

Environmental Tests for Automatic Equipment

Amended Guidance

Guidance for the Approval and Type Approval of Materials and Equipment for Marine Use

Reason for Amendment

IACS Unified Requirement (UR) E10 specifies method for environmental tests to be carried out for automatic equipment such as monitoring alarm systems, etc. These requirements have already been incorporated into the ClassNK Rules.

In recent years, the use of electronically controlled diesel engines has become more widespread because they allow for more efficient use of fuel and lower environmental costs. Unlike their conventional counterparts, electronically controlled diesel engines do use automatic equipment instead of camshafts for control. Such equipment, however, was not originally intended for use with marine diesel engines, and thus is subject to vibration and temperature conditions which are more severe than originally expected. With the above in mind, IACS conducted a review of the test conditions for vibration tests and dry heat tests in order to reflect the condition of actual use more accurately.

As a result of this review, IACS specified that automatic equipment subjected to severe environment conditions are to be tested under conditions equivalent to those environment conditions. In addition, IACS also reviewed other test methods and clarified certain test conditions in reference to relevant international standards such as IEC standards, etc. These revisions were adopted as UR E10(Rev.6) in October 2014.

Accordingly, relevant requirements were amended in accordance with IACS UR E10(Rev.6).

Outline of Amendment

- (1) Amended the test conditions for dry heat tests to specify that testing is to be carried out at an agreed test temperature and test duration for the equipment which is specified for more severe temperature conditions.
- (2) Amended the test conditions for vibration tests to specify that testing is to be carried out at an agreed vibration level, frequency range and test duration for the equipment which is specified for more severe vibration levels.
- (3) Added testing condition and methods for certain types of environmental tests such as damp heat tests.