



## **RULES FOR BUILDING AND CLASSING**

---

# **STEEL VESSELS 2004**

### **PART 1 CONDITIONS OF CLASSIFICATION**

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

**Copyright © 2003  
American Bureau of Shipping  
ABS Plaza  
16855 Northchase Drive  
Houston, TX 77060 USA**

## Rule Change Notice (2004)

The effective date of each technical change since 1993 is shown in parenthesis 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 the following effective dates:

(2000) and after	1 January 2000 (and subsequent years)	(1996)	9 May 1996
(1999)	12 May 1999	(1995)	15 May 1995
(1998)	13 May 1998	(1994)	9 May 1994
(1997)	19 May 1997	(1993)	11 May 1993

### Listing by Effective Dates of Changes from the 2003 Rules

Notice No. 2 to the 2003 Rules (effective on 1 January 2003), which is incorporated in the 2004 Rules, is summarized below:

#### EFFECTIVE DATE 1 January 2003

(based on the contract date for construction between builder and Owner)

<i>Part/Para. No.</i>	<i>Title/Subject</i>	<i>Status/Remarks</i>
1-1-8/7 (New)	Attendance at Bureau Request	To permit Bureau attendance for an unscheduled survey. (Incorporates Notice No. 2)

PART

# 1

## Conditions of Classification

### CONTENTS

---

<b>CHAPTER 1</b>	<b>Scope and Conditions of Classification .....</b>	<b>1</b>
Section 1	Classification.....	5
Section 2	Suspension and Cancellation of Classification.....	9
Section 3	Classification Symbols and Notations.....	13
Section 4	Rules for Classification .....	17
Section 5	Other Regulations .....	23
Section 6	IACS Audit .....	25
Section 7	Submission of Plans .....	27
Section 8	Conditions for Surveys After Construction.....	29
Section 9	Fees .....	33
Section 10	Disagreement.....	35
Section 11	Limitation of Liability .....	37
Section 12	Hold Harmless .....	39
Section 13	Time Bar to Legal Action .....	41
Section 14	Arbitration.....	43
Appendix 1	Load Line Marks .....	45
Appendix 2	Classification Symbols and Notations.....	47
Appendix 3	ABS Type Approval Program.....	49

This Page Intentionally Left Blank

# 1 Scope and Conditions of Classification

## CONTENTS

<b>SECTION 1</b>	<b>Classification.....</b>	<b>5</b>
1	Process .....	5
3	Certificates and Reports .....	5
5	Representations as to Classification.....	6
7	Scope of Classification.....	7
<b>SECTION 2</b>	<b>Suspension and Cancellation of Classification .....</b>	<b>9</b>
1	General .....	9
3	Notice of Surveys.....	9
5	Special Notations .....	9
7	Suspension of Class .....	10
9	Lifting of Suspension.....	11
11	Cancellation of Class .....	11
13	Alternative Procedures for Certain Types of Vessels .....	12
<b>SECTION 3</b>	<b>Classification Symbols and Notations.....</b>	<b>13</b>
1	Unrestricted Service.....	13
3	Special Rules .....	13
5	Special Purpose Vessels .....	13
7	Geographical Limitations .....	14
9	Vessels Not Built Under Survey.....	14
11	Equipment Symbol.....	14
13	✘ AMS Notation.....	14
15	AMS Notation.....	14
17	Centralized or Automatic Control Systems.....	14
19	Dynamic Loading Approach.....	15
20	Spectral Fatigue Analysis .....	15
21	SafeHull Criteria.....	15
23	Ice Class .....	15
25	PORT Notation.....	15

<b>SECTION 4</b>	<b>Rules for Classification .....</b>	<b>17</b>
1	Application of Rules .....	17
3	Effective Date of Rule Change .....	17
3.1	Effective Date .....	17
3.3	Implementation of Rule Changes .....	17
5	Novel Features.....	17
7	Alternatives .....	18
7.1	General.....	18
7.3	National Regulations .....	18
7.5	Other Rules .....	18
7.7	ABS Type Approval Program .....	18
<b>SECTION 5</b>	<b>Other Regulations .....</b>	<b>23</b>
1	General .....	23
3	International Conventions or Codes .....	23
5	Governmental Regulations .....	23
<b>SECTION 6</b>	<b>IACS Audit .....</b>	<b>25</b>
<b>SECTION 7</b>	<b>Submission of Plans.....</b>	<b>27</b>
1	Hull Plans.....	27
3	Machinery Plans .....	28
5	Additional Plans .....	28
<b>SECTION 8</b>	<b>Conditions for Surveys After Construction.....</b>	<b>29</b>
1	Damage, Failure and Repair.....	29
1.1	Examination and Repair .....	29
1.3	Suspension of Classification.....	29
1.5	Representation .....	30
3	Notification and Availability for Survey.....	30
5	Notification of Port State Detention.....	30
7	Attendance at Port State Request .....	30
9	Attendance at Bureau Request.....	31
11	Safety Management System.....	31
<b>SECTION 9</b>	<b>Fees.....</b>	<b>33</b>
<b>SECTION 10</b>	<b>Disagreement .....</b>	<b>35</b>
1	Rules .....	35
3	Surveyors.....	35
<b>SECTION 11</b>	<b>Limitation of Liability .....</b>	<b>37</b>
<b>SECTION 12</b>	<b>Hold Harmless.....</b>	<b>39</b>

<b>SECTION 13 Time Bar to Legal Action</b> .....	<b>41</b>
<b>SECTION 14 Arbitration</b> .....	<b>43</b>
<b>APPENDIX 1 Load Line Marks</b> .....	<b>45</b>
<b>APPENDIX 2 Classification Symbols and Notations</b> .....	<b>47</b>
<b>APPENDIX 3 ABS Type Approval Program</b> .....	<b>49</b>
1    General .....	49
3    Limitations .....	50
5    Process .....	50
5.1    Design Assessment (DA) .....	50
5.3    Manufacturing Assessment (MA) .....	51
5.5    Product Quality Assurance Certification (PQA) .....	52
5.7    Certificates .....	53
5.9    Suspension of Certification .....	55
FIGURE 1 Process of the Type Approval Program .....	56

This Page Intentionally Left Blank

## PART

# 1

## CHAPTER 1 **Scope and Conditions of Classification**

### SECTION 1 **Classification**

#### **1 Process** (*1 Nov. 2004*)

The Classification process consists of

- a) the development of Rules, Guides, standards and other criteria for the design and construction of marine vessels and structures, for materials, equipment and machinery,
- b) the review of design and survey during and after construction to verify compliance with such Rules, Guides, standards or other criteria,
- c) the assignment and registration of class when such compliance has been verified, and
- d) the issuance of a renewable Classification certificate with annual endorsements valid for five years.

The Rules and standards are developed by the *International Association of Classification Societies and by Bureau staff*, and passed upon by committees made up of naval architects, marine engineers, shipbuilders, engine builders, steel makers and by other technical, operating and scientific personnel associated with the worldwide maritime industry. Theoretical research and development, established engineering disciplines, as well as satisfactory service experience are utilized in their development and promulgation. The Bureau and its committees can act only upon such theoretical and practical considerations in developing Rules and standards.

*Surveyors apply normally accepted examination and testing standards to those items specified for each survey by the Rules; construction procedures, safety procedures and construction supervision remain the responsibility of the shipyard, ship repairer, manufacturer, owner or other client.*

For classification, vessels are to comply with both the hull and the machinery requirements of the Rules.

#### **3 Certificates and Reports** (*1 Jan. '96*)

##### **3.1**

Plan review and surveys during and after construction are conducted by the Bureau to verify to itself and its committees that a vessel, structure, item of material, equipment or machinery is in compliance with the Rules, Guides, standards or other criteria of the Bureau and to the satisfaction of the attending Surveyor. All reports and certificates are issued solely for the use of the Bureau, its committees, its clients and other authorized entities.

### 3.3

The Bureau will release information from reports and certificates to the Port State to assist in rectification of deficiencies during port state control intervention. Such information includes text of conditions of classification, survey due dates, and certificate expiration dates. The Owner will be advised of any request and /or release of information.

### 3.5

The Bureau will release certain information to the vessel's hull underwriters and P&I clubs for underwriting purposes. Such information includes text of overdue conditions of classification, survey due dates, and certificate expiration dates. The Owners will be advised of any request and/or release of information.

In the case of overdue conditions of classification, the Owners will be given the opportunity to verify the accuracy of the information prior to release.

### 3.7 (2002)

The Bureau may release vessel specific information related to the classification and statutory certification status. This information may be published on the Bureau web site or by other media and may include the vessel's classification, any operating restrictions noted in the Bureau's *Record*, the names, dates and locations of all surveys performed by ABS, the expiration date of all class and statutory certificates issued by ABS, survey due dates, the text of conditions of classification (also known as outstanding recommendations), transfers, suspensions, withdrawals, cancellations and reinstatements of class, and other related information as may be required.

## 5 Representations as to Classification

Classification is a representation by the Bureau as to the structural and mechanical fitness for a particular use or service in accordance with its Rules and standards. The Rules of American Bureau of Shipping are not meant as a substitute for the independent judgement of professional designers, naval architects, marine engineers, owners, operators, masters and crew, nor as a substitute for the quality control procedures of shipbuilders, engine builders, steel makers, suppliers, manufacturers and sellers of marine vessels, materials, machinery or equipment. The Bureau, being a technical society, can only act through Surveyors or others who are believed by it to be skilled and competent.

