



**BUREAU
VERITAS**

Rules for the Classification of Steel Ships

NR 467

AMENDMENTS

July 2013

These sheets contain amendments within the following Sections of January 2013 issue of the *Rules for the Classification of Steel Ships*.

These amendments are effective from July 1st, 2013.

Part	Volume	Chapter	Section / Appendix
Part A	<i>NR 467 A1 DT R11 E</i>	Ch 1	Sec 1, Sec 2
		Ch 2	Sec 2
		Ch 3	Sec 5
		Ch 4	Sec 4, Sec 7

Continued page 3



**BUREAU
VERITAS**

ARTICLE 1

1.1. - BUREAU VERITAS is a Society the purpose of whose Marine & Offshore Division (the "Society") is the classification ("Classification") of any ship or vessel or offshore unit or structure of any type or part of it or system therein collectively hereinafter referred to as a "Unit" whether linked to shore, river bed or sea bed or not, whether operated or located at sea or in inland waters or partly on land, including submarines, hovercrafts, drilling rigs, offshore installations of any type and of any purpose, their related and ancillary equipment, subsea or not, such as well head and pipelines, mooring legs and mooring points or otherwise as decided by the Society.

The Society:

- "prepares and publishes Rules for classification, Guidance Notes and other documents ("Rules");
- "issues Certificates, Attestations and Reports following its interventions ("Certificates");
- "publishes Registers.

1.2. - The Society also participates in the application of National and International Regulations or Standards, in particular by delegation from different Governments. Those activities are hereafter collectively referred to as "Certification".

1.3. - The Society can also provide services related to Classification and Certification such as ship and company safety management certification; ship and port security certification, training activities; all activities and duties incidental thereto such as documentation on any supporting means, software, instrumentation, measurements, tests and trials on board.

1.4. - The interventions mentioned in 1.1., 1.2. and 1.3. are referred to as "Services". The party and/or its representative requesting the services is hereinafter referred to as the "Client". **The Services are prepared and carried out on the assumption that the Clients are aware of the International Maritime and/or Offshore Industry (the "Industry") practices.**

1.5. - The Society is neither and may not be considered as an Underwriter, Broker in ship's sale or chartering, Expert in Unit's valuation, Consulting Engineer, Controller, Naval Architect, Manufacturer, Ship-builder, Repair yard, Charterer or Shipowner who are not relieved of any of their expressed or implied obligations by the interventions of the Society.

ARTICLE 2

2.1. - Classification is the appraisal given by the Society for its Client, at a certain date, following surveys by its Surveyors along the lines specified in Articles 3 and 4 hereafter on the level of compliance of a Unit to its Rules or part of them. This appraisal is represented by a class entered on the Certificates and periodically transcribed in the Society's Register.

2.2. - Certification is carried out by the Society along the same lines as set out in Articles 3 and 4 hereafter and with reference to the applicable National and International Regulations or Standards.

2.3. - **It is incumbent upon the Client to maintain the condition of the Unit after surveys, to present the Unit for surveys and to inform the Society without delay of circumstances which may affect the given appraisal or cause to modify its scope.**

2.4. - The Client is to give to the Society all access and information necessary for the safe and efficient performance of the requested Services. The Client is the sole responsible for the conditions of presentation of the Unit for tests, trials and surveys and the conditions under which tests and trials are carried out.

ARTICLE 3

3.1. - **The Rules, procedures and instructions of the Society take into account at the date of their preparation the state of currently available and proven technical knowledge of the Industry. They are a collection of minimum requirements but not a standard or a code of construction neither a guide for maintenance, a safety handbook or a guide of professional practices, all of which are assumed to be known in detail and carefully followed at all times by the Client.**

Committees consisting of personalities from the Industry contribute to the development of those documents.

3.2. - **The Society only is qualified to apply its Rules and to interpret them. Any reference to them has no effect unless it involves the Society's intervention.**

3.3. - The Services of the Society are carried out by professional Surveyors according to the applicable Rules and to the Code of Ethics of the Society. Surveyors have authority to decide locally on matters related to classification and certification of the Units, unless the Rules provide otherwise.

3.4. - **The operations of the Society in providing its Services are exclusively conducted by way of random inspections and do not in any circumstances involve monitoring or exhaustive verification.**

ARTICLE 4

4.1. - The Society, acting by reference to its Rules:

- "reviews the construction arrangements of the Units as shown on the documents presented by the Client;
- "conducts surveys at the place of their construction;
- "classes Units and enters their class in its Register;
- "surveys periodically the Units in service to note that the requirements for the maintenance of class are met.

The Client is to inform the Society without delay of circumstances which may cause the date or the extent of the surveys to be changed.

ARTICLE 5

5.1. - **The Society acts as a provider of services. This cannot be construed as an obligation bearing on the Society to obtain a result or as a warranty.**

5.2. - **The certificates issued by the Society pursuant to 5.1. here above are a statement on the level of compliance of the Unit to its Rules or to the documents of reference for the Services provided for. In particular, the Society does not engage in any work relating to the design, building, production or repair checks, neither in the operation of the Units or in their trade, neither in any advisory services, and cannot be held liable on those accounts. Its certificates cannot be construed as an implied or express warranty of safety, fitness for the purpose, seaworthiness of the Unit or of its value for sale, insurance or chartering.**

5.3. - **The Society does not declare the acceptance or commissioning of a Unit, nor of its construction in conformity with its design, that being the exclusive responsibility of its owner or builder.**

5.4. - The Services of the Society cannot create any obligation bearing on the Society or constitute any warranty of proper operation, beyond any representation set forth in the Rules, of any Unit, equipment or machinery, computer software of any sort or other comparable concepts that has been subject to any survey by the Society.

MARINE & OFFSHORE DIVISION GENERAL CONDITIONS

ARTICLE 6

6.1. - The Society accepts no responsibility for the use of information related to its Services which was not provided for the purpose by the Society or with its assistance.

6.2. - **If the Services of the Society or their omission cause to the Client a damage which is proved to be the direct and reasonably foreseeable consequence of an error or omission of the Society, its liability towards the Client is limited to ten times the amount of fee paid for the Service having caused the damage, provided however that this limit shall be subject to a minimum of eight thousand (8,000) Euro, and to a maximum which is the greater of eight hundred thousand (800,000) Euro and one and a half times the above mentioned fee. These limits apply regardless of fault including breach of contract, breach of warranty, tort, strict liability, breach of statute, etc.**

The Society bears no liability for indirect or consequential loss whether arising naturally or not as a consequence of the Services or their omission such as loss of revenue, loss of profit, loss of production, loss relative to other contracts and indemnities for termination of other agreements.

6.3. - All claims are to be presented to the Society in writing within three months of the date when the Services were supplied or (if later) the date when the events which are relied on were first known to the Client, and any claim which is not so presented shall be deemed waived and absolutely barred. Time is to be interrupted thereafter with the same periodicity.

ARTICLE 7

7.1. - Requests for Services are to be in writing.

7.2. - **Either the Client or the Society can terminate as of right the requested Services after giving the other party thirty days' written notice, for convenience, and without prejudice to the provisions in Article 8 hereunder.**

7.3. - The class granted to the concerned Units and the previously issued certificates remain valid until the date of effect of the notice issued according to 7.2. here above subject to compliance with 2.3. here above and Article 8 hereunder.

7.4. - The contract for classification and/or certification of a Unit cannot be transferred neither assigned.

ARTICLE 8

8.1. - The Services of the Society, whether completed or not, involve, for the part carried out, the payment of fee upon receipt of the invoice and the reimbursement of the expenses incurred.

8.2. - **Overdue amounts are increased as of right by interest in accordance with the applicable legislation.**

8.3. - **The class of a Unit may be suspended in the event of non-payment of fee after a first unfruitful notification to pay.**

ARTICLE 9

9.1. - The documents and data provided to or prepared by the Society for its Services, and the information available to the Society, are treated as confidential. However:

- "Clients have access to the data they have provided to the Society and, during the period of classification of the Unit for them, to the classification file consisting of survey reports and certificates which have been prepared at any time by the Society for the classification of the Unit ;
- "copy of the documents made available for the classification of the Unit and of available survey reports can be handed over to another Classification Society, where appropriate, in case of the Unit's transfer of class;
- "the data relative to the evolution of the Register, to the class suspension and to the survey status of the Units, as well as general technical information related to hull and equipment damages, may be passed on to IACS (International Association of Classification Societies) according to the association working rules;
- "the certificates, documents and information relative to the Units classed with the Society may be reviewed during certifying bodies audits and are disclosed upon order of the concerned governmental or inter-governmental authorities or of a Court having jurisdiction.

