Amendment on 29 June 2026
Resolved by Technical Committee on 29 January 2026

Review of Expressions in Part X (Computer-based Systems) of the Rules for the Survey and Construction of Steel Ships

Object of Amendment

Rules for the Survey and Construction of Steel Ships Part X

Reason for Amendment

IACS Unified Requirement (UR) E22 (Rev.3), adopted in June 2023, stipulates requirements for computer-based systems used in ships, including the roles of relevant parties and the change management for software, and these requirements have been already incorporated into the NK Rules.

Subsequently, IACS conducted a review of this UR and adopted a corrected version of UR E22 (Rev.3, Corr.1) in September 2025.

In addition, Part X (Computer-based Systems) of the Rules was reviewed by the Society to further clarify and harmonise the expressions being used in it.

Accordingly, relevant requirements are amended based on UR E22 (Rev.3, Corr.1) and review of Part X.

Outline of Amendment

The main contents of this amendment are as follows:

(1) Amends references to applicable ISO standard numbers, the explanations of figures and the descriptions concerning the timing of verification for the implementation of procedures related to change management of computer systems, as specified in Chapter 3, Part X of the Rules, in accordance with UR E22 (Rev.3, Corr.1).
(2) Clarifies and harmonises the expressions used in Chapter 5, Part X of the Rules.

Effective Date and Application

Effective date of this amendment is 1 July 2026.

An asterisk (*) after the title of a requirement indicates that there is also relevant information in the corresponding Guidance.

ID:DD25-29

Amended-Original Requirements Comparison Table
(Revision of Expressions in Part X (Computer-based Systems) of the Rules for the Survey and Construction of Steel Ships)

Amended	Original	Remarks
RULES FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS **Part X COMPUTER-BASED SYSTEMS** **Chapter 3 COMPUTER-BASED SYSTEMS** **3.1 General** **3.1.2 References** The following identified standards may be used for the development of hardware/software of computer-based systems. Other industry standards, however, may also be considered. ((1) to (9) are omitted.) (10) *ISO* 10007:2017 Quality management - Guidelines for configuration management (11) (Omitted) **3.1.4 Terminology** The terms used in this Chapter are defined as follows. ((1) and (2) are omitted.) (3) "Computer-based system" means a programmable electronic device, or interoperable set of programmable electronic devices, organised to achieve one or more specified purposes such as collection, processing, maintenance, use, sharing, dissemination or disposition of information. Onboard	**RULES FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS** **Part X COMPUTER-BASED SYSTEMS** **Chapter 3 COMPUTER-BASED SYSTEMS** **3.1 General** **3.1.2 References** The following identified standards may be used for the development of hardware / software of computer-based systems. Other industry standards, however, may also be considered. ((1) to (9) are omitted.) (10) *ISO* 90007:2017 Quality management - Guidelines for configuration management (11) (Omitted) **3.1.4 Terminology** The terms used in this Chapter are defined as follows. ((1) and (2) are omitted.) (3) "Computer-based system" means a programmable electronic device, or interoperable set of programmable electronic devices, organised to achieve one or more specified purposes such as collection, processing, maintenance, use, sharing, dissemination or disposition of information. Onboard	Correction of standard number (In accordance with 1.3.2, UR E22 (Rev.3, Corr.1))

Amended-Original Requirements Comparison Table
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Amended	Original	Remarks
computer-based systems include Information Technology (IT) and Operational Technology (OT) systems, and may be a combination of sub-systems connected via network. Onboard computer-based systems may be connected directly or via public means of communications (e.g. the Internet) to ashore computer-based systems, other vessels' computer-based systems and/or other facilities. An illustrative hierarchy and the relationships of a typical computer-based system are shown in **Fig. X3.1**.	computer-based systems include Information Technology (IT) and Operational Technology (OT) systems, and may be a combination of sub-systems connected via network. Onboard computer-based systems may be connected directly or via public means of communications (e.g. the Internet) to ashore computer-based systems, other vessels' computer-based systems and/or other facilities.	Correction of the content and placement of the explanation for Fig. X3.1 (In accordance with Figure 1, UR E22 (Rev.3, Corr.1))
((4) to (16) are omitted.)	((4) to (16) are omitted.)	
(17) "System" means a combination of components, equipment and logic which has a defined purpose, functionality and performance. In the context of this Chapter, a specific system is delivered by one system supplier.	(17) "System" means a combination of components, equipment and logic which has a defined purpose, functionality and performance. In the context of this Chapter, a specific system is delivered by one system supplier. An illustrative system hierarchy is shown in **Fig. X3.1**.	
((18) to (24) are omitted.)	((18) to (24) are omitted.)	
3.6 Change Management	**3.6 Change Management**	
3.6.12 Verification of Change Management by the Society	**3.6.12 Verification of Change Management by the Society**	
2 During newbuilding	**2** During newbuilding	Correction of the description regarding the timing of change management verification (In accordance with 6.12.2, UR E22 (Rev.3, Corr.1))
The verification of change management during the newbuilding phase is divided into two parts: procedures are verified as a part of the verification of the quality management system (see **3.4.1-2**), while project specific implementation of the procedures are verified during FAT (see **3.4.2-7**), SAT (see **3.4.3-6**) and SOST (see **3.4.3-7**)	The verification of change management during the newbuilding phase is divided into two parts: procedures are verified as a part of the verification of the quality management system (see **3.4.1-2**), while project specific implementation of the procedures are verified during FAT (see **3.4.2-7**) and after FAT (see **3.6.12-1**).	

