

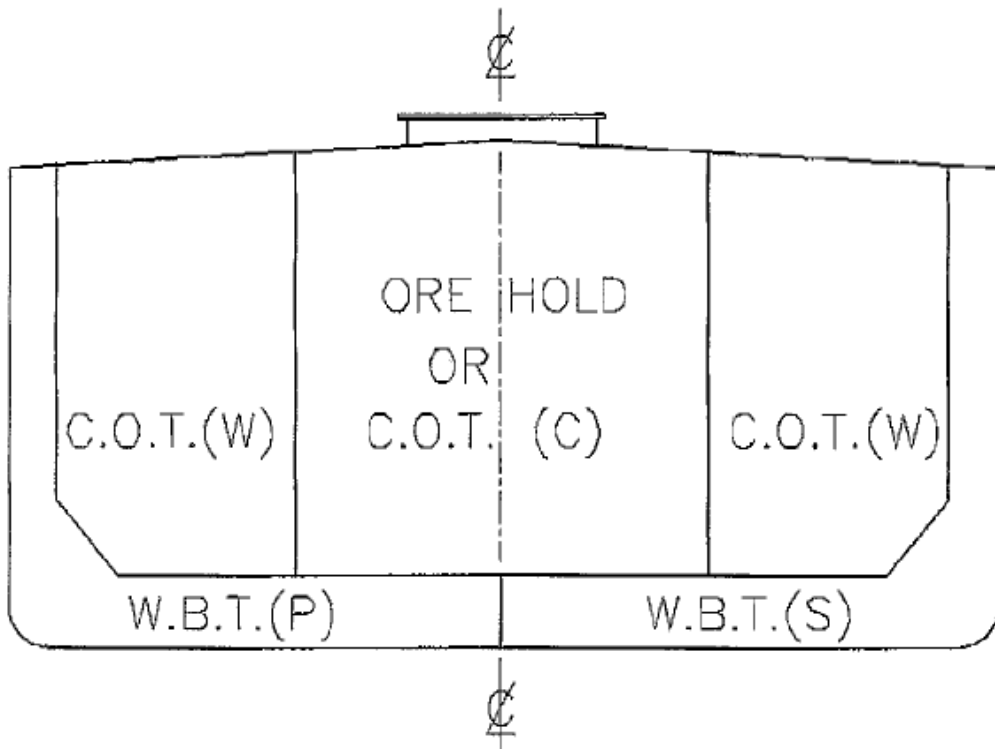
**Tanker Q&As and CIs on the IACS CSR Knowledge Centre**

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
142	1/1.1.1.1	CI	application of CSR	2006/9/27	What is the scope of application of CSR Rules for Oil Tankers as regard to the type of cargoes ?	In addition to the conditions specified in 1/1.1.1.1, the CSR for Oil Tankers is only applicable to oil tankers having integral tanks for carriage of oil in bulk, which is contained in the definition of oil in Annex 1 of MARPOL 73/78. FPSO, FSO and ships	
183	1/1.1.1	Question	Scope of application of Rules	2006/10/25	Do CSR Tanker Rules apply to OBO carriers ? (Ref: previous Q&A ID # 142)	CSR Tanker Rules is not applicable for OBO Carriers.	
279 attc	1/1.1.1	Question	application of CSR	2006/11/13	Is CSR applicable for VLOO (Very Large Oil or Ore) carrier having configuration very similar to VLCC, but with hatch opening in center hold/tank? See <b>attached</b> sketch.	CSR Tanker or Bulker Rules are not applicable for Ore-Oil Carriers.	<a href="#">Y</a>
438 attc	1/1.1.1.2, 2/3.1.7.1 & 1/1.1.1.1	Question	unrestricted worldwide navigation	2009/11/2	<p>The following rules, 1/1.1.1.1. and 1/1.1.1.2 of CSR/Tanker do not clearly specify that the Rules are applicable for unrestricted worldwide navigation as clearly specified in 1-1/1.1.2 of the CSR/Bulker Carrier. The Rules basis for worldwide operation (i.e. unrestricted) can only be assumed from the rules of 2/3.1.7.1 " To cover worldwide trading operations.... the CSR/Tanker should be designed based on the North Atlantic wave environment for its entire design life".</p> <p>[QUOTE]                      CSR/Tanker 1/1.1.1.1                      These Rules apply to double hull oil tankers of 150m, L, length and upward classed with the Society and contracted for construction(1) on or after 1 April 2006. The definition of the rule length, L, is given in Section 4/1.1.1.1.                      1/1.1.1.2                      Generally, for double hull tankers of less than 150m, L, in length, the Rules of the individual Classification Society are to be applied.                      (Continue to next page)</p>	Please see <b>attached file</b> : 5.2 - (CIP) Common Interpretations November 2009	<a href="#">Y</a>