The documents and data are subject to a file management plan.

ARTICLE 10

10.1. - Any delay or shortcoming in the performance of its Services by the Society arising from an event not reasonably foreseeable by or beyond the control of the Society shall be deemed not to be a breach of contract.

ARTICLE 11

11.1. - In case of diverging opinions during surveys between the Client and the Society's surveyor, the Society may designate another of its surveyors at the request of the Client.

11.2. - Disagreements of a technical nature between the Client and the Society can be submitted by the Society to the advice of its Marine Advisory Committee.

ARTICLE 12

12.1. - Disputes over the Services carried out by delegation of Governments are assessed within the framework of the applicable agreements with the States, international Conventions and national rules.

12.2. - Disputes arising out of the payment of the Society's invoices by the Client are submitted to the Court of Nanterre, France, or to another Court as deemed fit by the Society.

12.3. - **Other disputes over the present General Conditions or over the Services of the Society are exclusively submitted to arbitration, by three arbitrators, in London according to the Arbitration Act 1996 or any statutory modification or re-enactment thereof. The contract between the Society and the Client shall be governed by English law.**

ARTICLE 13

13.1. - **These General Conditions constitute the sole contractual obligations binding together the Society and the Client, to the exclusion of all other representation, statements, terms, conditions whether express or implied. They may be varied in writing by mutual agreement. They are not varied by any purchase order or other document of the Client serving similar purpose.**

13.2. - The invalidity of one or more stipulations of the present General Conditions does not affect the validity of the remaining provisions.

13.3. - The definitions herein take precedence over any definitions serving the same purpose which may appear in other documents issued by the Society.

Continued from page 1

Part	Volume	Chapter	Section / Appendix	
Part B	<i>NR 467 B1 DT R06 E</i>	Ch 1	Sec 3	
		Ch 2	Sec 2	
		Ch 3	App 2	
		Ch 4	Sec 1	
	<i>NR 467 B2 DT R06 E</i>	Ch 6	Sec 2	
		Ch 7	Sec 2, Sec 3, Sec 4	
	<i>NR 467 B3 DT R06 E</i>	Ch 9	Sec 1, Sec 2, Sec 4, Sec 10	
		Ch 10	Sec 1	
	Part C	<i>NR 467 C1 DT R06 E</i>	Ch 1	Sec 7, Sec 9, Sec 10, Sec 11
		<i>NR 467 C2 DT R06 E</i>	Ch 2	Sec 3
Part D	<i>NR 467 D1 DT R06 E</i>	Ch 7	Sec 4	
	<i>NR 467 D2 DT R06 E</i>	Ch 8	Sec 3, Sec 4	
		Ch 11	Sec 3	
	<i>NR 467 D3 DT R06 E</i>	Ch 13	Sec 2	
		Ch 14	Sec 2	
		Ch 15	Sec 2	
Part E	<i>NR 467 E1 DT R06 E</i>	Ch 19	Sec 2	
		Ch 1	Sec 4	

Amendments to PART A

Ch 1, Sec 1, [3]

Add the following sub-article [3.7]:

3.7 Quality system audits

3.7.1 Attention is drawn to the possibility that auditors external to the Society may attend surveys and audits carried out by the Society and that this attendance shall not be obstructed.

Ch 1, Sec 2, Table 1

Add the following row “**ESA**” in Table 1:

Table 1 : List of service notations and additional service features

Service notation [ref. in Part A]	Reference	Corresponding type of ship according to Conventions and/or Codes
Additional service feature	Reference	
OTHER ADDITIONAL SERVICE FEATURES		Remarks
ESA [4.15.1]	Rule Note NR 592	

Ch 1, Sec 2, [4.2.2]

Add the following paragraph at the end of requirement [4.2.2]:

The additional requirements of Ch 4, Sec 7 are applicable to these ships.

Ch 1, Sec 2, [4.2]

Replace requirements [4.2.3], [4.2.5] and [4.2.6] by:

4.2.3 Ro-ro cargo ship, for ships specially intended to carry vehicles, trains or loads on wheeled beds. The additional requirements of Ch 4, Sec 6 and Part D, Chapter 1 are applicable to these ships. The service notation may be completed by the additional service feature **equipped for carriage of containers**, where the ship’s fixed arrangements comply with the applicable requirements of Part D, Chapter 2.

4.2.5 Container ship, for ships specially intended to carry containers in holds or on decks. The additional requirements of Ch 4, Sec 8, [2] and Part D, Chapter 2 are applicable to these ships.

For container ships complying with the requirements of NR583 Whipping and Springing Assessment, the service notation is to be completed by the additional service features **WhiSp1** or **WhiSp2**.

4.2.6 Livestock carrier, for ships specially intended to carry livestock. The additional requirements of Ch 4, Sec 8, [3] and Part D, Chapter 3 are applicable to these ships.

Part A

Ch 1, Sec 2, [4.3.2]

Add the following paragraph at the end of requirement [4.3.2]:

Bulk carriers assigned with the additional service feature **CSR** contracted for new construction on or after 1 July 2016 are to comply with the requirements of the Common Structural Rules for Bulk Carriers and Oil Tankers (Rule Note NR606).

Ch 1, Sec 2, [4.4.2]

Add the following paragraph at the end of requirement [4.4.2]:

Oil Tanker assigned with the additional service feature **CSR** contracted for new construction on or after 1 July 2016 are to comply with the requirements of the Common Structural Rules for Bulk Carriers and Oil Tankers (Rule Note NR606).

Ch 1, Sec 2, [4.4.5]

Replace the first paragraph of requirement [4.4.5] by:

4.4.5 Liquefied gas carrier, for ships specially intended to carry liquefied gases or other substances listed in Pt D, Ch 9, Sec 1 of the Rules. The additional requirements of Ch 4, Sec 5 and Part D, Chapter 9 are applicable to these ships.

Ch 1, Sec 2, [4.4.6]

Replace the last paragraph of requirement [4.4.6] by:

The additional requirements of Ch 4, Sec 8, [4] and Part D, Chapter 7 are applicable to these ships.

Ch 1, Sec 2, [4.5.2]

Replace the first paragraph of requirement [4.5.2] by:

4.5.2 Passenger ship, for ships intended to carry more than 12 passengers. The additional requirements of Ch 4, Sec 6 and Part D, Chapter 11 are applicable to these ships.

Ch 1, Sec 2, [4.5.3]

Replace the first paragraph of requirement [4.5.3] by:

4.5.3 Ro-ro passenger ship, for ships intended to carry more than 12 passengers and specially equipped to load trains or wheeled vehicles. The additional requirements of Ch 4, Sec 6 and Part D, Chapter 12 are applicable to these ships.

Ch 1, Sec 2, [4.6]

Replace requirement [4.6.1] by:

4.6.1 The service notations related to ships specially intended for dredging activities are listed in [4.6.2]. The additional requirements of Ch 4, Sec 8, [5] and Part D, Chapter 13 are applicable to these ships.

Ch 1, Sec 2, [4.7.2]

Replace the 2nd paragraph of requirement [4.7.2] by:

The additional requirements of Ch 4, Sec 8, [6] and Part D, Chapter 14 are applicable to these ships.

Ch 1, Sec 2, [4.7.3]

Replace the last paragraph of requirement [4.7.3] by:

The additional requirements of Ch 4, Sec 8, [7] and Part D, Chapter 15 are applicable to these ships.

Ch 1, Sec 2, [4.7.4]

Replace the first paragraph of requirement [4.7.4] by:

4.7.4 The service notation **fire-fighting ship** is assigned to ships specially intended and equipped for fighting fire. The additional requirements of Ch 4, Sec 8, [8] and Part D, Chapter 16 are applicable to these ships.

Ch 1, Sec 2, [4.7.5]

Replace the first paragraph of requirement [4.7.5] by:

4.7.5 The service notation **oil recovery ship** is assigned to ships specially equipped with fixed installations and/or mobile equipment for the removal of oil from the sea sur-

face and its retention on board, carriage and subsequent unloading. The additional requirements of Ch 4, Sec 8, [9] and Part D, Chapter 17 are applicable to these ships.

