

# **Electrical Installations in Hazardous Areas**

## **Amended Rules**

Rules for the Survey and Construction of Steel Ships Part H

## **Reason for Amendment**

The ClassNK Rules specify, in reference to IEC 60092-502, that ships, such as tankers, carrying cargoes which have a high fire risk are to categorize their hazardous areas as Zone 0, Zone 1 or Zone 2 according to the degree of hazard. In addition, such ships are also to specify safety requirements related to the electrical equipment installed in such areas. More specifically, it is specified that electrical circuits in Zone 0, which is categorized as the highest degree of hazard among hazardous areas, are to be designed to automatically disconnect when abnormally low levels of insulation resistance or high levels of leakage current are detected in order to prevent fires, explosions, etc.

IEC 60092-502, however, further specifies that the monitoring of the levels of insulation resistance of electrical circuits in Zone 0 hazardous areas is acceptable as a protective measure if such monitoring occurs before circuits are energized and makes it possible to prevent the circuits from being energized when abnormalities are detected. This alternative means of protection is not specified in the ClassNK Rules.

Accordingly, relevant rules were amended to permit the adoption of such protective measures.

## **Outline of Amendment**

Amend requirements related to the safety of electrical circuits in Zone 0 hazardous areas to specify that protective measures which prevent electrical circuits from being energized in the event of abnormal insulation resistance are an acceptable alternative to the automatic disconnection of such circuits.