

Harmonic Filters

Amended Rules and Guidance

Rules for the Survey and Construction of Steel Ships Parts B and H
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 B and H
Guidance for High Speed Craft
Guidance for the Survey and Construction of Inland Waterway Ships

Reason for Amendment

Semiconductor converters are widely used in electric propulsion systems which use motors as main propulsion plants as well as in cargo pump control systems. When such devices are used, harmonics are generated which may cause malfunctions to devices connected to the distribution systems. Therefore, such systems are typically installed with harmonic filters in order to prevent such problems.

As the result of an accident in which an electric propulsion ship had its navigational capability disrupted due to blackout caused by the failure of the such harmonic filters, IACS began discussing methods for preventing the failure of harmonic filters and corresponding safety assurance measures to be taken when such failures occur. These discussions led to the adoption of requirements related to the monitoring and surveying of harmonic filters as UR E24 in June 2016.

Accordingly, relevant requirements were amended in accordance with IACS UR E24.

Outline of Amendment

- (1) Specified that monitoring systems are required for distribution systems which are newly fitted with harmonic filters.
- (2) Specified that periodical verification of harmonic filters are required for ships which have been already fitted with such filters.

Amended Requirements

Rules for the Survey and Construction of Steel Ships
Part B: 2.1.6, 2.3.1
Part H: 1.1.6, 2.12.1, 2.12.4, 2.12.5
Rules for High Speed Craft Part 2 2.1.2, 2.1.6, 2.3.1, Part 10 2.12
Rules for the Survey and Construction of Passenger Ships Part 2 2.1.7
Rules for the Survey and Construction of Inland Waterway Ships Part 2 2.1.6, 2.3.1, Part 8 1.1.6, 2.12.1, 2.12.4, 2.12.5
Guidance for the Survey and Construction of Steel Ships
Part B: B2.3.1, B3.3.1
Part H: H1.1.6, H2.1.2, H2.12.4
Guidance for High Speed Craft Part 2 2.1.2, 2.3.1, 3.6, Part 10 2.1.2
Guidance for the Survey and Construction of Inland Waterway Ships Part 2 2.3.1, 3.3.1,

Part 8 1.1.6, 2.1.2, 2.12.4