

GUIDANCE FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

Part H

Electrical Installations

Guidance for the Survey and Construction of Steel Ships

Part H

2015 AMENDMENT NO.1

Notice No.33 8th May 2015

Resolved by Technical Committee on 2nd February 2015

AMENDMENT TO THE GUIDANCE FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

“Guidance for the survey and construction of steel ships” has been partly amended as follows:

Part H ELECTRICAL INSTALLATIONS

H2 ELECTRICAL INSTALLATIONS AND SYSTEM DESIGN

H2.16 Explosion-protected Electrical Equipment

Paragraph H2.16.1 has been amended as follows.

H2.16.1 General

1 The wording “the standard deemed appropriate by the Society” in **2.16.1, Part H of the Rules** means *IEC 60079 (the latest edition)*.

2 Explosion-protected electrical equipment listed below may be treated as equivalent to those complying with *IEC 60079*.

- (1) Explosion-protected electrical equipment complying with the following latest standards for marine use:
 - (a) *JIS F 8009*: Shipbuilding - General requirements for electrical apparatus for explosive gas atmospheres
 - (b) *JIS F 8422*: Shipbuilding - Flameproof ceiling lights
- (2) Explosion-protected electrical equipment complying with the following latest standards for industrial use:
 - (a) ~~*JIS F C 60079-0*~~: Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
 - (b) ~~*JIS C 60079-1*~~: Electrical apparatus for explosive gas atmospheres – Part 1: Flameproof enclosures “d” ~~Construction and verification test of flameproof enclosures of electrical apparatus~~
 - (c) ~~*JIS C 60079-2*~~: Electrical apparatus for explosive gas atmospheres – Part 2: Pressurized enclosures ~~Type of protection “p”~~
 - (d) *JIS C 60079-6*: Electrical apparatus for explosive gas atmospheres - Part 6: Oil-immersed apparatus
 - (e) ~~*JIS C 60079-7*~~: Electrical apparatus for explosive gas atmospheres – Part 7: Increased safety “e”
 - (f) *JIS C 60079-11*: Electrical apparatus for explosive gas atmospheres - Part 11: Intrinsically safety “i”
- (3) Explosion-protected electrical equipment complying with the “Guidance for Type Approval of Electrical Apparatus for explosive gas atmospheres” issued by Technology Institution of Industrial Safety in Japan.
- (4) Explosion-protected electrical equipment complying with the “Recommended Practices for Explosion-Protected Electrical Installations in General Industries” issued by ~~Research Institute of Industrial Safety, Independent Administrative Institution~~ National Institute of Occupational Safety and Health in Japan. However, the use of such equipment may be restricted because those explosive gases or vapours for which the equipment is designed,

could not be completely consistent with those of equipment complying with *IEC 60079*.

~~(5) Explosion-protected electrical equipment which has been type tested by the Society in accordance with the following standards. However, the use of such equipment may be restricted for the same reasons specified in (4) above:~~

~~(a) *IIS F 8004* (1979): Shipbuilding – General requirements for Construction and verification test of flameproof enclosures of electrical apparatus~~

~~(b) *IIS C 0903* (1993): Electrical apparatus for explosive gas atmospheres – General requirements~~

H3 DESIGN OF INSTALLATIONS

H3.2 Main Sources of Electrical Power and Lighting Systems

H3.2.1 Main Sources of Electrical Power

Sub-paragraph -1 has been amended as follows.

1 Generators driven by main propulsion machinery (hereinafter referred to as “shaft driven generator systems”) are to comply with the following requirements **(1) to (7)** if they are provided as one of the main sources of electrical power specified in **3.2.1-1, Part H of the Rules**:

- (1) Voltage and frequency fluctuations of shaft driven generator systems are to be maintained within those specified limits given in **Table H3.2.1-1** under all weather conditions during sailing and maneuvering as well as when vessels are stopped and are in crash astern conditions.
- (2) ~~Shaft driven generator systems are to be equipped with devices to start main machinery independently of other generators belonging to the same main generator set. In addition, In cases where there is the loss of any one of the main generators in service, they are to be such that generating capacity of those generators specified in 3.2.1-2, Part H of the Rules are capable of being maintained under all of the sailing and maneuvering conditions specified in (1) above.~~
- (3) ~~In the event of any single generating set being stopped, automatic changeovers to other generating sets are to be carried out within a period of 45 seconds on the condition that main propulsion machinery are not to be stopped at time of such blackouts. In such cases, those means specified in Standby sets are to be in compliance with H3.2.1-5 are to be taken to ensure ship safety.~~
- (4) In those ships which have bridge control devices for main propulsion machinery, running indicators of shaft driven generator systems are to be provided on navigating bridges.
- (5) In cases where main sources of electrical power are such that operation of generating sets is to be changed over to those generating sets not depending upon propulsion plants according to ship speed (*e.g.* ahead, stop, astern), such changeovers need to be made both automatically along with the control of propulsion plants and by remote operation from those positions where such propulsion plants are being controlled. In such cases power supplies are not to be interrupted by such changeovers.
- (6) Shaft driven generator systems are to be capable of providing sufficient short circuit currents to trip generator circuit-breakers taking into account any selective tripping of protective

devices for distribution systems on board.

- (7) Protection is to be arranged in order to safeguard shaft driven generator systems in case of a short circuit in main busbars. Shaft driven generator systems are to be suitable for further use after fault clearances of the short circuit.

EFFECTIVE DATE AND APPLICATION

1. The effective date of the amendments is 8 May 2015.