Ch 1, Sec 2, [4.7]

Replace requirement [4.7.6] by:

4.7.6 The service notation **cable laying ship** is assigned to ships specially equipped for the carriage and/or laying, hauling and repair of submarine cables. The additional requirements of Ch 4, Sec 8, [10] and Part D, Chapter 18 are applicable to these ships.

Ch 1, Sec 2, [4.9.1]

Replace the first paragraph of requirement [4.9.1] by:

4.9.1 The service notation **fishing vessel** is assigned to ships specially equipped for catching and storing fish or other living resources of the sea. The additional requirements of Ch 4, Sec 8, [11] and Part D, Chapter 20 are applicable to these ships.

Part A

Ch 1, Sec 2, [4.11.1]

Add the following paragraph at the end of item b) in the alphanumeric list:

The additional requirements of Ch 4, Sec 8, [12] are applicable to these ships.

Ch 1, Sec 2, [4.12]

Replace requirement [4.12.1] by:

4.12.1 Special Purpose Ships (SPxxx)

Ships complying with the IMO Code of Safety for Special Purpose Ships carrying more than twelve (12) special personnel are to be assigned the additional service feature **SPxxx**, where **xxx** is the total number of persons onboard including crew, special personnel and passengers (maximum twelve).

The requirements for the assignment of this additional service feature consist of:

- the general requirements of the present NR467 Rules for Steel Ships, and
- the additional requirements given in Pt B, Ch 2, Sec 1, Pt B, Ch 2, Sec 2, Pt B, Ch 3, Sec 1, Pt B, Ch 3, Sec 3 and Pt B, Ch 3, App 2 for stability, and in Pt C, Ch 1, Sec 11 for machinery.

Ch 1, Sec 2, [4]

Add the following sub-article [4.15]:

4.15 Elastic shaft alignment for line shafting and structure compatibility

4.15.1 Elastic Shaft Alignment (ESA)

The additional service feature **ESA** is to be assigned to new ships designed with one or more propulsion shaft lines falling into the following categories:

- a) tailshaft diameter greater than or equal to 750 mm in way of the aftermost bearing, or
- b) tailshaft diameter between 600 mm and 750 mm in way of the aftermost bearing with specific shafting criteria.

The requirements for the assignment of this additional service feature are given in Rule Note NR592 Elastic Shaft Alignment (ESA).

Ch 1, Sec 2, Table 2

Add the following rows “**ESA**” and “**STAR-REGAS**” in Table 2 as follows:

Table 2 : List of additional class notations

Additional class notation	Definition in	Reference in NR 467 or to other Rule Notes	Remarks
ESA	[6.14.29]	Rule Note NR 592	
STAR SIS (1)	[6.2.7]		the cumulative notation STAR SIS supersedes the notations STAR-HULL and STAR-MACH SIS
STAR-HULL (1)	[6.2.4]	Pt E, Ch 1, Sec 2	
STAR-MACH (1)	[6.2.6]	Pt E, Ch 1, Sec 3	
STAR-MACH SIS (1)	[6.2.5]		
STAR-REGAS (1)	[6.2.8]	Pt E, Ch 1, Sec 4	

Ch 1, Sec 2, [6.2]

Switch the order of requirements [6.2.5] and [6.2.6].

Add the following requirement [6.2.8]:

6.2.8 STAR-REGAS

The additional class notation **STAR-REGAS** is assigned to ships having both the service notation **liquefied gas carrier** and the additional service feature **RV** (with or without the additional service feature **STL-SPM**) and for which the

maintenance procedures for regasification installation and associated systems have been approved by means of a risk analysis.

The requirements for the assignment of this notation are given in Pt E, Ch 1, Sec 4.

Ch 1, Sec 2, [6.3.1]

Replace the last paragraph of requirement [6.3.1] by:

The requirements for the assignment and maintenance of these notations are given respectively in Part E, Chapter 2 and in Ch 5, Sec 3.

Ch 1, Sec 2, [6.4.1]

Replace the last paragraph of requirement [6.4.1] by:

The requirements for the assignment and maintenance of these notations are given respectively in Part E, Chapter 3 and in Ch 5, Sec 4.

Ch 1, Sec 2, [6.5.1]

Replace the last paragraph of requirement [6.5.1] by:

The requirements for the assignment and maintenance of these notations are given respectively in Part E, Chapter 4 and in Ch 5, Sec 5.

Ch 1, Sec 2, [6.6.1]

Replace the last paragraph of requirement [6.6.1] by:

The requirements for the assignment and maintenance of these notations are given respectively in Part E, Chapter 5 and in Ch 5, Sec 6.

Ch 1, Sec 2, [6.7.1]

Replace the 3rd paragraph of requirement [6.7.1] by:

The requirements for the assignment and maintenance of these notations are given respectively in Part E, Chapter 6 and in Ch 5, Sec 10.

Ch 1, Sec 2, [6.8.1]

Replace the last paragraph of requirement [6.8.1] by:

The requirements for the assignment and maintenance of these notations are given respectively in Part E, Chapter 9 and in Ch 5, Sec 7.

Part A

Ch 1, Sec 2, [6.9.1]

Replace the last paragraph of requirement [6.9.1] by:

The requirements for the assignment and maintenance of these notations are given respectively in Part E, Chapter 7 and in Ch 5, Sec 8.

Ch 1, Sec 2, [6.10.1]

Replace the 2nd paragraph of requirement [6.10.1] by:

The requirements for the assignment and maintenance of these notations are given respectively in Part E, Chapter 8 and in Ch 5, Sec 9.

Ch 1, Sec 2, [6.14.1]

Replace the last paragraph of requirement [6.14.1] by:

The requirements for the assignment and maintenance of this notation are given respectively in Part E, Chapter 10, Sec 1 and in Ch 5, Sec 10.

Ch 1, Sec 2, [6.14.2]

Replace the 3rd paragraph of item a) in the alphanumeric list of requirement [6.14.2] by:

The requirements for the assignment and maintenance of this notation are given respectively in NR522 Common Structural Rules for Bulk Carriers and in Ch 5, Sec 10.

Replace the 3rd paragraph of item b) in the alphanumeric list of requirement [6.14.2] by:

The requirements for the assignment and maintenance of this notation are given respectively in Pt E, Ch 10, Sec 2 and in Ch 5, Sec 10.

Ch 1, Sec 2, [6.14.4]

Replace the 2nd paragraph of requirement [6.14.4] by:

The requirements for the assignment and maintenance of this notation are given respectively in Part E, Chapter 10, Sec 4 and in Ch 5, Sec 10.

Ch 1, Sec 2, [6.14.6]

Replace the 3rd paragraph of requirement [6.14.6] by:

The scope of the notation, including the additional keys for the description of capability of the installation and The requirements for the assignment and maintenance of this notation are given respectively in Part E, Chapter 10, Sec 6 and in Ch 5, Sec 10.

Ch 1, Sec 2, [6.14.7]

Replace the 3rd paragraph of requirement [6.14.7] by:

The requirements for the assignment and maintenance of this notation are given respectively in Part E, Chapter 10, Sec 7 and in Ch 5, Sec 10.

Ch 1, Sec 2, [6.14.8]

Replace the 3rd paragraph of requirement [6.14.8] by:

The requirements for the assignment and maintenance of this notation are given respectively in Part E, Chapter 10, Sec 8 and in Ch 5, Sec 10.

Ch 1, Sec 2, [6.14.9]

Replace the 3rd paragraph of requirement [6.14.9] by:

The requirements for the assignment and maintenance of this notation are given respectively in Part E, Chapter 10, Sec 9 and in Ch 5, Sec 10.

Ch 1, Sec 2, [6.14.12]

Replace the 4th paragraph of requirement [6.14.12] by:

The requirements for the assignment and maintenance of these notations are given respectively in Part E, Chapter 10, Sec 11 and in Ch 5, Sec 10.

Ch 1, Sec 2, [6.14.25]

Add the following paragraph at the end of requirement [6.14.25]:

The requirements for the maintenance of this notation are given in Ch 5, Sec 10.

Ch 1, Sec 2, [6.14.28]

Replace the last paragraph of requirement [6.14.28] by:

The requirements for the assignment and maintenance of this notation are given respectively in Part E, Chapter 10, Sec 19 and in Ch 5, Sec 10.