The Bureau represents solely to the vessel Owner or other client of the Bureau that when assigning class it will use due diligence in the development of Rules, Guides and standards, and in using normally applied testing standards, procedures and techniques as called for by the Rules, Guides, standards or other criteria of the Bureau for the purpose of assigning and maintaining class. The Bureau further represents to the vessel Owner or other client of the Bureau that its certificates and reports evidence compliance only with one or more of the Rules, Guides, standards or other criteria of the Bureau in accordance with the terms of such certificate or report. Under no circumstances whatsoever are these representations to be deemed to relate to any third party.

The user of this document is responsible for ensuring compliance with all applicable laws, regulations and other governmental directives and orders related to a vessel, its machinery and equipment, or their operation. Nothing contained in any Rule, Guide, standard, certificate or report issued by the Bureau shall be deemed to relieve any other entity of its duty or responsibility to comply with all applicable laws, including those related to the environment.

## 7 Scope of Classification (1 Nov. 2004)

Nothing contained in any certificate or report is to be deemed to relieve any designer, builder, Owner, manufacturer, seller, supplier, repairer, operator, insurer or other entity or person of any duty to inspect or any other duty or warranty express or implied. Any certificate or report evidences only that at the time of survey the vessel, structure, item of material, equipment or machinery or any other item covered by a certificate or report complied with one or more of the Rules, Guides, standards or other criteria of the American Bureau of Shipping and is issued solely for the use of the Bureau, its committees, its clients or other authorized entities. Nothing contained in any certificate, report, plan or document review or approval is to be deemed to be in any way a representation or statement beyond those contained in 1-1-1/5. The Bureau is not an insurer or guarantor of the integrity or safety of a vessel or of any of its equipment or machinery. The validity, applicability and interpretation of any certificate, report, plan or document review or approval are governed by the Rules and standards of the American Bureau of Shipping who shall remain the sole judge thereof. The Bureau is not responsible for the consequences arising from the use by other parties of the Rules, Guides, standards or other criteria of the American Bureau of Shipping, without review, plan approval and survey by the Bureau.

The term “approved” shall be interpreted to mean that the plans, reports or documents have been reviewed for compliance with one or more of the Rules, Guides, standards, or other criteria acceptable to the Bureau.

The Rules are published with the understanding that responsibility for stability and trim, for reasonable handling and loading, as well as for avoidance of distributions of weight which are likely to set up abnormally severe stresses in vessels does not rest upon the Committee.

This Page Intentionally Left Blank

## PART

# 1

## CHAPTER 1 **Scope and Conditions of Classification**

## SECTION 2 **Suspension and Cancellation of Classification (1998)**

### 1 **General (1 Nov. 2004)**

The continuance of the Classification of any vessel is conditional upon the Rule requirements for periodical, damage and other surveys being duly carried out. The Committee reserves the right to reconsider, withhold, suspend, or cancel the class of any vessel or any part of the machinery for noncompliance with the Rules, **for defects or damages which are not reported to ABS**, for defects reported by the Surveyors which have not been rectified in accordance with their recommendations, or for nonpayment of fees which are due on account of Classification, Statutory or Cargo Gear Surveys. Suspension or cancellation of class may take effect immediately or after a specified period of time.

#### 1.1 (2004)

**ABS reserves the right to perform unscheduled surveys of the hull, equipment or machinery when ABS has reasonable cause to believe that the Rule requirements for periodical, damage and other surveys are not being complied with.**

#### 1.2 (2004)

**Failure to permit the unscheduled surveys referred to in 1-1-2/1.1 above shall result in the suspension or cancellation of class.**

### 3 **Notice of Surveys**

It is the responsibility of the Owner to ensure that all surveys necessary for the maintenance of class are carried out at the proper time. The Bureau will notify an Owner of upcoming surveys and outstanding recommendations. This may be done by means of a letter, a quarterly vessel status or other communication. The non-receipt of such notice, however, does not absolve the Owner from his responsibility to comply with survey requirements for maintenance of class.

### 5 **Special Notations**

If the survey requirements related to maintenance of special notations are not carried out as required, the suspension or cancellation may be limited to those special notations only.

## 7 Suspension of Class

### 7.1

Class will be suspended and the Certificate of Classification will become invalid from the date of any use, operation, loading condition, or other application of any vessel for which it has not been approved and which affects or may affect classification or the structural integrity, quality or fitness for a particular use or service.

### 7.3

Class will be suspended and the Certificate of Classification will become invalid in any of the following circumstances:

- i) if recommendations issued by the Surveyor are not carried out by their due dates and no extension has been granted,
- ii) if Continuous Survey items which are due or overdue at the time of Annual Survey are not completed and no extension has been granted,
- iii) if the other surveys required for maintenance of class, other than Annual, Intermediate or Special Surveys, are not carried out by the due date and no Rule allowed extension has been granted, or
- iv) if any damage, failure or deterioration repair has not been completed as recommended.

### 7.5 (10 August 2004)

Classification may be suspended, in which case the Certificate of Classification will become invalid, upon failure to submit any damage, failure, deterioration or repairs for examination upon the first opportunity or, if proposed repairs, as referred to in 7-1-1/7, have not been submitted to the Bureau and agreed upon prior to commencement, as referred to in 7-1-1/7.

### 7.7

Class is automatically suspended and the Certificate of Classification is invalid in any of the following circumstances:

- i) if the Annual Survey is not completed by the date which is three (3) months after the due date,
- ii) if the Intermediate Survey is not completed by the date which is three (3) months after the due date of the third Annual Survey of the five (5) year periodic survey cycle, or
- iii) if the Special Survey is not completed by the due date, unless the vessel is under attendance for completion prior to resuming trading. Under exceptional circumstances, consideration may be given for an extension of the Special Survey,
  - provided the vessel is attended and the attending Surveyor so recommends; such an extension shall not exceed three (3) months, or
  - if the vessel is at sea on the Special Survey due date, and there is documented agreement to an extension prior to the due date, positive arrangements have been made for a Surveyor to attend the vessel at the first port of call, and the Bureau is satisfied there is technical justification for an extension; such an extension shall be granted only until arrival at the first port of call after the due date.

## **7.9**

If due to circumstances reasonably beyond the Owner's or the Bureau's control (limited to such cases as damage to the vessel, unforeseen inability of the Bureau to attend the vessel due to the governmental restrictions on right of access or movement of personnel, unforeseeable delays in port or inability to discharge cargo due to unusually lengthy periods of severe weather, strikes, civil strife, acts of war, or other cases of force majeure) the ship is not in a port where the overdue surveys can be completed at the expiry of the periods allowed above, the Bureau may allow the vessel to sail, in class, directly to an agreed discharge port and, if necessary, hence, in ballast, to an agreed port at which the survey will be completed, provided:

- i)* the overdue surveys are carried out to the extent practicable at the first port of call; and
- ii)* the Bureau is satisfied that the vessel is fit to sail and that the Owner is acting in good faith.

If class has already been automatically suspended in such cases, it may be reinstated subject to the conditions presented in this paragraph.

## **9 Lifting of Suspension**

### **9.1**

Class will be reinstated after suspension for overdue surveys upon satisfactory completion of the overdue surveys. Such surveys will be credited as of the original due date.

### **9.3**

Class will be reinstated after suspension for overdue recommendations upon satisfactory completion of the overdue recommendation.

### **9.5**

Class will be reinstated after suspension for overdue continuous survey items upon satisfactory completion of the overdue items.

## **11 Cancellation of Class**

### **11.1**

If the circumstances leading to suspension of class are not corrected within the time specified, the vessel's class will be canceled.

### **11.3**

A vessel's class is canceled immediately when a vessel proceeds to sea without having completed recommendations which were required to be dealt with before leaving port.

### **11.5**

When class has been suspended for a period of three (3) months due to overdue Annual, Intermediate, Special or other surveys required for maintenance of class; overdue Continuous Survey items; or overdue outstanding recommendations, class will be canceled. A longer suspension period may be granted for vessels which are either laid up, awaiting disposition of a casualty or under attendance for reinstatement.

### **13 Alternative Procedures for Certain Types of Vessels**

Alternatives to 1-1-2/7.7 procedures for automatic suspension of class and 1-1-2/11.5 procedures for cancellation of class, may be applied to military vessels; commercial vessels owned or chartered by governments which are utilized in support of military operations or service; or laid-up vessels.

## PART

# 1

## CHAPTER 1 Scope and Conditions of Classification

## SECTION 3 Classification Symbols and Notations

*Note:* A listing of Classification Symbols and Notations available to the Owners of vessels, offshore drilling and production units and other marine structures and systems may be viewed and downloaded from the ABS website “[www.eagle.org/rules/downloads.html](http://www.eagle.org/rules/downloads.html)”.

### 1 Unrestricted Service

Vessels which have been built to the satisfaction of the Surveyors to the Bureau to the full requirements of the Rules, or to their equivalent, where approved by the Committee for unrestricted ocean service at the assigned freeboards, will be classed and distinguished in the *Record* by the symbols **✕ A1** indicating compliance with the hull requirements of the Rules and for self-propelled vessels **✕ AMS** indicating compliance with the machinery requirements of the Rules.

### 3 Special Rules

Vessels which have been built to the satisfaction of the Surveyors to the Bureau to the requirements as contained in the Rules for special types of vessels and which are approved by the Committee for unrestricted ocean service at the assigned freeboards, will be classed and distinguished in the *Record* by the symbols **✕ A1** followed by the appropriate notation, such as **Oil Carrier, Ore Carrier, Bulk Carrier, Ore or Oil Carriers, Oil or Bulk/Ore (OBO) Carrier, Passenger Vessel, Vehicle Carrier, Container Carrier, Towing Vessel, Refrigerated Cargo Carrier**.

