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# **No. 165** Recommendation for assessing alternative methods used in the hull structural design of ships subject to the Common Structural Rules for Bulk Carriers and Oil Tankers (CSR-BC&OT)

(Nov 2018)

## **1. General**

1.1 This document is applicable to the ships subject to the Common Structural Rules for Bulk Carriers and Oil Tankers (CSR-BC&OT) and gives recommendations for assessing alternative methods used in the hull structural design as permitted in the applicable resolutions. The methodology is consistent with guidance developed by the International Maritime Organization, (refer to IMO MSC.1/Circ.1455, the Guidelines for the approval of alternatives and equivalents as provided for in various IMO instruments), while allowing for the use of simplified approaches.

1.2 The basic approach for considering equivalency involves comparing proposed alternative methods to the IACS technical provisions such as CSR-BC&OT, Unified Requirements, Unified Interpretations, etc., and each Classification Society's Rules.

1.3 The responsibility for generating the equivalency request and supporting information required rests with the owner/shipyard/designer.

1.4 Review/approval of any equivalency request as well as the resulting scantlings, materials, etc. should be undertaken by the Classification Society.

## **2. Scope of an equivalency assessment**

2.1 The scope of simplified equivalency assessments is expected to be limited to materials selection and structural strength of the hull structure.

2.2 If there is not full and direct compliance to CSR-BC&OT due to innovative designs that are not capable of being directly evaluated with the existing Rules and/or IACS resolutions, then an equivalent safety level can be accepted in accordance with guidance provided by the Classification Society.

2.3 More detailed criteria and/or procedure for assessing alternative methods used in the hull structural design may be considered by the Classification Society on case-by-case basis when more experience and information gained from the evaluation of alternative methods and/or novel designs are provided by owner/shipyard/designer.

2.4 When conducting simplified equivalency assessments, the guidance contained in IMO MSC.1/Circ.1455 should be applied to the extent possible and reported in the documentation associated with the application of alternative methods.

## **3. Documentation**

3.1 Documentation provided with an application for alternative methods used in the hull structural design as equivalency should identify the detail of the methods that have been undertaken, the equivalent safety level and the sufficient supporting information to validate assessments as well as the resulting scantlings, materials, etc.

**No.**  
**165**  
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3.2 In case of a ship where alternative methods are applied and an equivalency for the technical resolutions is considered by the Classification Society, this should be noted in the relevant structural drawings and/or appropriate approval documents as required by the individual Classification Society's procedures. The documentation on the application of alternative methods should be included in the Ship Construction Files (SCF) in accordance with the requirement of IACS Unified Requirement (UR) Z23.

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