

Condition Based Maintenance Scheme for Machinery

Amended Rules and Guidance

Rules for the Survey and Construction of Steel Ships Part B

Guidance for the Survey and Construction of Steel Ships Part B

Reasons for Amendment

Continuous Machinery Survey (CMS) is an approach considered to be acceptable way to satisfy relevant requirements related to machinery surveys. CMS essentially consists of open-up examination conducted at intervals not exceeding five (5) years that are, in principle, to be carried out in the presence of a Society surveyor for all relevant equipment. As an alternative to CMS, a ship management company may adopt Planned Machinery Maintenance Scheme (PMS), which is based on open-up inspections conducted independently by the ship management company and do not require the presence of a Society surveyor. IACS adopted requirements related to PMS as Unified Requirement (UR) Z20 in May 2001 and relevant requirements have already been incorporated into the ClassNK Rules.

In addition to requirements related to the management of the intervals between open-up inspections, etc. to be carried out as part of a PMS, UR Z20 also specifies that condition monitoring maintenance method may be adopted for relevant equipment in which the running condition of the equipment is continuously monitored and necessary maintenances such as open-up inspections are carried out whenever any abnormalities are detected. With respect to the condition monitoring maintenance method, IACS recently reviewed requirements related to it so as to take into account recently developed new technologies (e.g. sensing, data processing, remote diagnosis) since requests that their usage being allowed for condition monitoring maintenance are expected to rapidly increase in the relatively near future.

Therefore, in order to make existing technologies and new technologies easier to be used in condition monitoring maintenance, IACS separated the requirements related to the condition monitoring maintenance method from UR Z20 and adopted them as new UR Z27 in July 2018. In UR Z27, procedures and equipment used for condition monitoring are required to be approved in accordance with the rules of each classification society.

Accordingly, relevant requirements were amended in accordance with UR Z27.

In addition, the Society further revised its Rules in order to reflect requests from relevant industries. Based upon this, relevant requirements specifying that only either CMS or PMS approach be adopted and exclusively applied to all survey items subject to the planned machinery surveys were revised to make it permissible to select CMS, PMS or condition monitoring maintenance respectively for individual survey items.

Outline of Amendment

- (1) Separated the requirements related to the condition monitoring maintenance method from those related to PMS and specifies these new requirements as Condition Based Maintenance Scheme (CBM) in accordance with UR Z27.
- (2) Amended the requirements so as to allow shipowners to choose which survey scheme

(i.e. CMS, PMS, or CBM) is to applied to each survey item.

Amended Requirements

Rules for the Survey and Construction of Steel Ships

Part B: 1.1.2, 1.1.3, Chapter 9

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Part B: Chapter B9, Annex B9.1.3-4