### 5 Special Purpose Vessels

Vessels of special design, intended primarily for ferry service, for dredging, for fishing, etc., which have been built to the satisfaction of the Surveyors to the Bureau to arrangements and scantlings approved for the particular purpose, where approved by the Committee for unrestricted ocean service at the assigned freeboards, will be classed and distinguished in the *Record* by the symbols **✕ A1** followed by a notation of the trade for which special modifications to the Rules have been approved.

## 7 Geographical Limitations

Vessels which have been built to the satisfaction of the Surveyors to the Bureau to special modified requirements for a limited service, where approved by the Committee for that particular service, will be classed and distinguished in the *Record* by the symbols and notations as described in 1-1-3/1, 1-1-3/3, and 1-1-3/5, but the symbols and notations will either be followed by or have included in them the appropriate service limitation.

## 9 Vessels Not Built Under Survey

Vessels which have not been built under survey to this Bureau, but which are submitted for classification, will be subjected to a special classification survey. Where found satisfactory and thereafter approved by the Committee, they will be classed and distinguished in the *Record* by the symbols and special notations as described in 1-1-3/1 to 1-1-3/7, but the mark ✕ signifying survey during construction will be omitted.

## 11 Equipment Symbol

The symbol ⓔ placed after the symbols of classification, thus: ✕ A1 ⓔ will signify that the equipment of anchors and chain cables of the vessel is in compliance with the requirements of the Rules, or with requirements corresponding to the service limitation noted in the vessel's classification, which have been specially approved for the particular service.

## 13 ✕ AMS Notation

Machinery and boilers which have been constructed and installed to the satisfaction of the Surveyors to the Bureau to the full requirements of the Rules, when found satisfactory after trial and approved by the Committee, will be classed and distinguished in the *Record* by the notation ✕ AMS.

## 15 AMS Notation

Machinery and boilers which have not been constructed and installed under survey to this Bureau, but which are submitted for classification, will be subjected to a special classification survey. Where found satisfactory and thereafter approved by the Committee, they will be classed and distinguished in the *Record* by the notation AMS. The mark ✕ signifying survey during construction will be omitted.

## 17 Centralized or Automatic Control Systems

Where, in addition to the individual unit controls, it is proposed to provide remote, centralized, or automatic control systems for propulsion units, essential auxiliaries, or for cargo handling, relevant data is to be submitted to permit the assessment of the effect of such systems on the safety of the ship. All controls necessary for the safe operation of the vessel are to be proved to the Surveyor's satisfaction. The automatic and remote-control systems are to be in accordance with the applicable requirements of Part 4, Chapter 9.

## 19 Dynamic Loading Approach

Vessels which have been built to plans reviewed in accordance with an acceptable procedure and criteria for calculating and evaluating the behavior of hull structures under dynamic loading conditions, in addition to full compliance with other requirements of the Rules, will be classed and distinguished in the *Record* by the notation **SH-DLA** placed after the appropriate hull classification notation. The application of the dynamic loading approach is optional.

## 20 Spectral Fatigue Analysis (2003)

Where a spectral fatigue analysis is performed satisfactorily in accordance with an acceptable procedure and criteria, and the vessel is built in accordance with plans approved on the basis of the results of such analysis, the vessel will be distinguished in the *Record* by the notation **SFA (year)**. The notation, **SFA (year)**, denotes that the designated fatigue life value is equal to 20 years or greater. The **(year)** refers to the designated fatigue life equal to 20 years or more (in 5-year increments) as specified by the applicant.

## 21 SafeHull Criteria (1 July 2001)

Vessels designed and built to the requirements in Part 5, Chapter 1, for tankers and Part 5, Chapter 3, for bulk carriers, and Part 5, Chapter 5 for container carriers will be identified in the *Record* by the notation **SH, SHCM**.

## 23 Ice Class (1998)

Vessels to be distinguished in the *Record* by the notation **Ice Class** are to meet the requirements in Part 6, Chapter 1 applicable to the designated ice class.

## 25 PORT Notation (1999)

Where requested by the Owner, control and monitoring installations which are found to comply with the requirements in the *Guide for Automatic and Remote Control and Monitoring Systems for Vessels in Port* and which have been installed and tested under survey by the Surveyor will be assigned and distinguished in the *Record* with the class notation **PORT**.

This Page Intentionally Left Blank

## PART

# 1

## CHAPTER 1 **Scope and Conditions of Classification**

### SECTION 4 **Rules for Classification**

#### **1 Application of Rules (1997)**

These Rules are applicable to steel vessels of 90 m (295 ft) and over in length intended for unrestricted ocean service, except where specifically mentioned otherwise. For smaller vessels, refer to the *Rules for Building and Classing Steel Vessels Under 90 Meters (295 Feet) in Length*. These requirements are applicable to those features that are permanent in nature and can be verified by plan review, calculation, physical survey or other appropriate means. Any statement in the Rules regarding other features is to be considered as a guidance to the designer, builder, owner, et al.

#### **3 Effective Date of Rule Change**

##### **3.1 Effective Date**

Changes to the Rules are to become effective on the date specified by the Bureau. In general, the effective date is not less than six months from the date on which The Technical Committee approves them. However, the Bureau may bring into force individual changes before that date if necessary or appropriate. The effective date of changes to the Rules can be found in the Introduction to the ABS publication “Notices and General Information” that is published with the *Rules for Building and Classing Steel Vessels*.

##### **3.3 Implementation of Rule Changes**

In general, until the effective date, plan approval for designs will follow prior practice unless review under the latest Rules is specifically requested by the party signatory to the application for classification. If one or more vessels are to be constructed from plans previously approved, no retroactive application of the subsequent Rule changes will be required except as may be necessary or appropriate for all contemplated construction.

#### **5 Novel Features**

Vessels which contain novel features of design in respect of the hull, machinery, or equipment to which the provisions of the Rules are not directly applicable may be classed, when approved by the Committee, on the basis that the Rules, insofar as applicable, have been complied with and that special consideration has been given to the novel features based on the best information available at the time.

## 7 Alternatives

### 7.1 General

The Committee is at all times ready to consider alternative arrangements and scantlings which can be shown, through either satisfactory service experience or a systematic analysis based on sound engineering principles, to meet the overall safety and strength standards of the Rules.

### 7.3 National Regulations

The Committee will consider special arrangements or details of hull, equipment or machinery which can be shown to comply with standards recognized in the country in which the vessel is registered or built, provided they are not less effective.

### 7.5 Other Rules

The Committee will consider hull, equipment or machinery built to the satisfaction of the Surveyors of the Bureau in accordance with the plans that have been approved to the Rules of another recognized classification society with verification of compliance by the Bureau. A special comment will be entered in the *Record* indicating that classification has incorporated the provisions of this paragraph. In addition, for a tanker [ $L \geq 150$  m (492 ft)], bulk carrier [ $L \geq 150$  m (492 ft)] or container carrier [ $L \geq 130$  m (427 ft)], the class notation, **SHR**, will be entered in the *Record*. The notation, **SHR**, denotes that the vessel's scantlings are reviewed based on the requirements in Part 5, Chapter 1, Section 4 for tankers, Part 5, Chapter 3, Section 4 for bulk carriers or Part 5, Chapter 5, Section 4 for container carriers.

### 7.7 ABS Type Approval Program (2003)

#### 7.7.1 Type Approval

Products that can be consistently manufactured to the same design and specification may be Type Approved under the ABS Type Approval Program. The ABS Type Approval Program is a voluntary option for the demonstration of compliance of a product with the Rules or other recognized standards. It may be applied at the request of the designer or manufacturer. The ABS Type Approval Program generally covers Product Type Approval (1-1-4/7.7.3), but is also applicable for a more expeditious procedure towards Unit-Certification, as specified in 1-1-4/7.7.2.

#### 7.7.2 Unit-Certification

Unit-Certification is a review of individual materials, components, products and systems for compliance with ABS Rules, Guides or other recognized standards. This allows these items to be placed on a vessel, marine structure or system to become eligible for classification. Certification is a "one-time" review. The process is:

- i) A technical evaluation of drawings or prototype tests of a material, component, product or system for compliance with the ABS Rules, Guides or other recognized standards,
- ii) A survey during manufacture for compliance with the ABS Rules, Guides or other recognized standards and results of the technical evaluation,
- iii) Alternatively, a certificate of type approval (see below) will expedite the requirements of i) and ii) above,
- iv) Products found in compliance are issued "Individual Unit Certification",
- v) There is no requirement for subsequent reviews or surveys.

### 7.7.3 Product Type Approval

Product Type Approval is a voluntary program used to prove eligibility for certification by demonstrating a product manufacturer's conformance to a specific standard or specification. Manufacturers who can demonstrate the ability to produce consistent products in compliance with these standards are issued "Certificates of Type Approval" (see 1-1-A3/5.3.4). The Certificate of Type Approval is neither an alternative to nor an equivalent of an Individual Unit Certificate. In order to remain valid, the Certificate of Type Approval requires routine audits of the manufacturer and continued compliance of the product with existing or new specifications.

### 7.7.4 Approval on Behalf of Administrations

ABS has also been authorized and/or notified to type approve certain equipment on behalf of Administrations. The list of authorizations and notifications are maintained at each ABS Technical Office.