Amended	Original	Remarks
activities.		
Chapter 5 CYBER RESILIENCE OF SHIPS	**Chapter 5 CYBER RESILIENCE OF SHIPS**	
5.4 Requirements for Cyber Resilience of Ships	**5.4 Requirements for Cyber Resilience of Ships**	
5.4.3 Protect*	**5.4.3 Protect***	
The requirements for the Protect functional element are aimed at the development and implementation of appropriate safeguards supporting the ability to limit or contain the impact of a potential incident.	The requirements for the Protect functional element are aimed at the development and implementation of appropriate safeguards supporting the ability to limit or contain the impact of a potential incident.	
((1) to (5) are omitted.)	((1) to (5) are omitted.)	
(6) Remote access control and communication with untrusted networks	(6) Remote access control and communication with untrusted networks	
((a) and (b) are omitted.)	((a) and (b) are omitted.)	
(c) Requirement details	(c) Requirement details	
(i) and ii) are omitted.)	(i) and ii) are omitted.)	
iii) Communication with or via untrusted networks requires secure connections (e.g. tunnels) with endpoint authentication, protection of integrity and authentication and encryption at network or transport layer. Confidentiality is to be ensured for information that is subject to read authorization.	iii) Communication with or via untrusted networks requires secure connections (e.g. tunnels) with endpoint authentication, protection of integrity and authentication and encryption at network or transport layer. Confidentiality are to be ensured for information that is subject to read authorization.	
1) (Omitted)	1) (Omitted)	
2) Additional requirements for remote maintenance	2) Additional requirements for remote maintenance	
When remote access is used for	When remote access is used for	

Amended-Original Requirements Comparison Table
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maintenance, the following requirements are to be complied with in addition to those in **1)**: – Documentation is to be provided on board to show how they connect and integrate with the shore side. – Security patches and software updates are to be tested and evaluated before they are installed to ensure they are effective and do not result in side effects or cyber events that cannot be tolerated. A confirmation report from the software supplier towards above are to be obtained, prior to undertaking remote update. – Suppliers are to provide plans for- and make security updates available to the shipowner (see **4.5.3**, **4.5.4** and **4.5.5**). – At any time, during remote maintenance activities, authorized personnel are to have the possibility to interrupt and abort the activity and roll back to a previous safe configuration of the computer-based system and systems involved. – Multi-factor authentication is required for any access by human users to computer-based system's in scope from an untrusted network. – After a configurable number of failed remote access attempts, the next attempt is to be blocked for a predetermined length of time.	maintenance, the following requirements are to be complied with in addition to those in **1)**: – Documentation is to be provided to show how they connect and integrate with the shore side. – Security patches and software updates are to be tested and evaluated before they are installed to ensure they are effective and do not result in side effects or cyber events that cannot be tolerated. A confirmation report from the software supplier towards above are to be obtained, prior to undertaking remote update. – Suppliers are to provide plans for- and make security updates available to the shipowner (see **4.5.3**, **4.5.4** and **4.5.5**). – At any time, during remote maintenance activities, authorized personnel is to have the possibility to interrupt and abort the activity and roll back to a previous safe configuration of the computer-based system and systems involved. – Multi-factor authentication is required for any access by human users to computer-based system's in scope from an untrusted network. – After a configurable number of failed remote access attempts, the next attempt is to be blocked for a predetermined length of time.	Clarification

Amended-Original Requirements Comparison Table
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Amended	Original	Remarks
– If the connection to the remote maintenance location is disrupted for some reason, access to the system is to be terminated by an automatic logout function. (d) (Omitted) (7) (Omitted)	– If the connection to the remote maintenance location is disrupted for some reason, access to the system is to be terminated by an automatic logout function. (d) (Omitted) (7) (Omitted)	
EFFECTIVE DATE AND APPLICATION **1.** The effective date of the amendments is 1 July 2026		