Ch 1, Sec 2, [6.14]

Add the following requirement [6.14.29]:

6.14.29 Elastic Shaft Alignment (ESA)

The additional class notation **ESA** may be assigned to ships other than those covered by the scope of the relevant additional service feature as referred to in [4.15.1].

The requirements for the assignment of this additional class notation are given in Rule Note NR592 Elastic Shaft Alignment (ESA).

Note 1: The request and applicability for this notation are achieved respectively on a voluntary basis from the interested parties and on a case-by-case basis.

Part A

Ch 2, Sec 2, [5.4]

Replace requirement [5.4.6] by:

5.4.6 Ships with service notation **HSC**, **HSC-CAT A** or **HSC-CAT B** are to be submitted to a bottom survey in dry condition at each annual survey and each class renewal survey.

Ch 2, Sec 2, [5.6]

Replace requirement [5.6.2] by:

5.6.2 The internal examination of thermal oil heaters is to be carried out at maximum intervals of 5 years.

Ch 3, Sec 5, [1.2.1]

Add the following Note 1 at the end of item a):

Note 1: Where the propeller is fitted keyless to the shaft taper and where the additional class notation **MON-SHAFT** has been assigned, refer to Note 2 of item c).

Ch 4, Sec 4

Replace Figure 1, Figure 2, Figure 3, Figure 4 and Figure 5 by the following Figure 1, Figure 2 and Figure 3:

Figure 1 : Representative transverse section of chemical tanker - Areas ① and ②

Midship section of chemical tanker (about 10 000DWT)

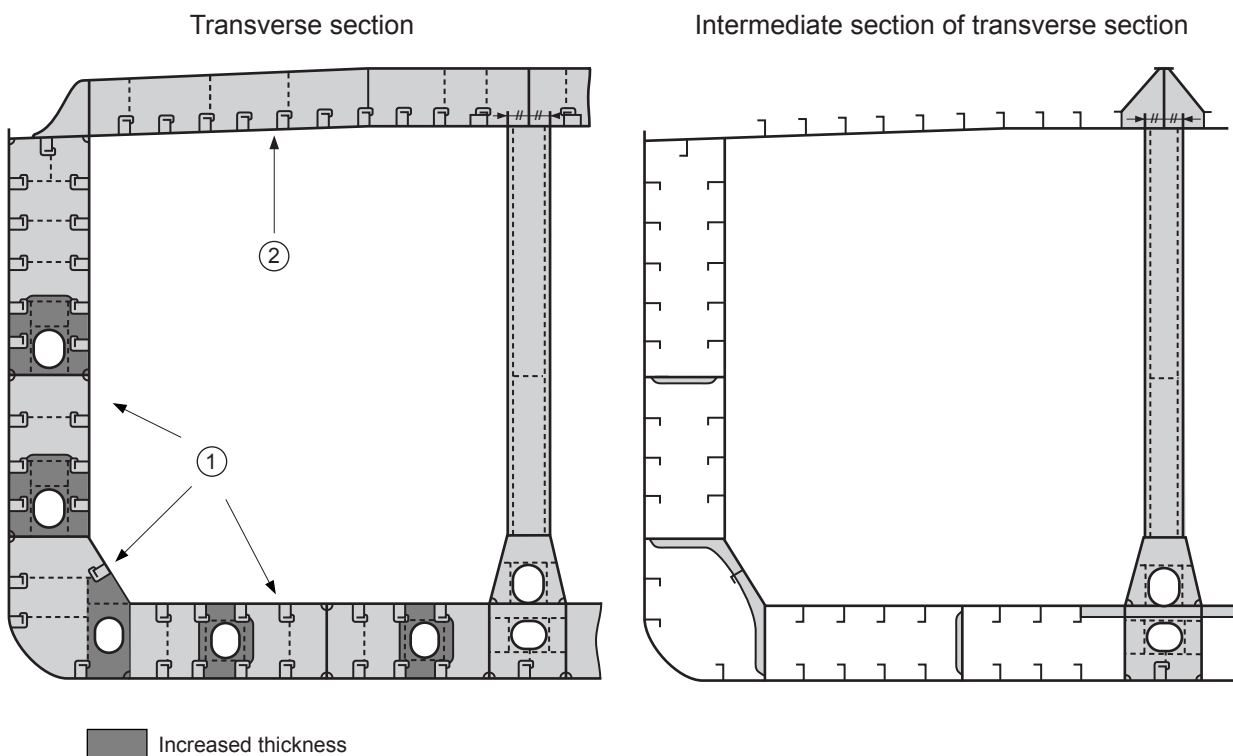


Figure 2 : Representative transverse section of chemical tanker - Areas ③, ④ and ⑤
 Transverse bulkhead of chemical tanker (about 10 000DWT)

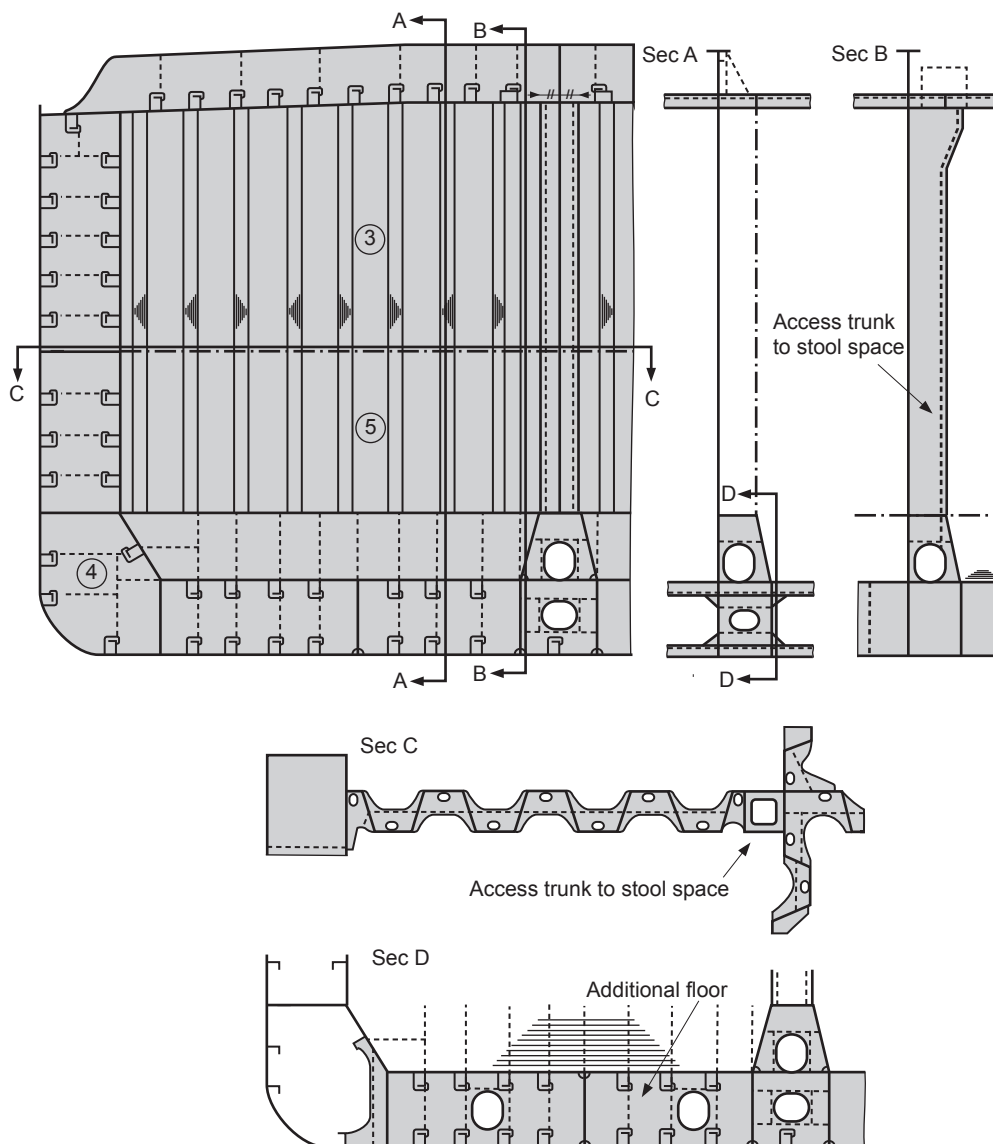
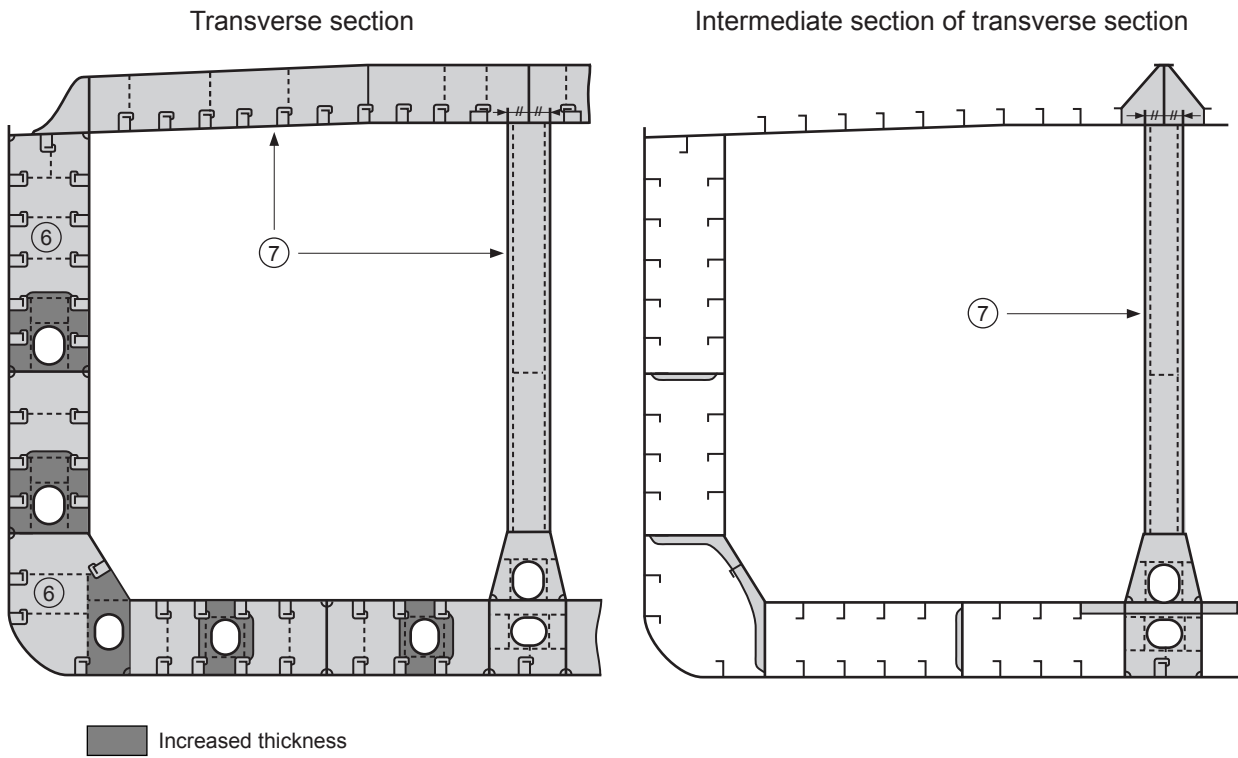