### 7.7.5 Applicable uses of Type Approved Products

- i) When a product is at a stage suitable for testing and/or for use in a classed vessel, and unit certification is required, the manufacturer is to present the product to an attending Surveyor for witnessing of all required Rule testing. Unless specified in the Design Assessment, technical evaluation would not normally be required.
- ii) When a product is at a stage suitable for use in a classed vessel, and unit certification is not required, the product may be installed, to the satisfaction of the attending Surveyor, without the need for technical evaluation.

### 7.7.6 Definitions

*Audit.* A systematic and independent examination to determine whether quality activities and related results comply with planned arrangements and whether these arrangements are implemented effectively and is suitable to achieve the stated objectives.

*General Audit.* An audit that addresses the general operation of a site, and addresses applicable sections of the Quality and Environmental System Manual, quality and environmental system procedures, and operating procedures and process instructions.

*Surveillance Audit.* An audit that addresses specific areas within the operation at a site, and addresses selected sections of the Quality and Environmental System Manual, quality and environmental system procedures, and operating procedures and process instructions.

*Audit Checklist.* A listing of specific items within a given area that are to be audited.

*Audit Report/Checklist.* A combination of audit report and associated checklist.

*Component.* Parts/members of a product or system formed from material.

*Finding.* A statement of fact supported by objective evidence about a process whose performance characteristics meet the definition of non-conformance or observation.

*Manufacturing Process.* The process is the steps that one takes to produce (manufacture) a product.

*Manufacturing System.* The system is bigger than the manufacturing process, since it considers all of the factors that affect the process. This includes control of the process inputs, process controlling factors (such as competency of personnel, procedures, facilities and equipment, training, etc.) process outputs and measurements of quality, process and product for continual improvement, etc.

*Material.* Goods used that will require further forming or manufacturing before becoming a new component or product.

*Non-conformance.* Non-fulfillment of a specified requirement.

*Observation.* A detected weakness that, if not corrected, may result in the degradation of product or service quality or potential negative impact on the environment.

*Original Equipment Manufacturer (OEM).* The OEM is the person or legal entity that has the legal or patent rights to produce the material, component, product or system.

*Product.* Result of the manufacturing process.

*Production Testing.* This is the destructive and nondestructive testing of the materials and components used in the manufacture of a product and its final testing that is recorded in Unit Certification. The waiving of witnessed testing during production testing may only be allowed as defined in 1-1-A3/3 “Limitations” and 1-1-A3/5.5 “Product Quality Assessment Certification”.

*Prototype Testing.* This is the destructive and nondestructive testing of the materials and components presented for evaluation of the original design of a product. If a Surveyor’s witness is required, this may not be waived under any section of the Rules, unless it is done by a recognized third party.

*Recognized Third Party.* Is a member of the International Association of Classification Societies, a Flag Administration, a Nationally Certified testing Laboratories and others who may be presented to the Bureau for special consideration.

*Type Testing.* This is the destructive and nondestructive testing of the materials and components of the first article of a product manufactured. If a Surveyor’s witness is required, this may not be waived under any section of the Rules.

#### 7.7.7 The Terms and Conditions for use of ABS Type Approved Product Logo

When a product is eligible for a Certificate of Type Approval (1-1-A3/5.3.4), the Type Approved Product Logo may also be used with the understanding that it is copyrighted and its use must be controlled as follows:

- i) Any advertisement or other use of the logo is to be presented to the Manager of ABS Programs for review prior to use
- ii) The logo may only be used on correspondence, advertising and promotional material and must not be used except in connection with those goods or services described in the scope and conditions of the Product Design Assessment Certificate.
- iii) The logo may be used only on those materials (i.e., Internet site, letterhead, marketing literature, advertising, invoice stock forms, packaging, etc.) relating to the particular facility and process/product lines included within the Product Type Approval Certificate.
- iv) The logo may not, under any circumstances, be used directly on or closely associated with products in such a way as to imply that the products themselves are “Unit – certified” by ABS.
- v) If used with other logos, ABS may ask that the manufacturer discontinue any use of other logos that are unacceptable to ABS and any form of statement that, in the opinion of ABS, might be misleading.
- vi) Upon the termination of certification, for whatever reason, the manufacturer must undertake to immediately discontinue all use of the logo and to destroy all stocks of material on which they appear.
- vii) When advertising the product as ABS Type Approved, the manufacturer’s name, if different from the parent company, is to be used in conjunction with this logo. Any use should be specific to the process/product line covered and not represented as a blanket approval of the company.

- viii) The logo may be scaled uniformly to any size necessary. The color of the logo shall be either black or blue (reflex blue or PMS 294 blue).
- ix) A camera-ready sheet of these logos is available in .pdf format by e-mail from [type\\_approval@eagle.org](mailto:type_approval@eagle.org).

See the ABS Type Approved Product Logo, as follows:



See the *ABS Type Approval Program* in Appendix 1-1-A3.

This Page Intentionally Left Blank

## PART

# 1

## CHAPTER 1 **Scope and Conditions of Classification**

### SECTION 5 **Other Regulations**

#### 1 **General**

While the Rules cover the requirements for the classification of new vessels, the attention of Owners, designers, and builders is directed to the regulations of international, governmental, canal, and other authorities dealing with those requirements in addition to or over and above the classification requirements.

#### 3 **International Conventions or Codes**

Where authorized by the Administration of a country signatory thereto and upon request of the Owners of a classed vessel or one intended to be classed, the Bureau will survey a new or existing vessel for compliance with the provisions of International Conventions and Codes including the following, and certify thereto in the manner prescribed in the Convention or Code.

International Convention on Load Lines, 1966.

International Convention for the Safety of Life at Sea, 1974, as amended.

International Convention on Tonnage Measurement of Ships, 1969.

International Convention for the Prevention of Pollution from Ships, 1973/78, as amended.

International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk.

International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk.

#### 5 **Governmental Regulations** *(1 Nov. 2004)*

Where authorized by a government agency and upon request of the Owners of a classed vessel or one intended to be classed, the Bureau will survey and certify a new or existing vessel for compliance with particular regulations of that government on their behalf.

*All work performed on behalf of governments shall be governed by the terms and conditions of these Rules unless the government specifies otherwise.*

This Page Intentionally Left Blank

PART

# 1

CHAPTER      **1    Scope and Conditions of  
Classification**

SECTION      **6    IACS Audit (1995)**

The International Association of Classification Societies (IACS) conducts audits of processes followed by all its member societies to assess the degree of compliance with the IACS Quality System Certification Scheme requirements. For this purpose, auditors from IACS may accompany ABS personnel at any stage of the classification or statutory work which may necessitate the auditors having access to the vessel or access to the premises of the manufacturer or shipbuilder.

In such instances, prior authorization for the auditor's access will be sought by the local ABS office.

This Page Intentionally Left Blank

## PART

# 1

## CHAPTER 1 Scope and Conditions of Classification

### SECTION 7 Submission of Plans

#### 1 Hull Plans

Plans showing the scantlings, arrangements, and details of the principal parts of the hull structure of each vessel to be built under survey are to be submitted and approved before the work of construction is commenced. These plans are to indicate clearly the scantlings and details of welding, and they are to include such particulars as the design draft and design speed. Where provision is to be made for any special type of cargo or for any exceptional conditions of loading, whether in ballast or with cargo, particulars of the weights to be carried and of their distribution are also to be given. In general, the following plans are to be submitted for review or reference. See also 3-1-2/1.1.4.

Vessel Specifications	Bow framing
General Arrangement	Stem
Midship section	Stern framing
Scantling profile and decks	Stern frame and rudder
Bottom construction, floors, girders, etc.	Shaft struts
Framing plan	Spectacle frames and bossing details
Inner bottom plating	Docking plan
Shell expansion	Hatches and hatch-closing arrangements
Deck plans	Ventilation system on weather decks
Pillars and girders	Capacity plan
Watertight and deep-tank bulkheads	Lines and body plan
Miscellaneous nontight bulkheads which are used as structural supports	Superstructures and deckhouses, and their closing arrangements
Shaft tunnels	Anchor handling arrangements
Machinery casings, boiler, engine and main auxiliary foundations	

Plans should generally be submitted in triplicate, one copy to be returned to those making the submission, one copy for the use of the Surveyor where the vessel is being built, and one copy to be retained in the ABS Technical office for record. Additional copies may be required where the required attendance of the Surveyor is anticipated at more than one location.

### **3 Machinery Plans**

Plans showing the boiler, main propulsion engine, reduction gear, shafting and thrust bearing foundations (see 3-2-12/1), including holding-down bolts; also machinery general arrangement, installation and equipment plans as referenced in Parts 4 and 5 of the Rules, are to be submitted and approved before proceeding with the work.

### **5 Additional Plans**

Where certification under 1-1-5/3 or 1-1-5/5 is requested, submission of additional plans and calculations may be required.

PART

# 1

CHAPTER **1 Scope and Conditions of Classification**

SECTION **8 Conditions for Surveys After Construction**

**1 Damage, Failure and Repair** *(1 Jan. '96)*

**1.1 Examination and Repair** *(10 August 2004)*

**1.1.1**

Damage, failure, deterioration or repair to hull, machinery or equipment, which affects or may affect classification, is to be submitted by the Owners or their representatives for examination by a Surveyor at first opportunity. All repairs found necessary by the Surveyor are to be carried out to the Surveyor's satisfaction.

