

# **Approval of Use of Computer Based Systems**

## **Amended Rules and Guidance**

Rules for the Survey and Construction of Steel Ships Parts B and D  
Rules for Automatic and Remote Control Systems  
Rules for High Speed Craft  
Rules for the Survey and Construction of Passenger Ships  
Rules for the Survey and Construction of Inland Waterway Ships  
Guidance for the Survey and Construction of Steel Ships Parts D, GF and N  
Guidance for Automatic and Remote Control Systems  
Guidance for High Speed Craft  
Guidance for the Survey and Construction of Inland Waterway Ships  
Guidance for the Approval and Type Approval of Materials and Equipment for Marine Use

## **Reasons for Amendment**

Systems which depend upon software for their function (hereinafter referred to as “computer based systems”) need to be provided with means against risks which are peculiar to such systems, e.g., computer viruses and malware. For this reason, IACS adopted IACS Unified Requirement (UR) E22 (Rev.2) in June 2016 so as to ensure software soundness through quality management covering the entire life cycle of such a system. Requirements specified in the IACS UR have already been incorporated to the ClassNK Rules and in this regard the Rules assume that examinations and tests are carried out for each product as the principal method for approval.

These requirements had been subsequently reviewed by ClassNK and it was decided that, instead of individually testing each new computer based system, approval of use was more practical for verifying conformance to UR E22. “Approval of use” is a method which only requires examinations and tests be carried out for a representative product for each type and which has already been adopted on environmental testing for automatic or remote control systems of machinery equipment.

Accordingly, relevant requirements were amended in order to adopt approval of use as a new method for approving computer based systems according to requirements based upon UR E22 related to manufacturer quality control systems, computer based system designs, factory acceptance testing and so on so that they are compatible with the current method.

Additionally, requirements regarding plans and documents of machinery installations to be submitted were amended in order to make clear whether they are for approval or for reference.

## **Outline of Amendment**

The main details of this amendment are as follows:

- (1) Specified requirements regarding plans and documents for the approval of use of computer based systems.
- (2) Specified that plans and documents may be submitted and that factory acceptance testing may be carried out on a per type basis when acquiring approval of use instead of for each individual product.
- (3) Amended requirements regarding plans and documents of machinery installations in

order to make clear whether they are for approval or for reference.

### **Amended Requirements**

Rules for the Survey and Construction of Steel Ships

Part B: 2.1.2, 2.1.3

Part D: 18.1.3

Rules for Automatic and Remote Control Systems: 2.2.1

Rules for High Speed Craft

Part 2: 2.1.2, 2.1.3

Part 9: 12.1.3

Part 10: 1.1.5

Rules for the Survey and Construction of Passenger Ships

Part 2: 2.1.3

Rules for the Survey and Construction of Inland Waterway Ships

Part 2: 2.1.2, 2.1.3

Part 7: 14.1.3

Guidance for the Survey and Construction of Steel Ships

Part D: D6.2.11, D18.1.3, Annex D18.1.1 1.2, 1.3, 3.1.2, 3.1.3, 3.1.5, 5.1

Part GF: Annex 2 1.3, Annex 3 1.3, Annex 4 1.3

Part N: Annex 2 1.3, Annex 3 1.3, Annex 4 1.3

Guidance for Automatic and Remote Control Systems: 1.2.3, 2.2.1

Guidance for High Speed Craft

Part 2: 2.1.2

Part 9: 12.1.3

Part 10: 1.1.5

Guidance for the Survey and Construction of Inland Waterway Ships

Part 7: 14.1.3

Guidance for the Approval and Type Approval of Materials and Equipment for Marine Use

Part 6: 8.2.2

Part 7: 1.3.2, 1.4, 1.5, 1.6, 1.7, Chapter 8