Figure 3 : Representative transverse section of chemical tanker - Areas ⑥ and ⑦

Midship section of chemical tanker (about 10 000DWT)



Ch 4, Sec 4

Replace Table 1 by the following Table 1:

Table 1 : Requirements for close-up survey at class renewal survey of single skin chemical tankers

Age of ship (in years at time of class renewal survey)			
Class renewal survey No.1 age ≤ 5	Class renewal survey No.2 5 < age ≤ 10	Class renewal survey No.3 10 < age ≤ 15	Class renewal survey No.4 and subsequent age > 15
One web frame ring ①: - in a ballast wing tank	All web frame rings ①: - in a ballast wing tank, or - in a double bottom ballast tank (1)	All web frame rings ①: - in all ballast tanks - in a cargo wing tank One web frame ring ①: - in each remaining cargo tank	As class renewal survey for ships between 10 and 15 years of age Additional transverse areas as deemed necessary by the Society
One deck transverse ②: - in a cargo tank or on deck	One deck transverse ②: - in each remaining ballast tank or on deck - in a cargo wing tank or on deck - in two cargo centre tanks or on deck		
	Both transverse bulkheads ③: - in a ballast wing tank	All transverse bulkheads ③: - in all cargo tanks - in all ballast tanks	
Lower part of one transverse bulkhead ⑤: - in a ballast tank - in a cargo wing tank - in a cargo centre tank (2)	Lower part of one transverse bulkhead ⑤: - in each remaining ballast tank - in two cargo centre tanks (2) - in a cargo wing tank		
<p>(1) Ballast double hull tank means double bottom tank plus double side tank plus double deck tank, as applicable, even if these tanks are separate.</p> <p>(2) Where no centre cargo tanks are fitted (as in the case of centre longitudinal bulkhead), transverse bulkheads in wing tanks are to be surveyed.</p> <p>Note 1: ①, ②, ③ and ⑤ are areas to be subjected to close-up surveys and thickness measurements (see Fig 1 and Fig 2):</p> <p>① Complete transverse web frame ring, including adjacent structural members.</p> <p>② Deck transverse, including adjacent deck structural members.</p> <p>③ Transverse bulkhead complete, including girder system and adjacent structural members.</p> <p>⑤ Transverse bulkhead lower part, including girder system and adjacent structural members.</p>			

Ch 4, Sec 4, Table 2

Replace the content between brackets, in the first sentence of Note 1 in Table 2, by: "(see Fig 1, Fig 2 and Fig 3)".

Ch 4, Sec 7, [1.2]

Replace requirement [1.2.1] by:

1.2.1 A hull condition evaluation report (summarising the results of the class renewal surveys) is issued by the Society to the Owner, who is to place it on board the ship for reference at future surveys. The hull condition evaluation report is endorsed by the Society.

Note 1: This report does not apply to general dry cargo ships of double side-skin construction, with double side-skin extending over the entire length of the cargo area, and over the entire height of the cargo hold to the upper deck.

Amendments to PART B

Ch 1, Sec 3, Table 1

Replace the row "Helicopter decks, if any" in Table 1 by:

Table 1 : Plans and documents to be submitted for approval for all ships

Plan or document	Containing also information on
Helicopter decks, if any	General arrangement Main structure Characteristics of helicopters: maximum mass, distance between landing gears or landing skids, print area of wheels or skids, distribution of landing gear loads

Ch 2, Sec 2, [2.1]

Add the following requirement [2.1.4]:

2.1.4 Vented cofferdam may be required to separate heated oil fuel tanks from enclosed spaces located directly above (see Pt C, Ch 1, Sec 10, [11.7.2], item a)).

Ch 3, App 2, [1.2.14]

Replace the list in requirement [1.2.14] by:

- ship in the fully loaded departure condition, having cargo specified by position and weight, with full stores and fuel, and with the total number of persons on board, including crew, special personnel and passengers
- ship in the fully loaded arrival condition, with cargo and total number of persons as specified above, but with 10 per cent stores and fuel
- ship in the worst anticipated operating condition.

Ch 4, Sec 1, [2.1]

Replace requirement [2.1.4] by:

2.1.4 In case of steel used at a temperature θ between 90°C and 300°C, and when no other information is available, the minimum specified yield stress R_{eH} and the Young's modulus E of the steel at the temperature θ may be taken respectively equal to:

$$R_{eH} = R_{eH0} \left(1,04 - \frac{0,75}{1000} \theta \right)$$

$$E = E_0 \left(1,03 - \frac{0,5}{1000} \theta \right)$$

where:

- R_{eH0} : Value of the minimum specified yield stress at ambient temperature, in N/mm²
- E_0 : Value of the Young's modulus at ambient temperature, in N/mm²
- θ : Temperature of use of the steel, in °C.

Ch 6, Sec 2, [3]

Replace sub-article [3.1] by:

3.1 Normal stresses

3.1.1 Hull girder bending strength checks are to be carried out within 0,4L amidships according to [3.1.2], and [3.1.3] if relevant.

Outside 0,4L amidships, hull girder bending strength checks are to be carried out according to [3.1.2], and [3.1.3] if relevant, as a minimum at the following locations:

- in way of the forward end of the engine room
- in way of the forward end of the foremost cargo hold
- at any locations where there are significant changes in hull cross-section
- at any locations where there are changes in the framing system.