**1.1.2**

Where repairs to hull, machinery or equipment, which affect or may affect classification, are planned in advance to be carried out, a complete repair procedure including the extent of the proposed repair and the need for the Surveyor's attendance is to be submitted to and agreed upon by the Bureau reasonably in advance.

*Note:* The above applies also to repairs during voyage.

The above is not intended to include maintenance and overhaul to hull, machinery and equipment in accordance with the recommended manufacturer's procedures and established marine practice and which does not require Bureau approval; however, any repair as a result of such maintenance and overhauls which affects or may affect classification is to be noted in the ship's log and submitted to the Surveyor, as required by 1-1-8/1.1.1.

**1.3 Suspension of Classification** *(10 August 2004)*

Failure to submit a damage, failure, deterioration or repair governed by 1-1-8/1.1.1 to a Surveyor for examination at first opportunity, or failure to notify the Bureau in advance of the repairs contemplated by 1-1-8/1.1.2, may result in suspension of the vessel's classification from the date of arrival at the first port of call after the initial damage, failure, deterioration or repair until such time as the damage, failure or deterioration is repaired to the Surveyor's satisfaction, or the repair is redone or evidence submitted to satisfy the Surveyor that the repair was properly carried out.

## 1.5 Representation

Nothing contained in this section or in a rule or regulation of any government or other administration, or the issuance of any report or certificate pursuant to this section or such a rule or regulation is to be deemed to enlarge upon the representations expressed in 1-1-1/1 through 1-1-1/7 hereof and the issuance and use of any such reports or certificates are to be governed in all respects by 1-1-1/1 through 1-1-1/7 hereof.

## 3 Notification and Availability for Survey (1 Nov. 2004)

The Surveyors are to have access to classed vessels at all reasonable times. For the purpose of Surveyor Monitoring, monitoring Surveyors shall also have access to classed vessels at all reasonable times. Such access may include attendance at the same time as the assigned Surveyor or during a subsequent visit without the assigned Surveyor. Auditors from the International Association of Classification Societies (IACS) or flag administration shall also be granted access when requested by ABS and accompanied by ABS personnel. The Owners or their representatives are to notify the Surveyors on all occasions when a vessel can be examined in dry dock or on a slipway.

The Surveyors are to undertake, with adequate notification, all surveys on classed vessels upon request of the Owners or their representatives and are to report thereon to the Committee. Should the Surveyors find occasion during any survey, to recommend repairs or further examination, notification is to be given immediately to the Owners or their representatives in order that appropriate action may be taken. The Surveyors are to avail themselves of every convenient opportunity for carrying out periodical surveys in conjunction with surveys of damages and repairs in order to avoid duplication of work.

The Owners or their representatives are responsible for establishing and maintaining safe working conditions in accordance with applicable safety standards and for providing Surveyors with safe access to sites and assistance during construction, repairs, testing and trials. Surveyors shall comply with Owner's safety procedures to the extent such procedures are communicated to them. If Surveyors feel the proposed working conditions are unsafe they may refuse to attend the work site.

## 5 Notification of Port State Detention (10 August 2004)

The Owners or their representatives are to notify ABS on all occasions when a vessel is being detained by a Port State Authority, or the Flag Administration has found deficiencies which affects the vessel's class or other Statutory Certificates issued by ABS. This notification shall be provided prior to the vessel's departure in order that a Surveyor may attend and carry out a survey for the purpose of assessing and insuring the correction, if necessary, of the reported deficiencies or other matters which affect or may affect classification or the validity of Statutory Certificates issued by ABS. If Surveyors are not able to attend for any reason, ABS will notify the Owner to arrange for attendance in the next port of call. Should an Owner not notify ABS of a detention, then ABS reserves the right to suspend or cancel classification of the vessel or invalidate the applicable Statutory Certificate.

## 7 Attendance at Port State Request (1 Jan. '96)

It is recognized that Port State authorities may legally have access to a vessel. In cooperation with Port States, ABS Surveyors will attend onboard a classed vessel when so requested by a Port State, and upon concurrence by the vessel's master will carry out a survey in order to facilitate the rectification of reported deficiencies or other discrepancies that affect or may affect classification. ABS Surveyors will also cooperate with Port States by providing inspectors with background information, if requested. Such information includes text of conditions of class, survey due dates, and certificate expiration dates.

Where appropriate, the vessel's flag state will be notified of such attendance and survey.

## **9 Attendance at Bureau Request (2003)**

As a result of Port State deficiencies, the Bureau may request an unscheduled survey be carried out to confirm conditions onboard. Should an Owner not allow ABS onboard to conduct an unscheduled survey, then the ABS classification of the vessel will be suspended or cancelled.

## **11 Safety Management System (2002)**

It is recognized that a Safety Management System is a positive mechanism for managing maintenance of compliance with classification requirements on vessels subject to compliance with the International Safety Management (ISM) Code, as defined in SOLAS IX/1.1. If during any survey the attending ABS Surveyor finds evidence that the required safety management system is not in operation or functioning as required by the Code, this will be communicated to the relevant flag administration or the organization which issued the safety management certificate on behalf of the flag administration for their consideration and action.

This Page Intentionally Left Blank

PART

# 1

CHAPTER **1** **Scope and Conditions of  
Classification**

SECTION **9** **Fees**

Fees, in accordance with normal ABS practice, will be charged for all services rendered by the Bureau. Expenses incurred by the Bureau in connection with these services will be charged in addition to the fees. Fees and expenses will be billed to the party requesting that particular service.

This Page Intentionally Left Blank

PART

# 1

CHAPTER **1 Scope and Conditions of Classification**

SECTION **10 Disagreement**

**1 Rules**

Any disagreement regarding either the proper interpretation of the Rules or translation of the Rules from the English language edition is to be referred to the Bureau for resolution.

**3 Surveyors**

In case of disagreement between the Owners or builders and the Surveyors regarding the material, workmanship, extent of repairs or application of the Rules relating to any vessel classed or proposed to be classed by this Bureau, an appeal may be made in writing to the Committee, who will order a special survey to be held. Should the opinion of the Surveyor be confirmed, the expense of this special survey is to be paid by the party appealing.

This Page Intentionally Left Blank

PART

**1**

CHAPTER **1 Scope and Conditions of Classification**

SECTION **11 Limitation of Liability** *(1 Nov. 2004)*

The combined liability of American Bureau of Shipping, its committees, officers, employees, agents or subcontractors for any loss, claim or damage arising from its negligent performance or nonperformance of any of its services or from breach of any implied or express warranty of workmanlike performance in connection with those services, or from any other reason, to any person, corporation, partnership, business entity, sovereign, country or nation, will be limited to the greater of a) \$100,000 or b) an amount equal to ten times the sum actually paid for the services alleged to be deficient.

The limitation of liability may be increased up to an amount twenty-five times that sum paid for services upon receipt of Client's written request at or before the time of performance of services and upon payment by Client of an additional fee of \$10.00 for every \$1,000.00 increase in the limitation.

*Under no circumstances shall American Bureau of Shipping be liable for indirect or consequential loss or damage (including, but without limitation, loss of profit, loss of contract, or loss of use) suffered by any person as a result of any failure by the Bureau in the performance of its obligations under these Rules. Under no circumstances whatsoever shall any individual who may have personally caused the loss, damage or expense be held personally liable.*

This Page Intentionally Left Blank

PART

**1**

CHAPTER **1 Scope and Conditions of Classification**

SECTION **12 Hold Harmless (1 Nov. 2004)**

The party requesting services hereunder, or his assignee or successor in interest, agrees to release the Bureau and to indemnify and hold harmless the Bureau from and against any and all claims, demands, lawsuits or actions for damages, including legal fees, to persons and/or property, tangible, intangible or otherwise which may be brought against the Bureau incidental to, arising out of or in connection with this Agreement, the work to be done, services to be performed or material to be furnished hereunder, except for those claims caused solely and completely by the negligence of the Bureau, its agents, employees, officers, directors or subcontractors. The parties agree that for the purposes of the Convention on Limitation of Liability for Maritime Claims, 1976, ABS is a person for whose acts the shipowner is responsible.

Any other individual, corporation, partnership or other entity who is a party hereto or who in any way participates in, is engaged in connection with or is a beneficiary of, any portion of the services described herein shall also release the Bureau and shall indemnify and hold the Bureau harmless from and against all claims, demands, lawsuits or actions for damages, including legal fees, to persons and/or property, tangible, intangible or otherwise, which may be brought against the Bureau by any person or entity as a result of the services performed pursuant to this Agreement, except for those claims caused solely and completely by the negligence of the Bureau, its agents, employees, officers, directors or subcontractors.

This Page Intentionally Left Blank

PART

# 1

CHAPTER **1 Scope and Conditions of Classification**

SECTION **13 Time Bar to Legal Action** *(1 Nov. 2004)*

Any statutes of limitation notwithstanding, Owner 's right to bring or to assert against the Bureau any and all claims, demands or proceedings whether in arbitration or otherwise shall be waived unless (a) notice is received by the Bureau within ninety (90) days after Owner had notice of or should reasonably have been expected to have had notice of the basis for such claims; and (b) arbitration or legal proceedings, if any, based on such claims or demands of whatever nature are commenced within one (1) year of the date of such notice to the Bureau.

