

Survey of Secondary Barriers for Membrane Containment Systems

Amended Rules and Guidance

Rules for the Survey and Construction of Steel Ships Part B

Guidance for the Survey and Construction of Steel Ships Parts B and N

Reason for Amendment

IACS Unified Requirement (UR) Z16, which is related to periodical surveys of cargo installations on ships carrying liquefied gases in bulk, specifies that it is to be verified during a Special Surveys that the secondary barriers of membrane containment systems keep a specific level of tightness required in the system design. Moreover, IACS UR Z16 also specifies that for membrane containment systems with glued secondary barriers, the results obtained during the aforementioned Special Surveys are to be compared with the results obtained during either previous Special Surveys or surveys at the newbuilding stage and if significant differences are observed, additional testing is to be carried out as necessary.

Differencing interpretations of the meaning of “significant differences” among IACS members caused the application of UR Z16 to be inconsistent. This led IACS to review the UR and discuss ways to achieve a more uniform and consistent application, and, as a result, UR Z16(Rev.4) was adopted in October 2013. The revised UR specified that the acceptance criteria mentioned in programs approved in advance by classification societies were to be satisfied. Moreover, for membrane containment systems with glued secondary barriers, it also specified that evaluations are to be based upon acceptance criteria approved in advance, and not verification result comparisons. Furthermore, IACS also conducted a similar review of Unified Interpretation (UI) GC12, which is related to the secondary barrier testing requirements for membrane containment systems during construction, and adopted UI GC12(Rev.1) in October 2013 as a result.

Accordingly, relevant requirements were amended in accordance with both UR Z16(Rev.4) and UI GC12(Rev.1).

Outline of Amendment

- (1) Specified that surveys for secondary barriers of membrane containment systems are to be carried out in accordance with acceptance criteria approved in advance by the Society.
- (2) Specified that additional testing such as thermographic or acoustic emissions testing is to be carried out if the verification results for cargo containment systems with glued secondary barriers do not satisfy approved acceptance criteria.