In addition, for ships with large openings in the strength deck, sections at, or near to, the aft and forward quarter length positions are to be checked. For such ships with cargo holds aft of the superstructure, deckhouse or engine room, strength checks of sections in way of the aft end of the aft-most holds, and the aft end of the deckhouse or engine room are to be performed.

3.1.2 It is to be checked that the normal stress σ_1 calculated according to [2.1] is in compliance with the following formula:

$$\sigma_1 \leq \sigma_{1,ALL}$$

where:

$\sigma_{1,ALL}$: Allowable normal stress, in N/mm², obtained from the following formulae:

$$\sigma_{1,ALL} = \frac{125}{k} \quad \text{for } \frac{x}{L} \leq 0,1$$

$$\sigma_{1,ALL} = \frac{125}{k} + \frac{250}{k} \left(\frac{x}{L} - 0,1 \right) \quad \text{for } 0,1 < \frac{x}{L} < 0,3$$

$$\sigma_{1,ALL} = \frac{175}{k} \quad \text{for } 0,3 \leq \frac{x}{L} \leq 0,7$$

$$\sigma_{1,ALL} = \frac{175}{k} - \frac{250}{k} \left(\frac{x}{L} - 0,7 \right) \quad \text{for } 0,7 < \frac{x}{L} < 0,9$$

$$\sigma_{1,ALL} = \frac{125}{k} \quad \text{for } \frac{x}{L} \geq 0,9$$

3.1.3 In addition, for ships having large openings in the strength deck, it is to be checked that the normal stress σ_1 calculated according to [2.2] is in compliance with the following formula:

$$\sigma_1 \leq \sigma_{1,ALL}$$

where:

$\sigma_{1,ALL}$: Allowable normal stress, in N/mm², taken equal to:

$$\sigma_{1,ALL} = \frac{175}{k}$$

Ch 7, Sec 2, [3.3.6]

Delete "to be taken not less than 60/k" in the two first items of the list in requirement [3.3.6].

Ch 7, Sec 3, [4.3.3]

Add the following paragraph at the end of item b) in requirement [4.3.3]:

In case of mesh finer than (50 mm x 50 mm), the equivalent stress σ_{VM} is to be obtained by averaging over an

equivalent area of (50 mm x 50 mm), based on the methodology given in [4.3.4].

Ch 7, Sec 4, [3.1.1]

Delete the definitions of C_{FL} and N_{tFL} in requirement [3.1.1].

Replace the definitions of ξ_0 , N_t and T_{FL} by the following ones:

$$\xi_0 = \frac{73 - 0,07L}{60} \quad \text{without being less than } 0,85$$

N_t : Number of cycles, to be taken equal to:

$$N_t = \frac{31,55 \alpha_0 T_{FL}}{T_A} 10^6$$

T_{FL} : Design fatigue life, in years, taken equal to:

- $T_{FL} = 20$, when the additional class notation **VeriSTAR-HULL DFL xx years** is not assigned
- $T_{FL} = xx$, when the additional class notation **VeriSTAR-HULL DFL xx years** is assigned, xx having a value between 25 and 40

Ch 9, Sec 1, Table 7

Replace the first row and Note 1 of Table 7 by:

Table 7 : Scantling of bottom plating and ordinary stiffeners

Element	Formula	Minimum value
Plating	Net thickness, in mm: $t = 14,9 c_a c_r s \sqrt{\gamma_R \gamma_m \frac{\gamma_{s2} p_s + \gamma_{w2} p_w}{\lambda R_y}}$	Net minimum thickness, in mm: in general: $t = c_F (0,03 L + 5,5) k^{1/2} - c_E$ for inner bottom: $t = 2 + 0,017 L k^{1/2} + 4,5 s$
Note 1: σ_{X1} : Hull girder normal stress, taken equal to: <ul style="list-style-type: none"> the value defined in Ch 7, Sec 2, [3.3.6] or Ch 8, Sec 4, [3.4.3] as applicable, for stiffeners contributing to the hull girder longitudinal strength $\sigma_{X1} = 0$, for stiffeners not contributing to the hull girder longitudinal strength λ : Coefficient taken equal to: <ul style="list-style-type: none"> for longitudinally framed bottom: $\lambda = \lambda_L$, defined in Ch 7, Sec 1, [3.3.1] or Ch 8, Sec 3, [3.3.1], as applicable for transversely framed bottom: $\lambda = \lambda_T$, defined in Ch 7, Sec 1, [3.4.1] or Ch 8, Sec 3, [3.4.1], as applicable. 		

Ch 9, Sec 1, Table 10

Replace the first row and Note 1 of Table 10 by:

Table 10 : Scantling of side plating and ordinary stiffeners

Element	Formula	Minimum value
Plating	Net thickness, in mm: $t = 14,9 c_a c_r s \sqrt{\gamma_R \gamma_m \frac{\gamma_{s2} p_s + \gamma_{w2} p_w}{\lambda R_y}}$	Net minimum thickness, in mm: $t = c_F (0,03 L + 5,5) k^{1/2} - c_E$
Note 1: σ_{X1} : Hull girder normal stress, taken equal to: <ul style="list-style-type: none"> the value defined in Ch 7, Sec 2, [3.3.6] or Ch 8, Sec 4, [3.4.3] as applicable, for stiffeners contributing to the hull girder longitudinal strength $\sigma_{X1} = 0$, for stiffeners not contributing to the hull girder longitudinal strength λ : Coefficient taken equal to: <ul style="list-style-type: none"> for longitudinally framed side: $\lambda = \lambda_L$, defined in Ch 7, Sec 1, [3.3.1] or Ch 8, Sec 3, [3.3.1], as applicable for transversely framed side: $\lambda = \lambda_T$, defined in Ch 7, Sec 1, [3.4.1] or Ch 8, Sec 3, [3.4.1], as applicable. 		

Ch 9, Sec 1, Table 11

Replace the first row and Note 1 of Table 11 by:

Table 11 : Scantling of deck plating and ordinary stiffeners

Element	Formula	Minimum value
Plating	Net thickness, in mm: $t = 14,9 c_a c_r s \sqrt{\gamma_R \gamma_m \frac{\gamma_{s2} p_s + \gamma_{w2} p_w}{\lambda R_y}}$	Net minimum thickness, in mm: $t = 2,1 + 0,013 L k^{1/2} + 4,5 s$
Note 1: σ_{X1} : Hull girder normal stress, taken equal to: <ul style="list-style-type: none"> the value defined in Ch 7, Sec 2, [3.3.6] or Ch 8, Sec 4, [3.4.3] as applicable, for stiffeners contributing to the hull girder longitudinal strength $\sigma_{X1} = 0$, for stiffeners not contributing to the hull girder longitudinal strength λ : Coefficient taken equal to: <ul style="list-style-type: none"> for longitudinally framed deck: $\lambda = \lambda_L$, defined in Ch 7, Sec 1, [3.3.1] or Ch 8, Sec 3, [3.3.1], as applicable for transversely framed deck: $\lambda = \lambda_T$, defined in Ch 7, Sec 1, [3.4.1] or Ch 8, Sec 3, [3.4.1], as applicable for deck not contributing to the hull girder longitudinal strength: $\lambda = 1$ 		

Ch 9, Sec 1, [4]

Delete sub-article [4.1].

Ch 9, Sec 2

Replace Table 7 by:

Table 7 : Net thickness of plating

Plating location	Net thickness, in mm	Net minimum thickness, in mm
Bottom and side	$14,9 C_a C_r S \sqrt{\frac{\gamma_{S2} \rho_S + \gamma_{W2} \rho_W}{\lambda R_y}}$	$C_F (0,03 L + 5,5) k^{1/2} - C_E$
Inner bottom		$2 + 0,017 L k^{1/2} + 4,5 s$
Deck		For strength deck: $2,1 + 0,013 L k^{1/2} + 4,5 s$
Platform and wash bulkhead		$1,3 + 0,004 L k^{1/2} + 4,5 s$ for $L < 120$ m $2,1 + 2,2 k^{1/2} + s$ for $L \geq 120$ m
Note 1:		
λ : Coefficient taken equal to: <ul style="list-style-type: none"> for longitudinally framed plating: $\lambda = \lambda_L$, defined in Ch 7, Sec 1, [3.3.1] or Ch 8, Sec 3, [3.3.1], as applicable for transversely framed plating: $\lambda = \lambda_T$, defined in Ch 7, Sec 1, [3.4.1] or Ch 8, Sec 3, [3.4.1], as applicable. for plating not contributing to the hull girder longitudinal strength: $\lambda = 1$ 		

Ch 9, Sec 2, Table 8

Replace the footnote of Table 8 by:

Table 8 : Net scantlings of ordinary stiffeners

Note 1:	
σ_{X1} :	Hull girder normal stress, taken equal to: <ul style="list-style-type: none"> the value defined in Ch 7, Sec 2, [3.3.6] or Ch 8, Sec 4, [3.4.3] as applicable, for stiffeners contributing to the hull girder longitudinal strength $\sigma_{X1} = 0$, for stiffeners not contributing to the hull girder longitudinal strength
Z_{TOP} :	Z co-ordinate, in m, of the highest point of the peak tank
Z_M :	Z co-ordinate, in m, of the stiffener mid-span.