This Page Intentionally Left Blank

PART

**1**

CHAPTER **1 Scope and Conditions of Classification**

SECTION **14 Arbitration (1 Nov. 2004)**

Any and all differences and disputes of whatsoever nature arising out of services under these Rules shall be put to arbitration in the City of New York pursuant to the laws relating to arbitration there in force, before a board of three persons, consisting of one arbitrator to be appointed by the Bureau, one by the Client, and one by the two so chosen. The decision of any two of the three on any point or points shall be final. Until such time as the arbitrators finally close the hearings either party shall have the right by written notice served on the arbitrators and on an officer of the other party to specify further disputes or differences under these Rules for hearing and determination. The arbitration is to be conducted in accordance with the rules of the Society of Maritime Arbitrators, Inc. in the English language. The governing law shall be the law of the State of New York, U.S.A. The arbitrators may grant any relief other than punitive damages which they, or a majority of them, deem within the scope of the agreement of the parties, including, but not limited to, specific performance. Awards made in pursuance to this clause may include costs including a reasonable allowance for attorney's fees and judgment may be entered upon any award made hereunder in any court having jurisdiction.

This Page Intentionally Left Blank

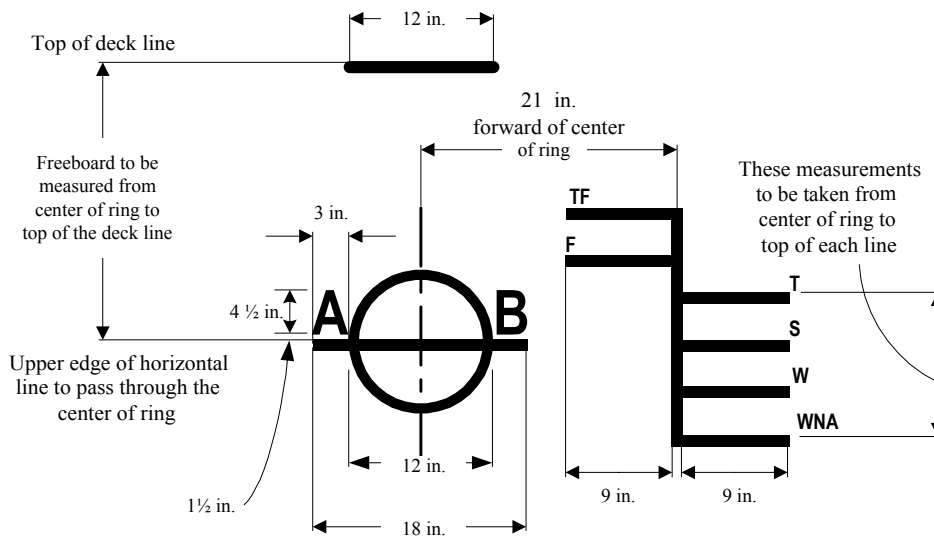


- S** Summer Load Line
- W** Winter Load Line
- WNA** Winter North Atlantic Load Line

## Load Line Markings for Ocean-going Vessels

### Inches

The American Bureau of Shipping is authorized to assign Load Lines to vessels registered in the United States and other countries. Requests for the assignment of Load Lines are to be made on forms which will be furnished by one of the offices of the Bureau.



Thickness of all lines 1 in.

The center of the ring is to be placed on each side of the vessel at the middle of the length, as defined in the Load Line Regulations. The ring and lines are to be permanently marked, as by center punch, chisel cut or bead of weld.

- AB** American Bureau of Shipping
- TF** Tropical Fresh Water Allowance
- F** Fresh Water Allowance
- T** Load Line in Tropical Zones
- S** Summer Load Line
- W** Winter Load Line
- WNA** Winter North Atlantic Load Line

PART

# 1

CHAPTER     **1     Scope and Conditions of  
Classification**

APPENDIX   **2     Classification Symbols and  
Notations**

The listing of Classification Symbols and Notations previously contained in this Appendix may be viewed and downloaded from the ABS website “[www.eagle.org/rules/downloads.html](http://www.eagle.org/rules/downloads.html)”.

This Page Intentionally Left Blank

## PART

# 1

## CHAPTER 1 Scope and Conditions of Classification

## APPENDIX 3 ABS Type Approval Program

### 1 General (2003)

When Type Approval is desired, applicants are required to submit a signed Request for Product Type Approval, identifying all adopted standards by the year of their last issuance. The Type Approval Program is made up of two components, Design Assessment and Manufacturing Assessment:

Design Assessment, which is approval of the product design, consists of:

- i) Design evaluation, and
- ii) Survey and/or testing of a prototype or a production unit (as appropriate)

Manufacturing Assessment, which is approval of the manufacturer, consists of:

- i) *Management Assessment.* Evaluating the quality assurance and quality control system of the manufacturing facilities in order to assess and verify their capability to meet the manufacturer's specified level of product quality consistently and satisfy the requirements of the Rules, as applicable. Three categories of quality assurance and quality control are in the Program:
  - Acceptable Quality System (AQS) is a system in substantial agreement with a standard such as ISO 9000 series or equivalent and found acceptable by ABS.
  - Recognized Quality Standard (RQS) is a system that is in compliance with a recognized standard at least to ISO 9000 series or equivalent and so certified by a recognized certification body.
  - Product Quality Assurance (PQA) is a system meeting the requirements for RQS and having additional approved procedures to carry out tests and surveys as required by the Rules.
- ii) *Production Assessment.* Evaluating the product specific manufacturing process of the manufacturer in order to assess and verify that manufacture and inspections of the products are established to provide the manufacturer's specified level of quality control, and to satisfy the requirements of the Rules.

The Design Assessment portion of the Type Approval Program may be applied individually for products submitted without a Request for Product Type Approval. It is normally to be done with a signed Request for Type Approval, and in conjunction with the Manufacturing Assessment portion of the Type Approval Program. The application of the Manufacturing Assessment portion can be done only in conjunction with Design Assessment. When a manufacturer has already been granted Manufacturing Assessment, further submittals of new products or drawing updates do not need to be accompanied by a new request for Type Approval.

The purposes of the Type Approval Program are threefold:

- i) To avoid repeated evaluation of identical designs,
- ii) To allow acceptance of the product based on periodic surveillance of the manufacturer's quality assurance program and, where applicable, selective inspection and tests in lieu of surveying and testing individual units at the manufacturer's facility, (see 1-1-A3/5.3 and 1-1-A3/5.5) and
- iii) Maintaining a list of these approvals on the ABS website so that the information can be made available to the industry.

### **3 Limitations (2003)**

The application of the Type Approval Program to a specific product is at the discretion of the Bureau. Those products that may not be type approved under the type approval program are identified in the appropriate sections of the Rules. For reference purposes, Tables 1 through 6 of Part 4, Chapter 1, Section 1 of the Rules contain examples of the limitations of the program for machinery and equipment.

Products for which the Rules require witnessed testing by a Surveyor as part of their certification for use on a vessel, MODU, or facility Classed by ABS will require witnessed testing where the option for Acceptable Quality System (AQS) or Recognized Quality Standard (RQS) system is exercised. Where Product Quality Assurance Certificate (PQA) is granted, witnessed testing during the manufacture of the product, which otherwise would be required by the Rules, may be waived at the discretion of the Surveyor in Charge.

Where the product is manufactured to an Administration standard, any request to waive witnessed testing must be approved by the Administration.

### **5 Process (2003)**

The process of the Type Approval Program is shown schematically in 1-1-A3/Figure 1. Each step in the process will be described in the following.

#### **5.1 Design Assessment (DA) (2003)**

##### **5.1.1 Design Evaluation**

Plans showing details of construction, and documentation such as product specifications, performance data, standard of compliance, engineering analyses, etc., as applicable, are to be submitted for review. The design will be reviewed for compliance with applicable requirements of the Rules or an alternative standard as may be permitted by the Rules. Products for which there are no specific standards in the Rules may be evaluated based on applicable industry standards or, in the absence of applicable Rules or industry criteria, the manufacturer's standard or specifications and/or engineering analyses. The basis of design evaluation will be stated in the Bureau's documentation concerning the product. The design assessment is intended to fulfill the requirements of the first element of the Type Approval Program, as described in 1-1-A3/1. It is the first step in determining that, provided all other Rule requirements are complied with, and subject to completion of manufacture and testing to the satisfaction of the attending Surveyor, the product may be used onboard a vessel, MODU, or a facility Classed by ABS.

### 5.1.2 Survey and/or Testing of Prototype or Production Units

Where applicable, and as deemed necessary for the evaluation process, the manufacturer is to carry out performance, nondestructive, destructive, environmental, or other tests on the product as may be specified in the Rules, in the applicable standard, or in the manufacturer's specifications in the presence of a Surveyor. If the required testing has been or is done in a recognized independent testing facility that is acceptable to ABS, consideration will be given to acceptance of test results obtained without a Surveyor present. Each ABS Technical Office will maintain a list of recognized testing facilities.

### 5.1.3 Design Assessment Certificate

Products evaluated in accordance with 1-1-A3/5.1.1 and 1-1-A3/5.1.2 and found to be in conformance with the applicable provisions of the Rules, standards, or specifications will be issued a Design Assessment Certificate. Designs so approved will be eligible for listing on the Bureau's website under the Design Approved Products (PDA) index. They will remain in this index until a Manufacturing Assessment Certificate (MA) is issued at which point the listing will be relocated to the Type Approved Product (PTA) index with the MA certificate data added.

Design Assessment Certificate, by itself, does not reflect that the product is type approved. For that purpose, manufacturing assessment is to be carried out in accordance with 1-1-A3/5.3 or 1-1-A3/5.5.

