rating Standards	To refer to the latest edition of the standards.
4-3-2/7.3.2(a)v	Geared Systems	To clarify how the misalignment is to be verified and to require that verification and adjustment procedure be reviewed if the calculated misalignment is not submitted.
4-3-2/7.3.2(b)	Hull Deflections Accounted for in the Analysis	To clarify that the fully laden draft of a vessel is not with the aft peak tank full.
4-3-2/11.1.2(e)iv	<No Title>	To clarify the draft of a vessel for shaft alignment analysis is accounted for in the hull deflection.
4-3-2/11.1.2(f) (New)	Geared Systems	To clarify how the misalignment is to be verified and to require that verification and adjustment procedure be reviewed if the calculated misalignment is not submitted.
4-3-4/1.11	Plans and Particulars to be Submitted	To clarify the requirements for automatic isolating systems.
4-3-4/25.1.2ii)	<No Title>	To clarify the requirements for automatic isolating systems.
4-4-1/1.1	Application	To clarify the requirements for accumulators of extruded seamless construction.
4-4-1/17.3.2	Diameter Over 457 mm (18 in.)	To clarify that the diameter is the inside diameter.
4-4-1/17.3.3	Diameter Over 305 mm (12 in.)	To clarify that the diameter is the inside diameter.
4-4-1/17.3.4	Diameter 305 mm (12 in.) or Less	To clarify that the diameter is the inside diameter.
4-6-4/5.7.4(c)	Sludge Piping	To align the requirement with Regulation 12 of MARPOL Annex 1, as amended by Resolution MEPC. 266(68).
4-6-4/9.5.5	Fuel Oil Tank Overflows	To align the requirements with ABS practice.
4-6-4/17.5	Class Notation – POT	To clarify that the protection requirements for lubrication oil tanks as required in 4-6-4/17.5 is not applicable to lubrication oil tanks with a capacity not greater than 30 m <sup>3</sup> .

## Notices and General Information

<i>Part/Para. No.</i>	<i>Title/Subject</i>	<i>Status/Remarks</i>
4-6-5/15 (New)	Storage and Use of SCR Reductants	To provide requirements for Selective Catalytic Reduction (SCR) systems, in line with IACS UR M77 Sept. 2016.
4-6-7/3.5.4	Hydraulic Accumulators	To clarify the requirements for accumulators of extruded seamless construction.
4-6-7/7.3.2	Ventilation of Storage Room	To clarify that the requirements are applied to acetylene gas (as flammable gas) only.
4-6-7/7.3.3	Electrical Installation in Storage Room	To clarify that the requirements are applied to acetylene gas (as flammable gas) only.
4-6-7/7.5.4	Gas Cylinders	To clarify that the requirements are applied to acetylene gas (as flammable gas) only.
4-7-2/1.9.4(a)	Escapes	To clarify the requirements for internal dimensions and ladders, in line with IMO MSC.Circ1511 and IACS UI SC277.
4-7-2/1.13.1iii (New)	Emergency Generator Spaces	To align the requirements with ABS practice.
4-7-3/3.1.2	Distribution Piping and Nozzles	To clarify the requirements for the pressure rating of the distribution pipe.
4-7-3/3.1.5	Medium Release Warning Alarm	To align the requirements with IACS UI SC132 (Rev.4).
4-7-3/3.1.9iii (New)	<No Title>	To provide a cross reference to the additional clarification in 4-7-3/13.7.1(b).
4-7-3/11.3.1(f)i	<No Title>	To clarify the acceptability for individually identifiable fire detectors without individual short circuit isolator, in line with 2.1.6.1 of FSS Code in IMO Resolution MSC.311(88)
4-7-3/13.7.1(b)	Location	To align the requirements for the location of the control panel with Chapter 10, paragraph 2.4.1.2 of the FSS Code (as amended by resolution MSC.292(87) as interpreted by IMO MSC.1/Circ. 1487 and IACS UI SC 260 (Rev. 1).
4-8-2/5.3.1	General	To explicitly prohibit the installation of other unrelated equipment in the emergency generator room.
4-8-2/7.11.1(d)	Current Carrying Capacity Correction	To clarify the application of the reduction factor of 0.85 where more than six cables are expected to operate simultaneously and are laid close together in a bunch in such a way that are an absence of free air circulation around them.
4-8-2/7.17.1	Main Lighting System	To align the requirement with other ABS Rules.
4-8-3/5.5.2(e)	Clearance and Creepage	To align the requirement with IEC 60092-302 and IEC 61892-3.
4-8-3/Table 2	Minimum Degree of Protection	To permit plugs and socket outlets installed in hazardous areas, in line with IEC 61892-7 Para. 8.11.1 and IEC 60079-14 Para. 5.13.
4-8-3/Table 5	Equipment and Instrumentation for Switchboards	To provide a reference to the requirements for high voltage systems.
4-8-3/Table 6	Maximum Current Carrying Capacity for Cables	To clarify the application of the reduction factor of 0.85 where more than six cables are expected to operate simultaneously and are laid close together in a bunch in such a way that are an absence of free air circulation around them.
4-8-4/21.3	Cable Current Carrying Capacity	To clarify the application of the reduction factor of 0.85 where more than six cables are expected to operate simultaneously and are laid close together in a bunch in such a way that are an absence of free air circulation around them.
4-8-4/25.5.5	Oxygen-acetylene Storage Room	To restrict the use of copper in acetylene atmospheres due to the potential formation of acetylides on the surface that can be ignited by friction or impact.
4-8-5/3.3.2	Earth Fault Detection and Indication	To clarify the requirements for audible and visual indication of earth faults for high voltage systems.
4-9-1/5.1.21 (New)	Worst Case Execution Time (WCET)	To define terms used in 4-9-1/7.3.9, in line with ISO 17894:2005 and IEC 61508-3.

