GUIDANCE FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

Part N Ships Carrying Liquefied Gases in Bulk

Guidance for the Survey and Construction of Steel Ships
Part N 2008 AMENDMENT NO.1

Notice No.37 29th May 2008
Resolved by Technical Committee on 1st February 2008

ClassNK
NIPPON KAIJI KYOKAI

Notice No.37 29th May 2008
AMENDMENT TO THE GUIDANCE FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

"Guidance for the survey and construction of steel ships" has been partly amended as follows:

Part N SHIPS CARRYING LIQUEFIED GASES IN BULK

N4 CARGO CONTAINMENT

N4.10 Construction and Testing

Paragraph N4.10.12 has been added as follows.

N4.10.12 Inspection of Secondary Barrier

With respect to the requirements of **4.10.12, Part N of the Rules**, it is to be verified that secondary barriers keep a specific level of tightness required in the system design in accordance with an appropriate procedures. For cargo containment systems with glued secondary barriers, tests for verification of the tightness are to be carried out before and after initial cool down and related values obtained in the tests are to be recorded for the use as reference for periodical surveys. If significant differences in the results before and after cool down for each tank or between tanks or if other anomalies are observed, an investigation is to be carried out and additional testing in accordance with system designers' procedures such as differential pressure, thermographic or acoustic emissions testing is to be carried out as necessary.

N4.10.14 Gas-trial and Cargo Full Loading Test

Sub-paragraph -1(2) has been amended as follows.

1 In accordance with the requirements in **4.10.14** and **5.5.4, Part N of the Rules** the following tests **(1)** and **(2)** are to be conducted in the attendance of the Surveyor to verify the performance of the cargo containment installations and cargo handling equipment :

(1) Gas trial
On items given in **Table N4.10.14-1**, tests are to be conducted to verify the performance of the cargo containment system cargo handling equipment and instrumentation using a suitable quantity of the cargo after the completion of all the construction work. However, for cargo tanks with a design temperature of 0°C or more, omission of this test may be accepted if substitution is made by the operating test with the substituting medium to verify the requirements given in **Table N4.10.14-1** except for the case where the tank is of the first cargo tank manufactured by the manufacturer of cargo tanks.

(2) Cargo full loading test
On items given in **Table N4.10.14-2**, tests are to be conducted after completion of all the construction work to verify that the cargo containment installations, cargo handling equipment and instrumentation satisfy the design conditions under the fully loaded condition of cargo. However, for this test, the attendance of the Surveyor may be omitted for ships, other than those carrying liquefied methane (*LNG*) in bulk, whose cargo containment and cargo transfer

installations can be regarded as of the same specification of those which have previously been built and tested at the same shipyard.

Table N4.10.14-2 has been amended as follows.

Table N4.10.14-2 Survey Items of Full Loading Test

	Survey items
1. At loading operation[1)]	・ Continuous loading rate ・ Proper operation of gas detection systems [4)] ・ ~~Actual~~ Proper operation of cargo control and monitoring systems such as level gauging equipment, temperature sensors, pressure ~~indicator, etc.~~ gauges, cargo pumps, compressors and cargo heat exchangers [4)] ~~・ Actual operation alarm system [1)]~~ ・ ~~Actual~~ Proper operation of over-flow control systems ~~1~~ [4)] ・ Proper operation of nitrogen generating plants or inert gas generators and pressure control systems for insulation, interbarrier and annular spaces [4)] ・ Proper operation of cofferdam heating systems, if fitted [4)] ・ Proper operation of reliquefaction plants, if fitted [4)] ・ Proper operation of equipment fitted for the burning of cargo vapours [4)] ・ On-deck cargo piping system ・ Topping off process for cargo tanks including proper operation of high level alarms
2. Condition of cargo tanks and other cargo containment systems after full loading	・ Cargo tanks and supports ・ Hull adjacent to cargo tanks (cold spot) ・ Insulation capacity of cargo tanks and supports (cold spot) ・ Atmosphere in hold spaces
3. During voyage[2)]	・ Insulation capacity of cargo tanks and supports (cold spot) ・ Cold spot on the construction adjacent to cargo tanks ・ Capacity of pressure/temperature indicator

4. At discharging operation[3)]	・ Emergency shutdown system testing prior to commencement of unloading ・ Discharging rate ・ Conditions of related installations such as those listed in 1. ・ On membrane vessels, verification that the readings of the cofferdam and inner hull temperature sensors are not below the allowable temperature for the selected grade of steel ・ On-deck cargo piping system ・ Other operation of discharging ・ Submission/Survey of related records such as cold spot examination records, cargo logs, operation logs of installations related to cargo operations and alarm reports ~~without~~ where no attendance during the cargo loaded voyage of 3.

Note:

1) Priority is to be given to latter stages of loading (approximately last 6 *hours*).

2) May be exempted from witness of the Surveyor

3) Priority is to be given to the commencement of unloading (approximately first 4-6 *hours*).

4) Overall inspection may be accepted where an installation are not in operation.

~~1~~5) In case where implementation is difficult, the verification of operation may be made by suitable other method.

EFFECTIVE DATE AND APPLICATION

1. The effective date of the amendments is 1 July 2008.

2. Notwithstanding the amendments to the Guidance, the current requirements may apply to the surveys for which the application is submitted to the Society before the effective date.