Polski Rejestr Statków

RULES
FOR THE CLASSIFICATION AND CONSTRUCTION OF SEA-GOING SHIPS

AMENDMENTS NO. 1/2009

to

PART VIII

ELECTRICAL INSTALLATIONS AND CONTROL SYSTEMS

2007

GDAŃSK

Amendments No.1/2009 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 10 April 2009 and enter into force on 24 April 2009.

PRS/AW, 04/09

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

1. *On page 2, at the end of the list of Publications, the following items have been added:*

   Publication No. 25/P – Technical Requirements for Shipboard Power Electronic Systems,
   Publication No. 79/P – Type Testing Procedure for Crankcase Oil Mist Detection and Alarm Equipment,
   Publikacja Nr 5/I – Wytyczne do przeprowadzania okresowych przeglądów klasyfikacyjnych elektrycznych urządzeń przeciwwybuchowych na statkach w eksploatacji (available in Polish only),
   Publikacja Nr 9/I – Materiały elektroizolacyjne (available in Polish only).

2. *The first passage of paragraph* **3.4.1** *has been amended to read:*

   3.4.1 If provision has been made for the ship's network to be supplied from an external source of electric power, a terminal for power supply from an external source of electric power is to be installed in the ship. The circuit supplied by an external electric power source is to comply with the requirements specified in 4.5.4.7.

3. *Paragraph* **4.4.8** *has been added:*

   4.4.8 The ship' navigation control and monitoring consoles are to be provided with a means to check the functioning of test lamps, e.g. "lamp test" button.

4. *Paragraph* **4.5.6.3** *has been amended to read:*

   4.5.6.3 If switchboards with the degree of protection IP10 and lower are located in a special space, cabinet or recess, such spaces are to be made of non-combustible material or are to have a lining of such material. If the switchboards are located in a space having a deck area of less than 4 m^2, such space is treated as space of category (5) – see sub-chapter 2.2.2, *Part V – Fire Protection.*

5 *Paragraph* **6.8.1** *has been amended to read:*

   6.8.1 Navigation Light Controller (hereinafter referred to as NLC) is to be located on the bridge. The NLC is to supply only navigation lights and special signal lights, such as lights required by canal Authorities. Navigation lights defined in the *COLREG Convention* (specified also in the *Rules for Statutory Survey of Sea-going Ships, Part III – Signal Means*, Table 2.4.1) are to be supplied by separate circuits.

6. Paragraph **6.8.2** *has been amended to read:*

6.8.2 The NLC is to be supplied by two circuits:

.1 one circuit from the emergency switchboard, which is supplied in accordance with paragraph 9.4.1;

.2 the second circuit from the section switchboard, which is not supplied from the emergency switchboard only.

The NLC installed in the ship's navigation control and monitoring console may be supplied directly from the console, provided it is supplied in compliance with paragraph 4.4.2.

In ships where the main source of electric power is an accumulator battery and the main switchboard is located on the navigation bridge, the navigation lights may be supplied directly from the switchboard.

Automatic switch over to the alternative source of power is permitted.

7. Paragraph **6.8.4** *has been amended to read:*

6.8.4 Each feeding circuit of navigation lights is to be of two-wire type with a double-pole switch with visual indication of "ON/OFF" status, installed in the NLC.

8. Paragraph **6.8.5** *has been amended to read:*

6.8.5 Each navigation light feeding circuit is to be provided with protection in both wires and with visual signal of proper functioning of each navigation light.

The visual indicator is to be designed and installed in such a manner that its damage will not cause the disconnection of the navigation light. A voltage drop on the NCL, including the signalling system of functioning of the lights, is not to exceed 5 per cent at the rated voltage up to 30 V and 3 per cent at the rated voltage over 30 V.

9. Paragraph **6.8.6** *has been amended to read:*

6.8.6 Irrespective of the signals, required in 6.8.5, provision is to be made for visual and audible signals functioning in the case of failure of power supply to navigation lights and failure of any navigation light, with the switch in the "on" position.

The power supply of signals is to be taken:

– from a circuit or a source other than used for the power supply of the NLC, or

– from an accumulator battery.

10. Existing paragraph **6.8.7** *has been renumbered* **6.8.9.** *New paragraph* **6.8.7** *has been introduced:*

6.8.7 Provision is to be made for adjustment of the NLC indicators illumination intensity so arranged that the total extinguishing of illumination should not be possible.

11. Paragraph **6.8.8***. has been added:*

6.8.8 The NLC is to enable the use of a bi-directional communication interface complying with the requirements of IEC Publication 61162.

12. Paragraph **7.2.3** *has been amended to read:*

7.2.3 The engine-room telegraphs installed on the navigation bridge are to be provided with scale lighting permitting adjustment of illumination intensity so arranged that the total extinguishing of illumination should not be possible.

13. Paragraph **7.5.2.1** *has been amended to read:*

7.5.2.1 Fire detection system is to be installed in the following locations:

.1 accommodation spaces, public spaces, stairways and corridors, control stations,

.2 periodically unattended machinery spaces,

.3 machinery spaces where:

- the installation of automatic and remote control system has been provided in lieu of continuous manning of the space; and
- the main propulsion and associated machinery, including the main source of electric power, are provided with various degrees of automatic or remote control and are under continuous manned supervision from the engine control room.

14. Paragraph **13.1.6** *has been added***:**

13.1.6 Accumulator batteries connected in series (e.g. two 12 V batteries supplying 24 V installation) are to be of the same type and the same capacity so that voltage drop occurring on each battery will be the same.

