



TECHNICAL CIRCULAR No. 062 of 13th June 2012

To:	All Surveyors/Auditor
Applicable to flag:	All Flags
Subject:	Annual Automation Surveys
Reference:	CLASS – MACHINERY SURVEY

ANNUAL AUTOMATION SURVEYS

For many years an automatic or remote control and monitoring system has been adopted in ship's steering gear system, which will be a good example of Shipboard Automatic or Remote Control and Monitoring Systems in all.

When a ship is navigating in open sea, the steering wheel (helm) turns automatically without assistance from the quarter master on duty to bring the ship around and head in the given course. Any deviation from the given course is detected by the gyro compass, which in turn orders the auto pilot to make the necessary rudder movement. The movement of the helm is transmitted electro-hydraulically to a servo motor, located close to steering machinery, which hydraulically actuates the rudder control mechanism.

Once the rudder moves to the desired rudder angle, the feedback system gives the order to stop rudder movement; thus, the ship will head in the given course. The rudder angle is always indicated in the wheel house, and if there should be any abnormal condition, the appropriate alarms are activated.

The important factors of automation are reliable sensors, indicators, function actuators, system machinery, and the monitoring and recording system. Sensors and indicators are provided for pressure, temperature, revolutions, direction of rotation, level, etc., by various means such as pneumatic, hydraulic, electrical and/or electronic systems.

Function actuators are powered hydraulically, electrically, pneumatically, or a combination of these systems. Smooth moving of the function actuators is important.

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Alarm system is provided to safeguard the system, and to preclude fatal damage to the machinery system.

REFERENCES:

CLASS – MACHINERY SURVEY

ATTACHMENTS: No.

Kindest Regards,
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