Ch 9, Sec 4, Table 4

Replace the second row of Table 4 by:

**Table 4 : Minimum lateral pressure for superstructures and deckhouses
Ships of more than 24 m in length**

Location and type of bulkhead	p_{min} , in kN/m ²
Elsewhere:	
• if $z \leq T + 0,5 B A_R + 0,5 h_w$	$15 \leq 12,5 + 0,05L \leq 25$
• if $T + 0,5 B A_R + 0,5 h_w < z$ and $z \leq T + 0,5 B A_R + h_w$	linear interpolation
• if $z > T + 0,5 B A_R + h_w$	2,5

Ch 9, Sec 4, [4.1]

Replace requirement [4.1.1] by:

4.1.1 General

The net scantlings of ordinary stiffeners are to be determined according to:

- for single span vertical ordinary stiffeners of plating not contributing to the longitudinal strength:

- [4.1.2] for ships of more than 24 m in length
- [4.1.3] for ships of less than or equal to 24 m in length

- for all the other cases: Ch 7, Sec 2 or Ch 8, Sec 4.

Ch 9, Sec 10, [1.1]

Replace requirement [1.1.1] by:

1.1.1 The requirements of this Section apply to areas equipped for the landing and take-off of helicopters with landing gears or landing skids, and located on a deck or on a platform permanently connected to the hull structure.

Ch 9, Sec 10

Insert the following Article [2]:

2 Definition

2.1 Landing gear

2.1.1 A landing gear may consist of a single wheel or a group of wheels.

Ch 9, Sec 10

Replace Article [4] by:

4 Design loads

4.1 Emergency landing load

4.1.1 The emergency landing force F_{EL} transmitted to the helicopter deck or platform is to be obtained, in kN, from the following formula:

$$F_{EL} = 2,5 g W_H$$

This force is to be distributed through two landing gears or one landing skid.

The points of application of this force are to be taken so as to produce the most severe load on the supporting structure.

4.2 Garage load

4.2.1 Where a garage zone is fitted in addition to the landing area, the still water and inertial forces transmitted through each landing gear or each landing skid to the helicopter deck or platform are to be obtained, in kN, as specified in Ch 5, Sec 6, [6.1.2] or Ch 8, Sec 1, [4.5.1], as applicable, where M is to be taken equal to:

- for helicopter with landing gears:

M is the landing gear load, in t, to be specified by the Designer. If the landing gear load is not known, M is to be taken equal to:

$$M = \frac{1,25}{n} W_H$$

where n is the total number of landing gears

- for helicopter with landing skids:

$$M = 0,5 W_H$$

4.2.2 When helicopters are parked in an unprotected area, sea pressures on deck, as per Ch 5, Sec 5, [1.2], are to be considered simultaneously with the loads defined in [4.2.1].

4.3 Specific loads for helicopter platforms

4.3.1 The still water and inertial forces applied to an helicopter platform are to be determined, in kN, as specified in Tab 2.

Ch 9, Sec 10, [5.2]

Replace requirement [5.2.1] by:

5.2.1 Load model

The following forces P_0 are to be considered independently:

- $P_0 = F_{EL}$
where F_{EL} is the force corresponding to the emergency landing load, as defined in [4.1]

- $P_0 = \gamma_{s2} F_s + \gamma_{w2} F_{w,z}$
where F_s and $F_{w,z}$ are the forces corresponding to the garage load, as defined in [4.2], if applicable.

Ch 9, Sec 10, [5.3]

Replace requirement [5.3.1] by:

5.3.1 Load model

The following forces P_0 are to be considered independently:

- $P_0 = F_{EL}$
where F_{EL} is the force corresponding to the emergency landing load, as defined in [4.1]

- $P_0 = \gamma_{s2} F_s + \gamma_{w2} F_{w,z}$
where F_s and $F_{w,z}$ are the forces corresponding to the garage load, as defined in [4.2], if applicable
- $P_0 = \gamma_{s2} F_s + \gamma_{w2} F_{w,z}$
for an helicopter platform, where F_s and $F_{w,z}$ are the forces defined in [4.3].

Replace requirement [5.3.3] by:

5.3.3 Checking criteria

It is to be checked that the normal stress σ and the shear stress τ calculated according to [5.3.2] are in compliance with the following formulae:

$$\frac{R_y}{\gamma_R \gamma_m} \geq \sigma$$

$$0.5 \frac{R_y}{\gamma_R \gamma_m} \geq \tau$$

where:

- γ_m : Partial safety factor covering uncertainties on the material, to be taken equal to 1,02
- γ_R : Partial safety factor covering uncertainties on the resistance, to be taken equal to:
 - $\gamma_R = 1,02$ for garage load
 - $\gamma_R = 1,00$ for emergency landing load.

Ch 9, Sec 10, [5.4]

Replace requirement [5.4.1] by:

5.4.1 Load model

The following loads are to be considered independently:

- emergency landing load, as defined in [4.1]
- garage load, as defined in [4.2], if applicable
- for an helicopter platform, specific loads as defined in [4.3].

Replace requirement [5.4.3] by:

5.4.3 Checking criteria

It is to be checked that the normal stress σ and the shear stress τ calculated according to [5.4.2] are in compliance with the following formulae:

$$\frac{R_y}{\gamma_R \gamma_m} \geq \sigma$$

$$0.5 \frac{R_y}{\gamma_R \gamma_m} \geq \tau$$

where:

- γ_m : Partial safety factor covering uncertainties on the material, to be taken equal to 1,02
- γ_R : Partial safety factor covering uncertainties on the resistance, to be taken equal to:
 - $\gamma_R = 1,02$ for garage load
 - $\gamma_R = 1,00$ for emergency landing load.

Ch 10, Sec 1, [5.2.1]

Replace the two last items of the bulleted list in requirement [5.2.1] by:

- combined stress in the boss:

$$\sqrt{\sigma_R^2 + \sigma_T^2 - \sigma_R \sigma_T} \leq (0,5 + 0,2 \eta) R_{eH}$$

where:

σ_R, σ_T : Algebraic values of, respectively, the radial compression stress and the tangent tensile stress, in N/mm², induced by the grip pressure and calculated at the bore surface ($\sigma_R = p_F$, where p_F is the grip pressure in the considered horizontal cross-section of the boss)

- where the rudder stock is hollow, the following strength criterion is to be complied with, at any point of the rudder stock cross-section:

$$\sqrt{\sigma_R^2 + \sigma_T^2 - \sigma_R \sigma_T + 3\tau^2} \leq 0,7 R_{eH}$$

where:

σ_R, σ_T : Algebraic values of, respectively, the radial and the tangent compressive stresses, in N/mm², induced by the grip pressure

τ : Shear stress, in N/mm², induced by the torque M_{TR} .

Amendments to PART C

Ch 1, Sec 7, [3]

Insert the following sub-article [3.3]:

3.3 Shaft alignment for ships granted with a notation ESA

3.3.1 Application

Ships having the additional service feature or additional class notation **ESA**, as described respectively in Pt A, Ch 1, Sec 2, [4.15.1] and in Pt A, Ch 1, Sec 2, [6.14.29], are to comply with the requirements of Rule Note NR592 Elastic Shaft Alignment.

Replace the title of (existing) sub-article [3.3] by:

3.3 Shaft alignment for ships not granted with a notation ESA

Ch 1, Sec 9, [3.4.2]

Replace the first paragraph of item a) in the alphanumeric list of requirement [3.4.2] by:

- a) Where the crankshaft has been designed in accordance with Ch 1, App 1, the torsional vibration stresses in any point of the crankshaft are not to exceed the following limits:

Ch 1, Sec 10, [7]

Delete sub-article [7.5].

