

Alarms for Reciprocating Internal Combustion Engines Driving Emergency Generators

Amended Rules and Guidance

Rules for the Survey and Construction of Steel Ships Part D
Guidance for the Survey and Construction of Steel Ships Part D

Reasons for Amendment

IACS Unified Requirement (UR) M63 prescribes requirements related to alarms and safeguards for reciprocating internal combustion engines driving emergency generators, while IACS URs M35 and M36 prescribe relevant requirements for reciprocating internal combustion engines installed in unattended machinery spaces. The aforementioned URs have already been incorporated into the NK Rules.

In January 2023, IACS adopted UR M63(Rev.1) to remove inconsistencies in wording between the URs and make other clarifications deemed necessary.

Accordingly, relevant requirements are amended based on IACS UR M63(Rev.1).

Outline of Amendment

The main details of the amendment are as follows:

- (1) Clarifies that leakage from common rails is to be included in the items to be monitored specified in requirements related to alarms for reciprocating internal combustion engines driving emergency generators.
- (2) Stipulates that lubricating oil outlet temperature monitoring devices for bearings are permitted as alternatives for oil mist detectors.

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

Part D MACHINERY INSTALLATIONS

Chapter 18 AUTOMATIC AND REMOTE CONTROL

18.5 Automatic and Remote Control of Electric Generating Sets

18.5.2 Emergency Source of Electric Power

Automatic or remote control devices for reciprocating internal combustion engines driving emergency generators are to comply with the following requirements:

- (1) Alarm devices, to be activated in the event of any of the abnormal conditions given in **Table D18.2**, are to be provided.
- (2) Devices referred to in (1) are to provide alarms at both local and navigation bridge. Visual alarms at navigation bridge may be of group indication.
- (3) Each reciprocating internal combustion engine with a maximum continuous output of 220 kW or over is to be provided with an overspeed protective device specified in 2.4.1-4.
- (4) When devices, other than those referred to in (3), are provided to shutdown reciprocating internal combustion engines, means are to be provided to override those devices automatically during navigation.
- (5) The silencing of the audible alarms from navigation bridge is not to cause the silencing of the audible alarms at local positions.

Table D18.2 has been amended as follow.

Table D18.2 Alarms for Reciprocating Internal Combustion Engines to Drive Emergency Generators

Monitored Variables	Alarms	Remarks	
Temperature	L.O. inlet	H	Applicable to engines with maximum continuous output of 220 kW or over.
	Cooling water or air outlet	H	
Pressure	L.O. inlet	L	Applicable to engines with maximum continuous output of 220 kW or over. Low flow may be accepted.
	Cooling water inlet	L	
Others	F.O. Leakage from F.O. burning pipe, level in leakage tank high pressure pipes.	○	<u>Fuel injection pipes and common rails</u>
	Overspeed	○	Applicable to engines with maximum continuous output of 220 kW or over.

Note: “H” and “L” mean high and low. “○” means abnormal condition has occurred.

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

Part D MACHINERY INSTALLATIONS

D18 AUTOMATIC AND REMOTE CONTROL

Section D18.5 has been added as follows.

D18.5 Automatic and Remote Control of Electric Generating Sets

D18.5.1 General

In cases where 2.4.5-1, PartD of the Rules is to be applied in accordance with 18.5.1-6, PartD of the Rules, the lubricating oil outlet temperature monitoring devices for main and crankpin bearings which are of type approved by the Society are included in the “equivalent devices” specified in D2.4.5-1.