



Technical Circular

No.: 016/2014

Date: 21st July 2014

To Whomsoever it may concern

Subject: Machinery Surveys by Chief Engineer.

This is to bring to your notice the conditions under which class rule permits survey of machineries by ship's Chief Engineer.

(A) Survey of machineries by Chief Engineers permitted as per class rule subject to certain conditions:

Rules & Regulations for Construction and Classification of steel ships, Part 1 Ch.2 Section 1.4 permits Continuous Survey of few machinery items to be carried out under the supervision of the Chief Engineer of the ship subject to following conditions:-

- (i) Owner has informed in writing to IRS Head Office about his wish to make use of this type of survey by the Chief Engineer.
- (ii) Survey of machinery/equipment by the Chief Engineer is not allowed where the Machinery/Equipment is known to have sustained any kind of damage and/or it is known to have undergone any type of temporary repair.
- (iii) Record of examination of machinery items which can be examined by Chief Engineer as detailed below are maintained. Record relate to findings, parts replaced/renewed, documentation to prove authenticity of parts/components used, records of calibration/measurement recorded along with photographs as appropriate.
- (iv) The machinery/equipment examined by Chief Engineer is offered for a confirmatory survey at the next port of call or at the earliest opportunity.

Machinery Items acceptable for Survey by Chief Engineer are as follows:

- Main engine cylinder covers.
- Main engine valves and valve gears.
- Main engine cylinder liners.
- Main engine pistons and piston rods.
- Main engine fuel injection pumps and fuel booster pumps.
- M.E. Scavenge pumps, blowers and air coolers.
- Main engine detuners, dampers and balancer units.

- Main engine camshaft and camshaft drive.
- M.E. driven pumps, e.g. bilge, lubricating oil, cooling water.
- Independently driven pumps and associated motors and cables where insulation resistance readings are supplied e.g. fresh water cooling, lubricating oil, oil fuel transfer.
- M.E. fresh water and lubricating oil coolers.
- Low pressure (less than 6,9 bar (7 kgf/cm²)) heaters used in fuel oil systems of internal combustion engines.
- Main and auxiliary condensers/drain coolers.
- Air compressors including their safety devices.
- Windlass and windlass machinery.
- Forced or induced draught fans.
- Auxiliary oil and steam engines including their coolers and pumps (provided the number of generating sets is such that all services essential to the propulsion and safety of the ship, also the preservation of refrigerated cargo, can be supplied when any two sets are not working. One of these sets can be overhauled while the other remains as "stand-by").

(B) Survey of machineries by Chief Engineer under Planned Maintenance System:

Survey by Chief Engineer is also permitted under Planned Maintenance System (PMS) as provided in Rules & Regulations for Construction and Classification of steel ships, Part 1 Ch.2 Section 14. The survey system under PMS is to be approved by IRCLASS prior being implemented. Under this program part of the machinery items are allowed to be carried out by the Chief Engineer on board. During the annual classification survey, audit of the planned maintenance system is carried out and based on satisfactory audit, items examined by Chief Engineer are accepted.

Under PMS following machineries are permitted to be surveyed by Chief Engineer.

- Main engine valves and valve gears.
- Main engine cylinder liners.
- Main engine pistons and piston rods.
- Main engine connecting rods, crossheads top end bearings, guides, gudgeon pins and bushes.
- Main engine crankshafts and bearings (multiple engine installations only).
- Main engine fuel injection pumps and fuel booster pumps.
- M.E. Scavenge pumps, blowers and air coolers.
- Main engine detuners, dampers and balancer units.
- Main engine camshaft and camshaft drive.
- Main propulsion steam turbines (casing, rotor and blading) at alternate surveys provided the monitoring is provided and vibration measurements and full power trials are carried out at the time of the survey in the presence of a Surveyor.
- M.E. driven pumps, e.g. bilge, lubricating oil, cooling water.

- Independently driven pumps and associated motors and cables where insulation resistance readings are supplied e.g. bilge, ballast, fresh water cooling, sea water cooling, lubricating oil, oil fuel transfer.
- M.E. fresh water and lubricating oil coolers.
- Low pressure heaters used in fuel oil systems of internal combustion engines.
- Main and auxiliary condensers/drain coolers.
- Air compressors including their safety devices.
- Windlass and windlass machinery.
- Forced or induced draught fans.
- Auxiliary oil and steam engines including their coolers and pumps (provided the number of generating sets is such that all services essential to the propulsion and safety of the ship, also the preservation of refrigerated cargo, can be supplied when any two sets are not working. One of these sets can be overhauled while the other remains as "stand-by").
- Intermediate shafts.
- Main engine thrust bearing.

Ships fitted with Approved Inert Gas Systems

- Scrubber units
- Blowers
- Independent gas generators.

Owners/managers desirous of availing surveys as in section (A) or section (B) above may contact H.O. classification department at following address:

**Classification Department
 Indian Register of Shipping,
 52A Adi Shankaracharya Marg,
 Opp. Powai Lake, Powai,
 Mumbai- 400 072, India
 Email:classification@irclass.org**

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