RULES FOR AUTOMATIC AND REMOTE CONTROL SYSTEMS

GUIDANCE FOR AUTOMATIC AND REMOTE CONTROL SYSTEMS

Rules for Automatic and Remote Control Systems
2014 AMENDMENT NO.1

Guidance for Automatic and Remote Control Systems **2014 AMENDMENT NO.1**

Rule No.58 / Notice No.43 30th June 2014
Resolved by Technical Committee on 4th February 2014
Approved by Board of Directors on 24th February 2014

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NIPPON KAIJI KYOKAI

RULES FOR AUTOMATIC AND REMOTE CONTROL SYSTEMS

RULES

2014 AMENDMENT NO.1

Rule No.58 30th June 2014

Resolved by Technical Committee on 4th February 2014

Approved by Board of Directors on 24th February 2014

Rule No.58 30th June 2014
AMENDMENT TO THE RULES FOR AUTOMATIC AND REMOTE CONTROL SYSTEMS

"Rules for automatic and remote control systems" has been partly amended as follows:

Chapter 2 SURVEYS OF AUTOMATIC AND REMOTE CONTROL SYSTEMS

2.2 Registration Surveys

2.2.5 Sea Trials

Sub-paragraph -2 has been amended as follows.

2 Monitoring and control systems for periodically unattended machinery spaces are to be subjected to the following tests in addition to those tests specified in **-1** above.

(1) It is to be confirmed that all machinery can be safely and surely monitored and controlled with monitoring and control systems for periodically unattended machinery spaces under normal sea going conditions as much as possible. In such cases, except in cases where operation modes are changed over, running conditions of machinery are not to be adjusted by means of manual operation from any control station other than the bridge.

(2) In substitution of those tests specified in **-1(1)(a)** and **(b)** above, main propulsion machinery or controllable pitch propellers are to be confirmed to be safely and surely operated in all service ranges of outputs including starting and ahead-astern conditions, by means of centralized monitoring and control systems for machinery or bridge control devices.

~~(3) Electric generating sets are to confirm the following while the main propulsion machinery is operating.~~

~~(a) In cases where only one electric generating set is normally used, automatic starting of standby generators, automatic making of air circuit breakers and sequential starting of important auxiliaries are performed, in cases where main sources of electrical power are stopped by tripping circuit breakers.~~

~~(b) In cases where two electric generating sets are normally used, preference tripping of unnecessary loads is performed and any propulsion and steering of ships are to be maintained, when tripping the circuit breaker for either set.~~

(~~4~~3) Auxiliary machinery (excluding any auxiliary machinery for specific use and other auxiliary machinery) is to be subjected to the following tests while controlling main propulsion machinery or controllable pitch propellers from the bridge.

(a) Automatic starting tests of those standby pumps specified in **3.3.2-1(3)**, **3.3.2-2(3)(a)**, **3.3.2-3(3)**, **3.3.2-4(1)**, **3.3.3-2**, **3.3.5-1** and **18.2.2-2(3), Part D of the Rules for the Survey and Construction of Steel Ships**, and automatic changeover tests for those circulating pumps specified in **3.3.2-2(3)(b)**.

(b) Tests to confirm that, while main propulsion machinery is operating under normal continuous cruise output, exclusive air reservoirs for control use, if fitted, are capable of supplying air for at least five minutes after operation of low pressure alarms for control air on the condition that the automatic starting functions of control air compressors is stopped.

(~~5~~4) In cases where exhaust gas economizers are used as sources of steam supply to turbines for

driving generators, the following are to be confirmed:

(a) While any main propulsion machinery is operating under normal continuous cruise outputs, additional heating for boilers and automatic starting for diesel engine driven generating sets are to be performed in cases where any handles of main propulsion machinery are rapidly put back into stop positions.

(b) When the main propulsion machinery is operated from a stopping position to a normal continuous cruise output expeditiously, no critical condition occurs to water separator drums, piping, steam turbines and so on.

2.3 Registration Maintenance Surveys

2.3.1 Special Surveys

Sub-paragraph -2(3) has been amended as follows.

2 During Special Surveys of monitoring and control systems for periodically unattended machinery spaces, the following are to be functionally tested and placed in order.

