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Ships and marine technology — Specifications for the installation of ship communication networks for shipboard equipment and systems

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document was prepared by Technical Committee ISO/TC 8, Ships and *Marine* technology, Subcommittee SC 6, Navigation and ship operations.

This second edition cancels and replaces the first edition (ISO 16425:2013), which has been technically revised.

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The main changes compared are as follows:

- the title of this document has been changed from "guidelines" to "specification";
- All Clause all Clauses have been revised in line with the shipboard network design procedure;
- Designs designs for Wi-Fi networks, networks equipped with a shipboard data server that conform to ISO 19847 and ISO 19848, and requirements for cybersecurity for shipboard networks have been added;
- in Clause 5, the scope of this document has been included in the network system architecture;
- in Clause 6, information necessary for network design has been provided;

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- ~~In~~ Clause 7, the requirements for the operation plan design of the shipboard network have been added.
- ~~In~~ Clause 8, information on shipboard network devices has been added.
- ~~In~~ Clause 9, the network design methods for the physical design of cable and connector for shipboard network equipment and for the logical design of network separation and communication between networks with cyber security have been updated.
- ~~In~~ Clause 10, the equipment, grounding and termination of cables and network equipment have been clarified.
- ~~In~~ Clause 11, network testing and inspection objectives, conditions, methods and criteria have been added.
- ~~In~~ Clause 12, information necessary for network operation has been provided.
- ~~In~~ Clause 13, cyber security requirements for network, is newly provided in Clause 13, networks have been added.
- ~~In~~ Annex A examples of input/output information required for network design have been added.
- ~~In~~ Annex B, examples of monitoring and managing the shipboard network and the nodes connected to the network have been added.
- ~~In~~ Annex C, an example of secure-network implementation compliant with this document has been added.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

This document gives specifications relating to communication network-system architecture, data requirements, administration, operation, commissioning, inspection and testing for shipboard equipment and systems.

This document also takes into account differences between shipboard communication networks and networks that are used outside of ships, and stipulates requirements and specifications relating to matters unique to shipboard use.

Until the publication of this document, there has been a lack of comprehensive specifications for connecting devices ~~that are~~ provided by many different manufacturers to a network via ~~a~~ generic means, ~~which. This gap~~ has impeded the wider use of shipboard networks.

~~This document aims to provide requirements and specifications for all aspects of communication network-system design, commissioning, inspection, testing and operation, and~~ This document aims to improve the convenience for all involved parties, including manufacturers, engineering firms, shipbuilders, and shipping companies.

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