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438 attc	1/1.1.1.2, 2/3.1.7.1 & 1/1.1.1.1	Question	unrestricted worldwide navigation	2009/11/2	<p>(Continue from previous page) 2/3.1.7 External environment 2/3.1.7.1 To cover worldwide trading operations and also to deal with the uncertainty in the future trading pattern of the ship and the corresponding wave conditions that will be encountered, a severe wave environment is used for the design assessment. The rule requirements are based on a ship trading in the North Atlantic wave environment for its entire design life.</p> <p>CSR/Bulk Carrier 1-1/1.1.2 These Rules apply to the hull structures of single side skin and double side skin bulk carriers with unrestricted worldwide navigation, having length L of 90 m or above. [UNQUOTE]</p> <p>Q1: Does this difference in application of the Rules between CSR/Tanker and CSR/Bulk Carrier intentionally provide for CSR/Tanker in order to cover a restricted service double hull oil tanker (L&gt;150m) by the CSR/Tanker? Q2: Or, is IACS considering to modify the CSR/Tanker text in order to harmonise to CSR/Bulk Carrier?</p> <p>Q3: If the answer of Q1 is affirmative, CSR notation will be provided for oil tanker regardless its intended service, unrestricted or restricted. Has this policy ever discussed within IACS and firmly decided? Q4: If the answer of Q2 is affirmative, CSRs cover only oil tankers and bulk carriers, of which general configurations are specified in each Rules, intended to operate unrestricted worldwide navigation only and these ships for restricted service operation are not within the scope of CSRs. Hence, the applicable requirements for these ships are to be referred to each society's Rules. Is this understanding correct? Please confirm.</p>	(See previous page)	<a href="#">Y</a>
513	1/1.1.1.1	CI	Conversion of a single hull tanker into a double hull tanker	2007/8/28	if an existing single hull tanker is converted into a double hull tanker, does it have to comply with CSR?	When an existing single hull oil tanker is converted into a double hull oil tanker, the CSR are not applicable.	

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562	1/1.1.1.1	RCP	restricted service/unrestricted worldwide navigation	2009/11/2	<p>The first sentence of Sec1, 1.1.1.1 states: "These Rules apply to double hull tankers of 150m length, L, and upward classed with the Society and contracted for construction on or after 1 April 2006." However, we believe that CSR for double hull tankers is not applicable to those intended for a restricted service because CSR was developed for tankers trading in the North Atlantic wave environment for their entire design life as stated in Sec 2, 3.1.7.1 as follows: "To cover worldwide trading operations and also to deal with the uncertainty in the future trading pattern of the ship and the corresponding wave conditions that will be encountered, a severe wave environment is used for the design assessment. The rule requirements are based on a ship trading in the North Atlantic wave environment for its entire design life."</p> <p>Accordingly the first sentence of Sec1,1.1.1.1 should be amended being in consistency with Ch1, Sec1, 1.1.2 of CSR for bulk carriers, as follows: "These Rules apply to double hull tankers of 150m length, L, and upward classed with the Society for unrestricted worldwide navigation and contracted for construction on or after 1 April 2006."</p>	Please see reply to KC ID 438.	