## 5.3 Manufacturing Assessment (MA) (2003)

### 5.3.1 Quality Assurance Standard

*5.3.1(a) Acceptable Quality Standard (AQS).* The manufacturer is to have in place an effective quality assurance system that will be evaluated by Surveyors for essential compliance with a recognized quality standard, such as the ISO 9000 series, or equivalent. The system, as implemented, is to be acceptable to ABS. The evaluation will involve initial, annual and renewal audits of the quality system, in accordance with the provisions of the applicable quality assurance standard. Where considered necessary by the attending Surveyor, more frequent surveillance may be required to maintain the certification.

*5.3.1(b) Recognized Quality Standard (RQS).* The requirements are the same as those for AQS except that the manufacturer is to have in place an effective quality assurance system certified by an internationally recognized certification body as complying with a recognized quality standard at least equivalent to the ISO 9000 series. Such certification is to be valid at least during the validity of Manufacturing Assessment Certificate. In addition, the system as implemented by the manufacturer is to be acceptable to the Bureau. For that purpose, a confirmatory evaluation will be conducted by the Surveyor, which will involve initial, annual and renewal audits of the quality system, in accordance with the provisions of the applicable quality assurance standard. Where considered necessary by the attending Surveyor, more frequent surveillance may be required to maintain the certification.

*5.3.1(c) Quality Manual.* The manufacturer is to maintain a quality manual as may be required by the standard. Where a recognized certification body has approved the Quality Manual, ABS will not require them to be submitted for ABS approval.

### 5.3.2 Quality Control

Typical quality plans describing methods of assuring and controlling quality during production as may be required by the product specifications or standard will be subject to evaluation by the Bureau. In particular, quality plans are to reflect specific surveys, tests, etc. wherever required by the Rules. The manufacturer is to present a sample or specimen of the product, representative of the "type" to be approved, to the Surveyor for the purpose of verifying that the "type" has been manufactured in conformance with the design documents.

### 5.3.3 Manufacturing Assessment Certificate (MA)

Manufacturing facilities that are successfully audited in accordance with 1-1-A3/5.3.1 and 1-1-A3/5.3.2 and are found to:

- i) have undergone a satisfactory product design evaluation, and
- ii) comply with a quality assurance standard, and
- iii) have manufacturing quality control that meets the applicable provisions of the Rules, or of the applicable product standard, or the manufacturer's specifications,

will be issued a Manufacturing Assessment Certificate (MA) by the attending Surveyors. Manufacturers so assessed will be eligible for listing on the Bureau's website under the Type Approved Product (PTA) index together with the DA Certificate data, as appropriate.

### 5.3.4 Certificate of Type Approval (CTA)

Those products with both a valid Design Assessment Certificate (1-1-A3/5.1.3) and a valid Manufacturing Assessment Certificate (1-1-A3/5.3.3) are eligible for a Certificate of Type Approval (AQS) or Certificate of Type Approval (RQS) as the case may be. These certificates may only be printed from the ABS website when all parts of the Type Approval Program remain current. (See also 1-1-A3/5.7.3) The Certificate of Type Approval (AQS) or (RQS) represents the information recorded by ABS on the product as of the date and time the certificate is printed.

## 5.5 Product Quality Assurance Certification (PQA) (2003)

A Product Quality Assurance Certificate (PQA) will be issued to a manufacturer who has requested surveys and tests be conducted without an ABS Surveyor in attendance. For that purpose, the manufacturer is to meet the requirements for Certificate of Type Approval (RQS) as described in 1-1-A3/5.3.1(b), and in addition is to have a quality assurance system in operation that is at least as effective as the Surveyor's attendance at those surveys and tests. The scope of the manufacturing assessment will be expanded to include a confirmatory evaluation including at least initial, annual and renewal audits of the quality system, in accordance with the provisions of the applicable quality assurance standard and ABS' own criteria.

The issuance of a Product Quality Assurance Certificate is contingent upon the recommendation by the attending Surveyor, seconded by the Surveyor in Charge and final approval by the Manager of Programs. During the manufacture of the product, the Product Quality Assurance certification will provide an alternative to the requirements for witnessed testing by a Surveyor. This is not a relaxation of the Rule requirement for production testing, but rather allows such testing to be conducted without a Surveyor being present.

Where conditions justify the need for increased surveillance, the PQA does not preclude the Surveyor in Charge from expanding the scope of surveillance. Where the situation (e.g., frequency of ABS unit certification, batch test results, etc.) warrants such action, the Bureau may require a closer interval of surveillance surveys, at a minimum semi-annually. In such instances, the requirement for a renewal audit will be specially considered. See 1-1-A3/5.7.4. The Bureau also reserves the right to conduct unscheduled surveillance surveys.

Manufacturers receiving a Product Quality Assurance Certificate will be distinguished on the Bureau's website by an added notation (PQA). In addition, a Certificate of Type Approval (PQA) will be available on the website for downloading. The Certificate of Type Approval (PQA) represents the information recorded by ABS on the product.

## 5.7 Certificates (2003)

### 5.7.1 Unit-Certification

When a Type Approved Product is proposed for use onboard a vessel or a marine structure, it is to comply with all applicable requirements in the Rules, including 1-1-A3/5.7.3 hereunder. Where required by the ABS Rules, unit-certification is also to be completed as follows:

*5.7.1(a) Products Covered by Certificate of Type Approval (PQA).* Products requiring unit-certification for use on a vessel, MODU, or facility classed with ABS will be unit-certified by the ABS office having jurisdiction over the manufacturer. The manufacturer will be responsible to advise the ABS office of deliveries of products and to supply the ABS office with all documentation required for unit-certification of the product.

*5.7.1(b) Products Covered by Certificate of Type Approval (AQS) or (RQS).* Where the Rules require attendance of the ABS Surveyor during any stage of manufacturing, including but not limited to any testing, the unit certification will be issued by the attending Surveyor upon completion of all required surveys and tests. Where the attendance of the Surveyor is not required by the Rules, no unit certification is required.

At the discretion of the Surveyor, a unit-certification of this category may be credited to the annual audit, when conducted on or about its due date.

### 5.7.2 Issuance and Updating of Certificates

*5.7.2(a) Issuance of Certificates.* The certificates indicated in 1-1-A3/5.1.3, 1-1-A3/5.3.3, 1-1-A3/5.3.4 and 1-1-A3/5.5 will be issued initially for five years. Annual audits and endorsements will be required for the Manufacturing Assessment Certificate.

These certificates are renewable for another five-year period (from the expiry date of the previous certificate), subject to assessment of design and manufacturing in accordance with 1-1-A3/5.7.4. Failure for renewal of the manufacturing assessment certificate will cause invalidation of type approval certification at the end of the five-year period. Where for a practical reason the renewal process of any certificate cannot be completed before expiry of the five-year period, a short-term extension may be considered upon application.

These certificates will be updated in accordance with 1-1-A3/5.7.2(b) or 1-1-A3/5.7.2(c) where the design, Rules or Regulations used for certification is changed during the five years period. The updated certificate will be issued for five years from the date of the updating.

In addition, the following requirements will apply.

*5.7.2(b) Changes to Design, Procedures and Regulations other than ABS Rules.* At any time, where there is a change in the design, procedures or the applicable standards (other than ABS Rules), as listed in 1-1-A3/5.9 i) through iv), the manufacturer is to endeavor to notify the Bureau of those changes with an application either for incorporation of the change for record purposes, or for re-assessment of the product, procedures and/or regulations, as the case may be. Failure to notify the Bureau about those changes may invalidate the certificate.

Where a specific implementation date is indicated in the change(s) to the Regulation adopted for the product, the certification will become invalid effective on the implementation date of the new regulation or the end of the five year period whichever comes first, unless the product is found or placed in compliance with the new requirement as a result of reassessment.

*5.7.2(c) Changes to ABS Rules.* The foregoing requirements on changes to other regulations will generally apply to the changes to ABS Rules shown on the Design Assessment Certificate. In this case, ABS is to endeavor to notify the manufacturer of the Rule changes, to call the attention of the manufacturer to the need for reassessment of the product design and manufacture and eventual updating as may be found necessary.

The listing on the ABS website will be replaced by the new listing upon completion of the updating, which is to be effected within the five year period shown on the certificate.

Where a retroactive application of the change(s) to ABS Rules is required and their implementation date is specified, the certification will become invalid effective on the specified implementation date or the end of the five year period whichever comes first, unless the product is found or placed in compliance with the new requirement as a result of reassessment.

*5.7.2(d) Website Entry.* When the type approval certification becomes invalid, its entry on the ABS website will be relocated from the PTA index to the PDA index if the design assessment certification is still valid.

When the design assessment certification is withdrawn, all related entries on the ABS website will be deleted at that point.

When the design assessment certification is not renewed, all related entries on the ABS website will be deleted at the end of five year period if under PDA index, or upon expiry of the CTA certification if under the PTA index.

### 5.7.3 Acceptability of Type Approved Products

Unless a specific implementation date is indicated in the adopted Regulation [see 1-1-A3/5.7.2(b)] or a retroactive application of the Rule change is required [see 1-1-A3/5.7.2(c)], a type approved product may be accepted for use on a vessel, MODU or facility classed or to be classed with the Bureau provided its type approval is valid at the time of the new construction contract of the vessel, MODU or facility.

If the implementation of change to Rules or Regulation is based on the keel laying date, then a type approved product with type approval valid at the time of keel laying of the vessel, MODU or facility will be acceptable.