Ch 1, Sec 11, [1.1.2]

Replace the definition of xxx in requirement [1.1.2] by:

xxx : Total number of persons onboard including crew, special personnel and passengers (maximum twelve).

Ch 2, Sec 3, [10.2.2]

Replace the first paragraph of requirement [10.2.2] by:

10.2.2 All cables installed in Zone 0 or in Zone 1 are to be sheathed with at least one of the following:

Amendments to PART D

Ch 7, Sec 4, [3]

Add the following sub-article [3.6]:

3.6 Design of integrated cargo and ballast systems on tankers

3.6.1 Application

The following requirements are applicable to integrated cargo and ballast systems installed on tankers (i.e. cargo ships constructed or adapted for the carriage of liquid cargoes in bulk), irrespective of the size or type of the tanker.

Within the scope of these requirements, integrated cargo and ballast system means any integrated hydraulic and/or electric system used to drive both cargo and ballast pumps (including active control and safety systems and excluding passive components, e.g. piping).

3.6.2 Functional requirements

The operation of cargo and/or ballast systems may be necessary, under certain emergency circumstances or during the course of navigation, to enhance the safety of tankers.

As such, measures are to be taken to prevent cargo and ballast pumps becoming inoperative simultaneously due to a single failure in the integrated cargo and ballast system, including its control and safety systems.

3.6.3 Design features

The following design features are, inter alia, to be fitted:

- a) The emergency stop circuits of the cargo and ballast systems are to be independent from the circuits for the control systems. A single failure in the control system circuits or the emergency stop circuits are not to render the integrated cargo and ballast system inoperative.
- b) Manual emergency stops of the cargo pumps are to be arranged in a way that they are not to cause the stop of the power pack making ballast pumps inoperative.
- c) The control systems are to be provided with backup power supply, which may be satisfied by a duplicate power supply from the main switch board. The failure of any power supply is to provide audible and visible alarm activation at each location where the control panel is fitted.
- d) In the event of failure of the automatic or remote control systems, a secondary means of control is to be made available for the operation of the integrated cargo and ballast system. This is to be achieved by manual overriding and/or redundant arrangements within the control systems.

Ch 8, Sec 3

Insert the following Article [6]:

6 Integrated cargo and ballast systems

6.1

6.1.1 Integrated cargo and ballast pumps are to comply with the provisions of Ch 7, Sec 4, [3.6].

Ch 8, Sec 4, [8.1]

Replace requirements [8.1.2] by:

8.1.2 Welding of bulkheads of cargo integral tanks of type 1 chemical carriers

IBC CODE REFERENCE: CHAPTER 4

The boundaries of bulkheads of cargo integral tanks of type 1 chemical carriers are to be connected, for their whole length, to the hull structures by means of full pene-

tration welding. As an alternative to full penetration weldings, the weld preparation is to be indicated on the drawings and non-destructive examinations are to be carried out on 100% of the welds.

Ch 8, Sec 4, [8.1]

Replace requirements [8.1.3] by:

8.1.3 Welding of bulkheads of cargo integral tanks of type 2 chemical carriers

IBC CODE REFERENCE: CHAPTER 4

The lower part (over 10% in height, as a minimum) of the boundaries of bulkheads of cargo integral tanks, i.e. the connection with the bottom (or double bottom, if any) and the connection with the lower part of the sloping plates, of type 2 chemical carriers are to be connected, for their

whole length, to the hull structures by means of full penetration welding. As an alternative to full penetration weldings, the weld preparation is to be indicated on the drawings and non-destructive examinations are to be carried out on 100% of the welds.

The other part of the tank boundaries may be connected by means of fillet welding.

Ch 11, Sec 3

Delete Article [3].

Ch 13, Sec 2, [6.3]

Replace requirement [6.3.1] by:

6.3.1 For ships with one of the service notations **hopper dredger, hopper unit, split hopper dredger** or **split hopper unit**, the net thickness of plating is to be not less than the thickness, in mm, obtained from Tab 10.

Ch 13, Sec 2, Table 10

Replace the title of Table 10 by:

Table 10 : Minimum net thicknesses of plating

Ch 14, Sec 2, [4.4]

Replace requirement [4.4.1] by:

4.4.1 Towline breaking load

The towline breaking load, in kN, is to be not less than SF·T, where:

T : Bollard pull, in kN, measured during the tests (see [4.5])

SF : Safety factor, to be taken equal to:

- SF = 3,0 for $T \leq 500$
- SF = 4,0 – T/500 for $500 < T < 1000$
- SF = 2,0 for $T \geq 1000$

Ch 15, Sec 2, [8.3.3]

Replace the last paragraph of requirement [8.3.3] by:

For ships operating in areas where icing is likely to occur, shutters may not be fitted.

Ch 19, Sec 2, Table 3

In Note 1 of Table 3, replace the definition of β_b and β_s by:

β_b, β_s : Coefficients defined in Pt B, Ch 7, Sec 2, [3.4.2]

Amendments to PART E

Chapter 1

Insert the following Section 4:

SECTION 4

STAR-REGAS

1 General

1.1 Application

1.1.1 The additional class notation **STAR-REGAS** is assigned, after construction, to liquefied gas carriers assigned with the additional service feature **RV** (with or without **STL-SPM**) and complying with the requirements of this Section in accordance with Pt A, Ch 1, Sec 2. No requirements are provided for the maintenance of this notation during the ship's service life.

1.2 Scope

1.2.1 The additional class notation **STAR-REGAS** is assigned to a liquefied gas carrier in order to reflect the following:

- a risk analysis has been performed for the regasification installation and its associated systems, based on the application of operational and maintenance procedures
- the Operator, by taking into account the results of the risk analysis, is able to demonstrate that the maintenance procedures of the regasification installation have been approved by the Society.

2 Assignment of the notation

2.1 Documentation to be submitted

2.1.1 The Operator is to submit the following documentation:

- documents required to perform the risk analysis, see [2.1.2]
- the Maintenance Plan, including information detailed in [2.1.3]
- the historical data of equipment maintenance and failures, if any, see [2.1.4].

2.1.2 The documents required to perform the risk analysis include specifications and operational description of systems/components. This includes an evaluation of main equipment usage rates (i.e. running hours/year of operation).

A typical list of the systems to be such documented is presented below:

- regasification system
- send out system (HP gas manifold and/or Submerged Turret Loading system)
- heating system

- inert gas system
- Vent and Relief system
- automation
- fire and gas detection system
- fire-fighting systems
- electricity production and distribution
- compressed air systems.

2.1.3 Maintenance Plan

The Operator is to provide a Maintenance Plan representing the collection of maintenance tasks, written in English.

The Maintenance Plan is to include those items the sudden failure of which in operation would affect the ship mission or the environment.

For these items, the following information is to be made available:

- maintenance type (inspection, reconditioning, condition monitoring, routine)
- maintenance frequency (periodicity value unit is to be clearly specified, i.e. hour, day, week, month, year)
- maintenance scope.

The frequency of maintenance and its scope should be justified by Manufacturer's recommendations or from documented experience.

2.1.4 Historical data

The Operator is to provide the Society with the ship history reports for any piece of equipment (if available) on:

- carried-out preventive maintenance (periodic or condition-based)
- damage or breakdown entailing unplanned maintenance (corrective)
- unsatisfactory condition found during maintenance.

Any recorded failure or breakdown should at least contain a detailed description of failure, date of occurrence, equipment counter hours at occurrence, possible cause.

2.2 STAR-REGAS

2.2.1 The procedure for the assignment of a **STAR-REGAS** notation to a liquefied gas carrier is as follows:

- the Operator supplies the documentation as listed in [2.1]
- the Society performs the risk analysis of the regasification installation and associated systems, based on the above submitted documentation, approves the Maintenance Plan and assigns the **STAR-REGAS** notation.



**BUREAU
VERITAS**

Move Forward with Confidence

Marine Division

92571 Neuilly sur Seine Cedex - France

Tel: + 33 (0)1 55 24 70 00 – Fax: + 33 (0)1 55 24 70 25

Marine website: <http://www.veristar.com>

Email: veristarinfo@bureauveritas.com

© 2013 Bureau Veritas – All rights reserved