KC#279



MIDSHIP SECTION OF VLOO

# CI-T 7 Application of the Common Structural Rules for Double Hull Oil Tankers

(November 2009)

## Rule Section

- 1/1.1.1.1 Applicability
- 2/Figure 3.2.1 Typical arrangements of Double Hull Tankers
- 2/3.1.7.1 External environment
- 3/4.1.2 Novel designs

## Knowledge Centre Questions:

- No 142 (Type of cargo)
- No 183 (OBO Carriers)
- No 279 (Ore/Oil Carriers)
- No 432 (Design with no cross ties)
- No 438 (Restricted/Unrestricted Navigation)
- RCP No 562 (Restricted/Unrestricted Navigation)

## Description

The Common Structural Rules for Double Hull Oil Tankers (CSR/Tankers) of 150 metres or more have been published and adopted by IACS and became effective from April 1, 2006.

There are a couple issues of concern regarding the applicability of the rules that have become apparent after the adoption of the CSR/Tankers which this interpretation addresses:

- Ship types: do CSR apply to Chemical tankers, combination carriers etc.
- Conversions: vessels converted to tanker for oil
- Novel Designs: application of the CSR/Tankers to novel designs and unusual structural configurations
- Hull shapes outside of normal range L/B or B/D etc
- Service Area: application of the CSR/Tankers for ships on restricted service.

## Common Interpretation / Procedure

The purpose of this interpretation is to ensure a unified understanding for which CSR/Tankers shall apply.

This common interpretation is not intended as a detailed procedure for the review and approval of novel concepts or particular structural arrangements not described in the CSR/Tankers.

## 1. Ship Types

The CSR/Tankers are mandatory for oil tankers with length of 150m and above having integral tanks for carriage of crude oil or oil products in bulk, which is contained in the definition of oil in Annex 1 of MARPOL 73/78.

Exemptions for which CSR/Tankers are not applicable are listed below:

- Combined Ore/Oil Carriers; or
- OBO Carriers; and
- Chemical tankers not having MARPOL certificate for carriage of oil or oil products
- Pure asphalt carrier
- FPSO, FSO
- Ships only carrying oil or oil products in independent tanks.

The class notation CSR may only be assigned for those vessels covered by mandatory application and may not be assigned voluntarily based on preference of Yard or Owner.

## 2. Conversion to Tanker for Oil

Ships converted to oil tankers should be exempted from complying with CSR for tank unless the whole cargo block (i.e. all the cargo holds) is replaced, in that case, relevant parts of CSR should apply to the cargo block only, and not the rest of the ship.

The exemption will only be applicable for vessels for which the date of the original contract for construction was prior to 1. April 2006.

## 3. Novel designs and unusual structural configurations

Although the Rules have been formulated for families of double hull tankers of more or less conventional structural configuration, there is no intention of limiting the development of novel designs in the future, or designs having improved local structural arrangements. However, the proposed designs must demonstrate that their structural safety is at least equivalent to that intended by the CSR/Tankers. This may include an independent systematic review/structural risk assessment in order to document equivalence with the Rules.

The individual class society will particularly consider how to apply CSR/Tankers on structural configurations different from those shown in Figure 3.2.1 or on “novel designs” (Section 3/4.1.2).

