

Polski Rejestr Statków

RULES FOR THE CLASSIFICATION AND CONSTRUCTION OF SEA-GOING SHIPS

AMENDMENTS NO. 3/2011

to

PART VIII

**ELECTRICAL INSTALLATIONS
AND CONTROL SYSTEMS**

2007

GDAŃSK

Amendments No. 3/2011 to Part VIII – Electrical Installations and Control Systems – 2007 of the Rules for the Classification and Construction of Sea-going Ships were approved by the PRS Board on 5 September 2011 and enter into force on 15 September 2011.

The following amendments to Part VIII – Electrical Installations and Control Systems – 2007 have been introduced:

1. *Paragraph 5.5.11 has been amended to read:*

5.5.11 Visual and audible signals are to be provided on the navigation bridge and at the main engine control station to indicate:

- .1** the loss of voltage, the absence of phase and the overload in the supply circuit of any energetic set;
- .2** the loss of voltage in the control system supply circuit;
- .3** loop failure in closed loop systems due to short circuit, broken connection, earth fault;
- .4** if programmable electronic systems are used – data communication errors, computer hardware and software failures;
- .5** the low level of oil in any service fuel tank;
- .6** hydraulic locking considering order given by steering wheel or lever.

Moreover, an indicator is to be provided to indicate that the electric motors of the steering gear power units are running.

Alternatively to signals, required in **.3** and **.4**, depending on rudder characteristic, critical deviations between rudder order or response are to be indicated visually and audibly as steering failure alarm on the navigation bridge. In the deviation analysis, the following parameters are to be considered: delay – the rudder actual position reaches set position within acceptable time limits and accuracy – the end actual position of the rudder shall correspond to the set value within the design offset tolerances.

The most probable failures, e.g. loss of power or loop failure are to result in the least critical of any new possible conditions.

2. *Paragraph 5.5.14 has been amended to read:*

5.5.14 Steering gear control is to be provided:

- .1** for the main steering gear – on the navigation bridge and in the steering gear compartment;
- .2** where the main steering gear is arranged in accordance with the requirements of paragraph 6.2.1.5, *Part VII – Machinery, Boilers and Pressure Vessels* – by two independent control systems, both operable from the navigation bridge. This does not require duplication of the steering wheel or steering lever. Where the control system consists of a hydraulic telemotor, a second independent system need not be fitted, except in a tanker, chemical tanker or gas carrier of 10,000 gross tonnage and upwards;
- .3** for power-operated auxiliary steering gear – in the steering gear compartment and on the navigation bridge; it is to be independent of the control system for the main steering gear.

3. *In paragraph 22.1.2.4, sub-paragraph .3 has been amended to read:*

.3 in ships constructed on or after 1 July 2010 – supplementary lighting is to be provided in all cabins to clearly indicate the exit so that occupants will be able to find their way to the door. Such lighting may have a self-contained source of electric power.

4. *Paragraph 22.5.4.13 has been amended to read:*

22.5.4.13 The possibility of occurrence of explosive mixtures of gas with air during cargo pumping, ballasting and gas-freeing by mechanical means outside the spaces and rooms specified in 22.5.3.1 is to be taken into account. Areas on open deck or semi-enclosed spaces on open deck, within a vertical cylinder of unlimited height and 6 m radius centred upon the centre of the outlet, and within a hemisphere of 6 m radius below the outlet which permits the flow of large volumes of vapour, gas mixtures during loading/discharging/ballasting are defined as Zone 1, as specified by IEC 60092-502, para. 4.2.2.8.

Areas within 4 m beyond the zone specified above are defined as Zone 2, as specified by IEC 60092-502, para. 4.2.3.2.

Electrical equipment or cables shall normally not be installed in the areas, referred to above. Where essential for operational purposes, electrical equipment may be installed in these areas in accordance with the requirements of IEC 60092-502.

5. *Paragraph 22.5.4.14 has been amended to read:*

22.5.4.14 Areas on open deck or semi-enclosed spaces on open deck, within 3 m of cargo tank ventilation outlets are defined as Zone 1, as specified by IEC 60092-502, para. 4.2.2.7.

Areas within 2 m beyond the zone specified above are to be considered Zone 2 (as opposed to 1.5 m specified by IEC 60092-502, para. 4.2.3.1).

Electrical equipment or cables shall normally not be installed in the areas, referred to above. Where essential for operational purposes, electrical equipment may be installed in these areas in accordance with the requirements of IEC 60092-502.

6. *This amendment concerns the Polish version only.*