(1) Main propulsion machinery and controllable pitch propellers
  (a) Remote control changeover devices between the following control positions as well as any remote control systems located in these positions:
    i) Wheelhouses and centralized control stations, in cases where bridge control devices are installed
    ii) Wheelhouses and local control positions, or wheelhouses and sub-control stations, in cases where centralized monitoring and control systems for machinery are installed on the bridge
  (b) Safety devices

(2) Boilers
  (a) Automatic control systems and remote control systems
  (b) Safety devices

(3) Electric generating sets
  (a) Automatic control systems and remote control systems
  (b) Safety devices
  ~~(c) Automatic starting of standby power supply units after black-out~~
  ~~(d) Preferential trip systems~~

(4) Automatic changeover devices of essential pumps to their standby pumps, and automatic starting devices of air compressors

(5) Communication systems specified in **4.3.2**

(6) Alarm systems including their indicating devices and confirmation setting points

(7) Remote monitoring systems

EFFECTIVE DATE AND APPLICATION

1. The effective date of the amendments is 30 June 2014.

2. Notwithstanding the amendments to the Rules, the current requirements may apply to ships the keels of which were laid or which were at *a similar stage of construction* before 1 July 1998 which are not equipped with monitoring and control systems for periodically unattended machinery spaces.

(Note) The term "*a similar stage of construction*" means the stage at which the construction identifiable with a specific ship begins and the assembly of that ship has commenced comprising at least 50 *tonnes* or 1% of the estimated mass of all structural material, whichever is the less.

GUIDANCE FOR AUTOMATIC AND REMOTE CONTROL SYSTEMS

GUIDANCE

2014 AMENDMENT NO.1

Notice No.43 30th June 2014

Resolved by Technical Committee on 4th February 2014

Notice No.43 30th June 2014
AMENDMENT TO THE GUIDANCE FOR AUTOMATIC AND REMOTE CONTROL SYSTEMS

"Guidance for automatic and remote control systems" has been partly amended as follows:

Chapter 2 SURVEYS OF AUTOMATIC AND REMOTE CONTROL SYSTEMS

2.2 Registration Surveys

2.2.5 Sea Trials

Sub-paragraph -2(5) has been deleted.

2 Monitoring and control systems for periodically unattended machinery spaces

(1) The tests specified in **2.2.5-2(1) of the Rules** are to be carried out under the condition of unattended machinery operation for more than 4 *hours*. In addition, according to circumstances, the Surveyor may allow persons for safety purposes and persons in charge of measurements to enter machinery spaces.

(2) Regarding those test procedures specified in **2.2.5-2(2) of the Rules**, test procedures carried out using centralized monitoring and control systems for machinery installed on bridges or bridge control devices are, as standard practice, to be in accordance with those procedures shown in **Fig.2.2.5-1** (for diesel ships) or **Fig.2.2.5-2** (for steam turbine ships). In addition, make sure to confirm machinery conditions of steam turbine ships when transferring between harbour mode and ocean mode.

(3) In cases where two engines are coupled with one shaft, the following tests are to be carried out in addition to those tests specified in **2.2.5-2(2) of the Rules**.

(a) While both engines are running at their maximum output, one engine is to be stopped by adequate means such as the emergency stop button in order to verify the engine can be stopped in safe condition and no abnormal conditions occur on the other engine. Tests are to be carried out on both of engines.

(b) While one engine is running, the other engine is to be put into parallel running, if the propulsion systems are designed to be operated by such sequence.

(c) While two engines are running at 85% or more of their maximum output, the clutch attached to one engine for the controllable pitch propeller is to be released in order to verify no abnormal conditions occur on the other engine. Tests are to be carried out on both of two engines.

(4) Regarding those tests for controllable pitch propellers specified in **2.2.5-2(2) of the Rules**, those test procedures given in **(2)** above are to be applied.

~~(5) The tests specified in **2.2.5-2(3) of the Rules** are to be carried out while main propulsion machinery is operating at normal continuous cruise output. However, in cases where the main propulsion machinery is operating at outputs other than normal continuous cruise output, the tests specified in **2.2.5-2(3) of the Rules** may be carried out while main propulsion machinery is operating at said output on the condition that all active peripheral equipment are operating at outputs that are the same as the normal continuous cruise output of the main propulsion machinery.~~

EFFECTIVE DATE AND APPLICATION

1. The effective date of the amendments is 30 June 2014.

2. Notwithstanding the amendments to the Guidance, the current requirements may apply to ships the keels of which were laid or which were at *a similar stage of construction* before 1 July 1998 which are not equipped with monitoring and control systems for periodically unattended machinery spaces.

(Note) The term "*a similar stage of construction*" means the stage at which the construction identifiable with a specific ship begins and the assembly of that ship has commenced comprising at least 50 *tonnes* or 1% of the estimated mass of all structural material, whichever is the less.