## 4. Designs with main particular outside normal ranges

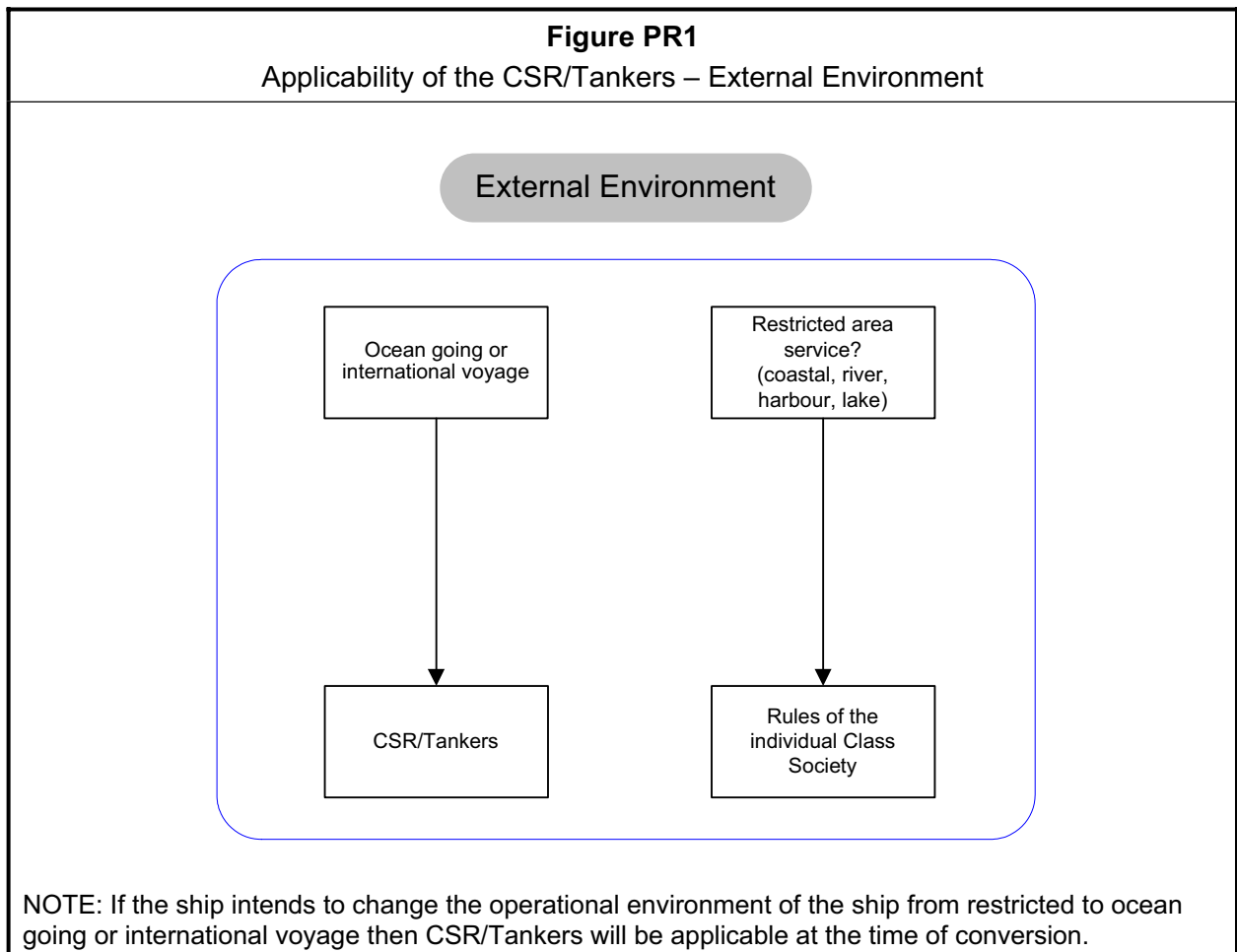
The formulae for loads are tailored for ships of normal proportions. Although most may be applied to vessels of other proportions guidance should be sought from the individual class society when the criteria below are not satisfied. The individual class society will decide how to apply the CSR/Tankers to the ship.

- $L/B > 5$
- $B/D < 2.5$
- $C_b > 0.7$
- $GM < 0.12B$  for homogeneously full load conditions  
<  $0.33B$  for ballast conditions

## 5. Service Area

Because there is uncertainty about the actual trading patterns of most ships, it is necessary to choose an arbitrary, but prudently severe, wave environment for the purposes of design assessment. The Rule requirements are therefore based on a ship trading for all of its life in the demanding North Atlantic wave environment. See Figure PR1 for application of CSR/Tankers based on external environment.

Shipowners are naturally concerned about maximising operational flexibility with the loading conditions that are approved and in the Loading Manual. The CSR for Tankers defines loading conditions that envelope the most prevalent in-service cases. This means that actual loading conditions will then fall within the range of draughts and hull girder bending moments (BM) / shear forces (SF) that have been investigated and approved by class. The standard loading conditions in CSR have been carefully selected to give extreme service limits. In some cases they are significantly more onerous than those routinely occurring. Where the shipowner intends actual loading conditions that may be outside the standard draught and BM/SF limits then these must be identified to the shipbuilder in the specification and submitted to Class to ensure the ship meets this enhanced requirement.



**Implementation date**

This CI is effective from 1 November 2009.

**Background**

This common procedure has been prepared to ensure a unified understanding on the application of CSR/Tankers.