<i>Part/Para. No.</i>	<i>Title/Subject</i>	<i>Status/Remarks</i>
4-9-1/5.1.22 (New)	Worst Case Response Time (WCRT)	To define terms used in 4-9-1/7.3.9, in line with ISO 17894:2005 and IEC 61508-3.
4-9-1/7.3.8	Programmable Electronic System (PES)	To mitigate the danger of critical alarms missing their deadlines.
4-9-2/7.3	Audible Alarms	To require a visual alarm for cases where the audible alarm may not be heard due to high noise levels in the machinery space.
4-9-5/15.3.1	Bilge Level	To clarify the number of bilge level switches/sensors required for vessels with <b>ACC</b> or <b>ACCU</b> notation, in line with IAC UR M27.
4-9-6/19.3vi)	<No Title>	To align the requirements for a high-expansion foam fire extinguishing system with IACS UI SC262.
4-9-6/19.3vii)	<No Title>	To require that weathertight doors fitted in the engine casing bulkhead also be a type of self-closing door or could be closed from fire control station, to prevent the release of CO <sub>2</sub> from the unintentional remaining opened doors when fixed CO <sub>2</sub> system in engine room is active, and to align the requirements for a high-expansion foam fire extinguishing system with IACS UI SC262.

## Definition of Terms Used Throughout the Guide

*Naval Vessel:* This term is used to broadly refer to Government owned vessels in non-commercial service; primarily vessels whose purpose is for safety, security and/or defense. As such, it applies to vessels of the Navy, the Coast Guard, or other Government agency of a country; the main differences from commercial vessels being: (1) such vessels are not required by law to comply with national or international codes or standards with which commercial vessels must comply, and (2) in many cases such vessels are equipped and outfitted for combat or related military missions which requires vessel systems, functions, and capabilities to address operational scenarios not encountered by commercial vessels.

The criteria in this Guide was developed around the following features/characteristics/assumptions with regard to the vessels to which this Guide applies: surface vessels, non-nuclear, welded steel construction, welded aluminum construction, areas of composite structure (other than primary structure), mono-hull, displacement type (however, the Guide does address dynamically supported vessels), no restrictions on length, IMO/SOLAS not mandatory (if invoked in whole or in part it is invoked by choice/policy of the Naval Administration), unrestricted service (but criteria is included to allow for lesser service routes), fitted with systems that support aircraft operations, combat operations, or other military-unique missions.

*Naval Administration:* The department, directorate, bureau or command to whom the National Government has delegated authority over the acquisition, acceptance, maintenance and technical requirements of naval vessels, and who acts on the Government’s behalf in all matters relating to the procurement and support of the vessels. In the case where these authorities are invested in separate departments within the naval organization, the term “Naval Administration” means the ensemble of departments having those authorities, or the command that overarches these departments.

*Special Consideration:* Where the term “special consideration” is used in this Guide, it is intended to indicate that ABS will consider a particular specified arrangement, detail, or proposed alternative or equivalency, or that application of the criteria in the Guide may require modification from what is prescribed in order to satisfy the intent of the requirements. Arrangements, details and proposed alternatives or equivalency determinations that require special consideration for ABS classification will be reviewed in conjunction with submitted calculations and other supporting documentation in accordance with sound engineering practice.

*Recognized Standard:* A document developed and maintained by an organization whose functions include the development and maintenance of specifications and standards, and designated as applicable for use in marine applications or made suitable by the addition of supplemental criteria. Acceptance of a recognized standard and any required supplemental criteria are subject to review and approval by ABS.

*HM&E System:* Hull, mechanical and electrical (HM&E) systems are those systems relating to the safety of vessel and crew in the basic operation and navigation of the vessel (i.e., aspects of the platform other than mission systems and mission-related or military-unique aspects that are the domain of other designated authorities).

*Mission System:* The systems, subsystems and individual equipment directly dedicated to carrying out the mission of the ship as opposed to those systems needed for crew and vessel safety regarding basic operation and navigation of the vessel. Mission systems include combat systems (weapons and sensors), C4ISR systems (including information security), and those systems and features related to military-unique aspects that are required for operation in a military environment (aspects such as signatures, shock, survivability, weapons effects, etc.).