

Subject :

Inert Gas Systems complying with the requirements under the Amendments 1981 to SOLAS 1974 (for non-Japanese oil tankers)

NK TECHNICAL INFORMATION

No. 12

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To Shipowners and Shipyards concerned:

The Amendments 1981 to SOLAS 1974 (referred to as Amendments 1981, hereunder) was adopted at the Maritime Safety Committee at its forty-fifth session on 20th November 1981.

The Amendments 1981 will come into force on 1st September 1984 in accordance with the provisions of the convention, unless a certain number of the contracting governments have notified their objections to this amendments prior to 1st March 1984.

Although, in general, the requirements of the Amendments 1981 will apply to ships the keels of which are laid after 1st September 1984, the regulations of inert gas systems for oil tankers stipulated in Regulation 62 of Chapter II-2 will apply to the oil tankers the keels of which were laid prior to 1st September 1984 as shown in the attached sheets as well as to the oil tankers the keels of which will be laid after 1st September 1984 in accordance with the requirements of Regulation 60 of the same chapter.

Therefore, all ship owners of the relevant oil tankers are encouraged to take an appropriate action in advance on the inert gas systems for compliance with the requirements of the Amendments 1981 and, thereupon, for survey and certification by this Society.

The relevant exclusive local offices of this Society will conduct this survey and certification upon your request.

Regards



- Attachment -

Expected Dates when the regulations on inert gas systems of the Amendments 1981 apply to the oil tankers the keels of which are laid prior to 1st September 1984.

- a) All oil tankers operating after 1st September 1984
crude oil washing;
- b) Oil tankers not operating
crude oil washing;
 - i) Crude oil tankers and product* after 1st September 1984
carriers of 70,000 DWT and
upwards;
 - ii) Crude oil tankers and product* after 1st May 1985
carriers of less than 70,000 DWT
and not less than 40,000 DWT;
 - iii) Crude oil tankers less than after 1st May 1985
40,000 DWT and not less than
20,000 DWT**;
 - iv) Product* carriers less than after 1st May 1985
40,000 DWT and not less than
20,000 DWT provided with tank
washing machines having an
individual throughput of
greater than 60 m³/h;

N.B. * : The product means the petroleum products having a flashpoint not exceeding 60°C and a Reid vapour pressure which is below atmospheric pressure and other liquid products having a similar fire hazard.

** : For crude oil tankers of less than 40,000 DWT and not less than 20,000 DWT, the administrations may exempt such tankers from the requirements of the inert gas systems, if it would be unreasonable and impracticable to apply these requirements taking into account the tankers' design characteristics.

Requirements of the regulations of the inert gas systems in the Amendments 1981 considered additional to those of Chapter 18 in Part F of the Rules and Regulations of this Society

For your reference, the followings are the major items of the requirements which are considered additional to the requirements on the inert gas systems shown in Chapter 18 in Part F of the Rules and Regulations of this Society.

However, since the followings are not necessarily considered as comprehensive, the exact additional requirements should be carefully examined at each relevant tanker by each owner or shipyard concerned.

The head numbers of the followings correspond to those of the relevant paragraphs in Regulation 62 of Chapter II-2 of the Amendments 1981. The inert gas systems fitted on board such tankers before 1st June 1981 need not comply with the following paragraphs fitted with *.

5. Precautions should be taken to maintain the flue gas isolating valves gastight and keep the seatings clear of soot.

8.2* To permit safe maintenance, an additional water seal or other effective means of preventing flue gas leakage shall be fitted between the flue gas isolating valves and scrubber or incorporated in the gas entry to the scrubber.

10.2* The non-return devices for prevention of return of hydrocarbon vapour such as deck water seals and non-return valves should be located in the cargo tank area on deck.

10.3 The deck water seal should be capable of being supplied by two separate pumps each of which should be capable of maintaining an adequate supply at all times.

10.6 A water loop or other approved arrangement should be fitted to each associated water supply and drain pipe and each venting or pressure-sensing pipe leading to gas safe spaces of the deck water seal. Means should be provided to prevent such loops from being emptied by vacuum.

10.7* The deck water seal and all loop arrangements should be capable of preventing return of hydrocarbon vapours at a pressure equal to the test pressure of the cargo tanks.

10.8 The non-return valve fitted forward of the deck water seal should be provided with positive means of closure.

As an alternative to positive means of closure, an additional valve having such means of closure may be provided forward of the non-return valve.

10.9* The section between the gas regulating valve fitted at forwardmost position of gas safe space and the non-return devices should be permitted to be vented in a safe manner.

11.2.1 The stop valves fitted on the inert gas branch pipes should be provided with locking arrangements.

11.3* Means should be provided to protect cargo tanks against the effect of overpressure or vacuum caused by thermal variations when the cargo tanks are isolated from the inert gas mains.

11.5 Suitable arrangements should be provided to enable the inert gas main to be connected to an external supply of inert gas.

16.3.1 The pressure of the inert gas supply mains should be indicated in the navigation bridge as well as in the cargo control room.

16.3.2 The oxygen content of the inert gas at the discharge side of the blowers should be indicated in the machinery space as well as in the cargo control room.

- 10.6 A water loop or other approved arrangement should be fitted to each associated water supply and drain pipe and each venting or pressure-sensing pipe leading to gas safe spaces of the deck water seal. Means should be provided to prevent such loops from being emptied by vacuum.
- 10.7* The deck water seal and all loop arrangements should be capable of preventing return of hydrocarbon vapours at a pressure equal to the test pressure of the cargo tanks.
- 10.8 The non-return valve fitted forward of the deck water seal should be provided with positive means of closure.
As an alternative to positive means of closure, an additional valve having such means of closure may be provided forward of the non-return valve.
- 10.9* The section between the gas regulating valve fitted at forwardmost position of gas safe space and the non-return devices should be permitted to be vented in a safe manner.
- 11.2.1 The stop valves fitted on the inert gas branch pipes should be provided with locking arrangements.
- 11.3* Means should be provided to protect cargo tanks against the effect of overpressure or vacuum caused by thermal variations when the cargo tanks are isolated from the inert gas mains.
- 11.5 Suitable arrangements should be provided to enable the inert gas main to be connected to an external supply of inert gas.
- 16.3.1 The pressure of the inert gas supply mains should be indicated in the navigation bridge as well as in the cargo control room.
- 16.3.2 The oxygen content of the inert gas at the discharge side of the blowers should be indicated in the machinery space as well as in the cargo control room.

18. Suitable means should be provided for the zero and span calibration of both fixed and portable gas concentration measurement instruments.
- 19.1.4 An audible and visible alarm should be provided to indicate failure of the blowers.
- 19.1.9 An audible and visible alarm should be provided to indicate high gas pressure in the inert gas supply mains.
- 19.3 Automatic shut-down of the inert gas blowers and regulating valve should be arranged on predetermined limits in respect of the high water level in the scrubber and the high gas temperature at the discharge side of the blowers respectively.
- 19.4 Automatic shut-down of the gas regulating valve should be arranged in respect of the failure of the blowers.
- 19.8* An audible alarm system independent of the alarm to indicate the gas pressure less than 100 mm water gauge or automatic shut-down of cargo pumps should be provided to operate on predetermined limits of low gas pressure in the inert gas mains.
21. The detailed instruction manuals provided on board should, in addition, include guidance on procedures to be followed in the event of a fault or failure of the inert gas system.