### 5.7.4 Renewal

For renewal of certificates, the manufacturer is to inform the Bureau of any change to the product design, and the following are to be conducted, as appropriate:

- i)* Re-evaluate the product design in accordance with 1-1-A3/5.1, to update and verify if there is a design or specification change or a change to the applicable Rules or standards; and
- ii)* Re-audit the quality plan in accordance with 1-1-A3/5.3.2 or 1-1-A3/5.5; and
- iii)* Verify by survey that a valid quality assurance system has been maintained in accordance with 1-1-A3/5.3.1 or 1-1-A3/5.5.

Where the manufacturer is on semi-annual or closer audit, the renewal audit for Manufacturing Assessment Certificate may be specially considered.

### 5.7.5 Overdue Audit

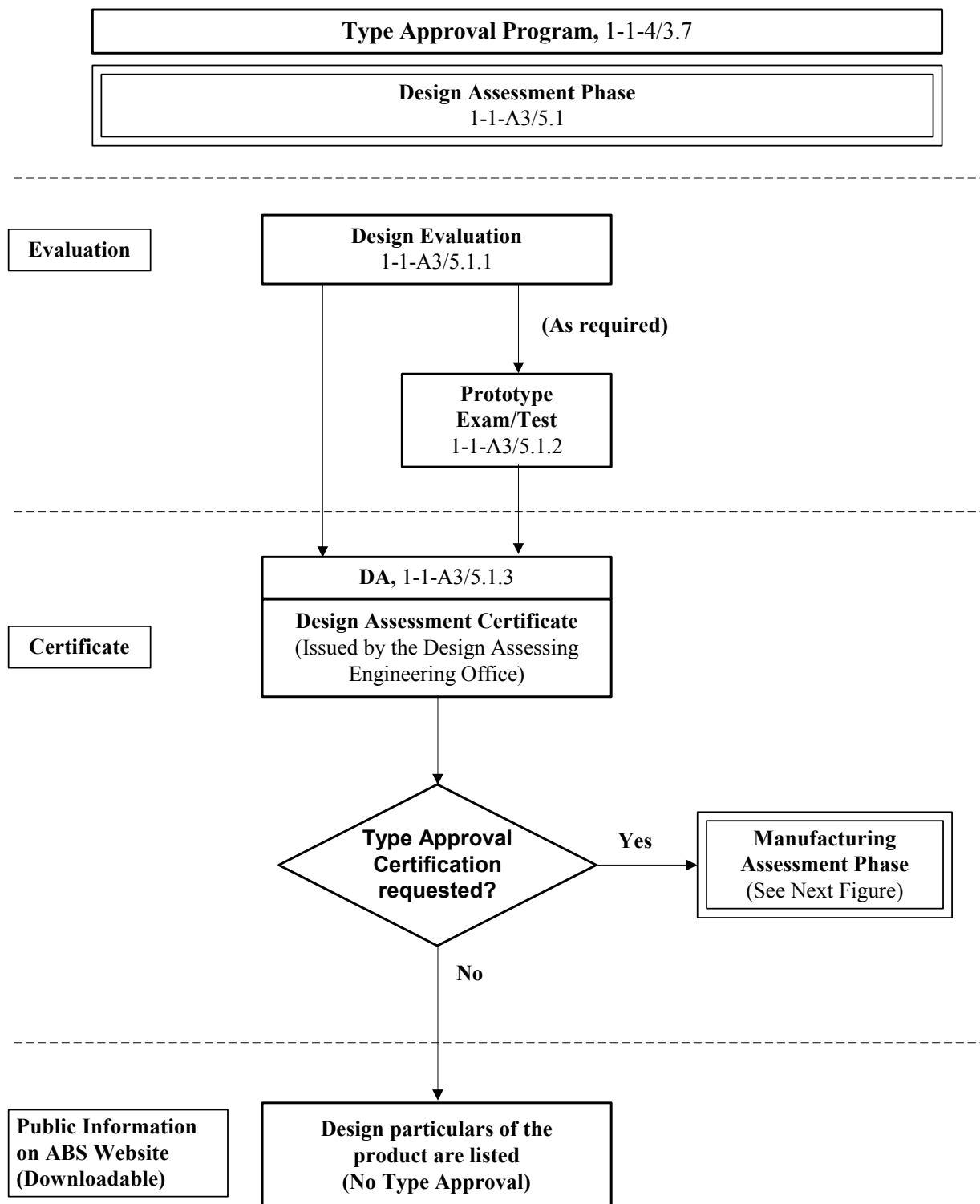
When a periodic (renewal, annual or closer) audit is not completed within 90 days after the anniversary date of the Manufacturing Assessment Certificate (for renewal or annual audit) or within 90 days after the due date (where a closer interval is specified), the entry in the ABS website will be relocated from the PTA index to the PDA index if the PDA is still valid and, therefore, the Certificate of Type Approval is deemed suspended.

## 5.9 Suspension of Certification

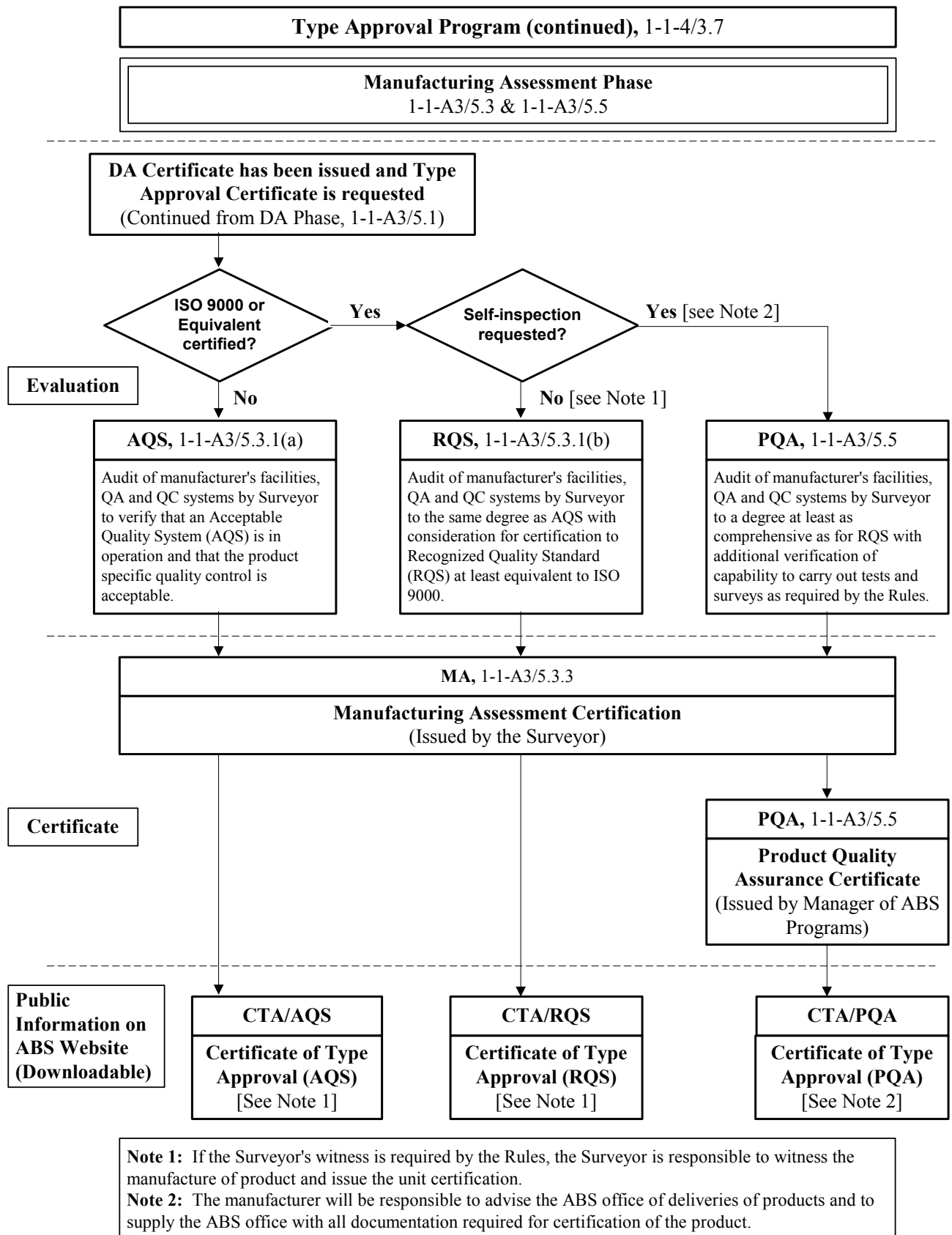
ABS Type Approval is controlled by the terms within the Request for Product Type Approval. Any changes to the product or its manufacturing procedures are to be monitored by the manufacturer and substantial changes are to be submitted to the Bureau for evaluation. Unless the change is submitted to ABS for a new evaluation and audit, any of the following will cause immediate suspension of either the Certificate of Design Assessment or Manufacturing Assessment.

- i)* Redesign of the product or products covered by the certificate;
- ii)* Change in production methods;
- iii)* Substantial change in management organization;
- iv)* Substantial change in frequency or curriculum for personnel training;
- v)* Refusing access to ABS personnel for periodic or renewal audits;
- vi)* Failure to correct a non-compliance identified in service or during an audit;
- vii)* Failure to pay ABS fees.

**FIGURE 1**  
**Process of the Type Approval Program (2003)**



**FIGURE 1 (continued)**  
**Process of the Type Approval Program (2003)**



This Page Intentionally Left Blank