15. In paragraph **13.2.1***, the last passage has been amended to read:*

Accumulator batteries having a capacity of less than 0.2 kW are allowed to be installed in any space complying with the requirements of sub-chapter 11.8, *Part VI – Machinery Installations and Refrigerating Plants*, except accommodation spaces, provided that they are protected from the action of water and mechanical damage and do not harmfully affect the surrounding equipment.

16. *Paragraph* **16.1.2** *has been amended to read:*

16.1.2 The telecommunication, telephone and coaxial cables are to comply with the requirements of IEC Publications: 60092-351, 60092-373, 60092-374, 60092-375, and 60331-25. Optical fibre cables are to comply with the requirements of IEC Publication 60331-25.

17. *Paragraph* **20.6.5** *has been added:*

20.6.5 The alarms specified in item 2.3, Table 21.3.1-1 are to be indicated in the engine control room as individual alarms; where the alarm panel with individual alarms is installed on the engine or in the vicinity, common alarm in the engine control room is required.

18. *The following amendments to Table* **21.3.1-1** *have been introduced:*

.1 *in item* 1.1.1, *records have been added in columns 3 and 4 after the existing text;*
.2 *in item* 1.1.2, *records have been added in columns 3 and 4 after the existing text;*
.3 *in item* 1.1.3, *the whole text has been amended;*
.4 *in item* 1.1.11, *the whole text in column 2 has been amended;*
.5 *in item* 1.2.1, *records have been added in columns 3 and 4 after the existing text;*
.6 *in item* 1.2.2, *records have been added in columns 3 and 4 after the existing text;*
.7 *in item* 1.2.3, *the whole text has been amended;*
.8 *in item* 2.3, *the record in column 2 has been amended and records have been added in columns 3 and 4 after the existing text;*
.9 *the existing items* 2.4, 2.5 *and* 2.6 *have been renumbered* 2.5, 2.6 *and* 2.7, *as appropriate;*
.10 *new item* 2.4 *has been introduced.*

All these new and amended records are presented in the below Table.

1	2	3	4	5	6
1.1.1	Fuel system	– common rail fuel oil pressure	– minimum		
1.1.2	Lubricating oil system	– common rail servo oil pressure	– minimum		
1.1.3	Turboblowers system	– turboblower lubricating oil inlet pressure	– minimum		if independent lubricating oil system, integrated with the turbo-blower, is not provided.

1	2	3	4	5	6
		– temperature of lubricating oil of each bearing at outlet from turboblower – speed of turboblower	– maximum*		remote measurement
1.1.11	Engine speed/direction of rotation	– wrong way	alarm signal		remote measurement
1.2.1	Fuel system	– common rail fuel oil pressure	– minimum		
1.2.2	Lubricating oil system	– common rail servo oil pressure	– minimum		
1.2.3	Turboblowers system	– pressure of lubricating oil at inlet to turboblowers – temperature of lubricating oil of each bearing at outlet from turboblowers	– minimum – maximum*		remote measurement if independent oil lubricating system, integrated with the turboblower, is not provided.
2.3	Internal combustion engines driving main generators (medium-and high-speed generators)	– common rail fuel oil pressure – common rail servo oil pressure	– minimum – minimum		
2.4	Internal combustion engines driving emergency generators	– fuel oil leakage from pressure pipes – lubricating oil temperature – lubricating oil pressure	– alarm signal – maximum – minimum		for engines having a power output ≥ 220 kW
		– oil mist concentration in crankcase [8)] – pressure or flow of cooling medium – temperature of cooling medium	– maximum – minimum – maximum		for engines having a power output of more than 2250 kW or having a cylinder bore more than 300 mm for engines having a power output ≥ 220 kW

* Where, due to the turboblower design**,** the alarm function “maximum lubricating oil temperature” of each bearing cannot be realized, alternative arrangements are to be provided, e.g. continuous monitoring of inlet oil pressure and inlet temperature in combination with specific intervals for bearing inspection in accordance with the turboblower manufacturer’s instructions.

1	2	3	4	56	6
		– engine overspeed	– alarm signal	stop of engine	for engines having a power output ≥ 220 kW

19. Note [8)] *in* **Table 21.3.1-1** *has been amended to read:*

[8)] Equipment for crankcase oil mist detection and alarm (separate for each engine) or alternatively, the engine bearing temperature monitoring system, or other equivalent devices are to be of the type approved by PRS. The procedure for type testing of equipment for crankcase oil mist detection and alarm is specified in *Publication 79/P – Type Testing Procedure for Crankcase Oil Mist Detection and Alarm Equipment*.

20. In **Table 21.3.1-1** *Note* [8)] *refers to the parameter "oil mist concentration in crankcase" in items* 1.1.2, 1.2.2 *and* 2.4.

21. Paragraph **22.1.1.7** *has been added:*

22.1.1.7 In addition to locations specified in paragraph 7.5.2.1, fire detection system is to be installed on cabin balconies where fitted with furniture and furnishings other than the furniture and furnishings of restricted fire risk defined in SOLAS II-2, regulation 3, paragraphs 40.1, 40.2, 40.3, 40.6 and 40.7.

22. In paragraph **22.1.2.4**, *sub-paragraph* **.3** *has been added:*

.3 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.

23. In paragraph **1.3.3.1**, sub-paragraph **.25** *has been amended to read*:

.25 uninterruptible power system (UPS) units of 3 kVA and above;

(This amendment concerns the English version only).

24. In paragraph **4.5.4.4**, *sub-paragraph* **.2** *has been amended to read*:

.2 a voltmeter with a selector switch for measuring phase or line voltages;

(This amendment concerns the English version only).