

Subject

Pressure/Vacuum(PV) Valves manufactured by TANKTECH Co. installed on board Maltese flagged ships

ClassNK

Technical Information

No. TEC-0645
Date 21 December 2005

To whom it may concern

The Malta Maritime Authority issued Merchant Shipping Directorate (MSD) Notice No.70 that is based on the recommendations provided by EU Commission Opinion (2005/C 148/03) of 9 June 2005. The MSD Notice lays down interim safety measures with respect to Pressure/Vacuum (PV) Valves of the model NEW-ISO-HV-80 manufactured by TANKTECH Co. in the Republic of Korea.

The outline of the Notice is given below:

1. In cases where PV Valves of the model NEW-ISO-HV-80 which were manufactured before 1 January 2003 are fitted, such PV Valves are to be replaced with other approved ones.
2. In cases where PV Valves of the model NEW-ISO-HV-80 which were manufactured after 1 January 2003 are fitted, such PV Valves are to be examined in order to ascertain that the correct booster disc is fitted (i.e. correct diameter to be 155mm and not 150mm). If the booster disc diameter is found to be 150mm, then such PV Valves are to be replaced with other approved ones.

At the first periodical class survey (i.e. annual survey, intermediate survey or special survey) and flag change survey to the Malta Flag, ClassNK will conduct the above examinations in accordance with the instruction of the Malta Maritime Authority. You are kindly requested to render all necessary assistance to the attending surveyor.

For any questions about the above, please contact:

NIPPON KAIJI KYOKAI (ClassNK)
Survey Department, Administration Center, Head Office
Address: 4-7 Kioi-cho, Chiyoda-ku, Tokyo 102-8567, Japan
Tel.: +81-3-5226-2027 / 2028
Fax: +81-3-5226-2029
E-mail: svd@classnk.or.jp

Attachment:

1. Merchant Shipping Notice No.70
2. EU Commission Opinion

NOTES:

- ClassNK Technical Information is provided only for the purpose of supplying current information to its readers.
- ClassNK, its officers, employees and agents or sub-contractors do not warrant the accuracy of the information contained herein and are not liable for any loss, damage or expense sustained whatsoever by any person caused by use of or reliance on this information.
- Back numbers are available on ClassNK Internet Homepage (URL: www.classnk.or.jp).



TANKTECH Pressure Vacuum Valves

Merchant Shipping Notice No 70

*Notice to Shipowners, Ship Operators and Managers,
Owners' representatives and Masters, and Officers*

The Directorate wishes to draw the attention of all concerned to the European Commission Opinion of 9 June 2005, on interim measures taken by the government of Denmark in respect of high velocity pressure/vacuum relief valves model NEW-ISO-HV manufactured by TANKTECH Co. in the Republic of Korea.

2. The full text of the Commission Opinion can be downloaded from:
http://europa.eu.int/eur-lex/lex/LexUriServ/site/en/oi/2005/c_148/c_14820050618en00040007.pdf

3. All Recognised Organisations have been instructed to examine the Pressure/Vacuum (P/V) valves fitted on board all oil tankers, chemical tankers, oil carrying combination carriers and other ships carrying liquid bulk cargoes, flying the Malta flag, during the first scheduled survey, for the purpose of identifying and recording the make, model, size and date of manufacture of the valves.

4. P/V valves of the model NEW-ISO-HV-80 which were manufactured or to which the mark referred to in Article 11 of Directive 96/98/EC was affixed, or to which a Certificate of Equivalence was issued **before 1 January 2003** are to be removed and replaced with approved P/V valves.

5. Furthermore, P/V valves of the model NEW-ISO-HV-80 which were manufactured or to which the mark referred to in Article 11 of Directive 96/98/EC was affixed, or to which a Certificate of Equivalence was issued **after 1 January 2003** are to be examined in order to ascertain that these conform to the type. Where upon examination those valves are found not to conform to the type, they are to be removed and replaced with approved P/V valves.

6. Managers of ships flying the Malta flag are hereby requested to take immediate action in line with the above and in full consultation with the vessel's recognised organisation, in order to remove any potential threat to the safety of the ships equipped with this model of valves. Instances requiring replacement of P/V valves in terms of paragraph 5 herewith are to be immediately communicated to this Directorate providing full details thereof.

Merchant Shipping Directorate
Valletta

22 September 2005

COMMISSION OPINION

of 9 June 2005

on interim measures taken by the government of Denmark in respect of high velocity pressure/vacuum relief valves model NEW-ISO-HV manufactured by TANKTECH Co. in the Republic of Korea

(2005/C 148/03)

(Text with EEA relevance)

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Community,

Having regard to Council Directive 96/98/EC of 20 December 1996 on marine equipment⁽¹⁾, and in particular Article 13 thereof,

Whereas:

- (1) The applicable testing standards for devices to prevent the passage of flame into the cargo tanks in oil tankers (high velocity valves only) are laid down in circulars MSC 677 and MSC 1009 of the International Maritime Organisation, the latter referring to the international standard ISO 15364:2000.
- (2) By letter of 24 February 2004 the Danish Maritime Authority informed the Commission of interim measures taken by the Authority in respect of high velocity pressure/vacuum relief valves of the model NEW-ISO-HV (hereinafter, 'the valves') manufactured by TANKTECH Co. in the Republic of Korea (hereinafter, 'the manufacturer'), whereby any such valves installed on board ships flying the Danish flag were to be removed within a period to be specified, on the grounds of failure to comply with Article 5(1) and (2) of Directive 96/98/EC and on incorrect application of the testing standards referred to in Article 5(2) of the Directive. The letter from the Danish Maritime Authority by contained a warning regarding overpressure during loading of tanks equipped with this model of valves.
- (3) The letter from the Danish Maritime Authority was accompanied by a copy of an EC type-examination certificate issued on 4 March 2002 by the notified body Bureau Veritas, under reference number 11582/A1 EC, for high velocity vent and vacuum relief valves with flame screen of the models NEW-ISO-HV-65, NEW-ISO-HV-80, NEW-ISO-HV-100, NEW-ISO-HV-125, NEW-ISO-HV-150, NEW-ISO-HV-200, NEW-ISO-HV-250 and NEW-ISO-HV-300 of the following respective nominal sizes: 65A, 80A, 100A, 125A, 150A, 200A, 250A, 300A.
- (4) The Danish Maritime Authority had taken the above mentioned interim measures following reports from ships of considerable discrepancies between the actual tank pressure and that indicated in the manufacturer's product data and as a result of a subsequent detailed examination of valves which had been removed from a Danish tanker, later identified as M/T 'Orahope'. The valves from the Danish tanker were reported to bear the mark referred to in Article 11 of Directive 96/98/EC (hereinafter, 'the mark') and were later identified as being of the model NEW-ISO-HV-80.
- (5) The examination carried out on the said units on behalf of the Danish Maritime Authority reportedly showed a significantly higher pressure surge than that stated by the valve manufacturer. The Danish Maritime Authority considered the difference in the resulting tank pressure to be very large and, in view of the safety aspects involved, sufficient to warrant a prohibition of the use of these valves on board Danish ships.
- (6) Moreover, the Danish Maritime Authority had found upon examination of the valves that an operator couldn't determine whether the valve was in operational condition by means of the check-lift system, and that if a plastic distance piece were missing, it might cause the valve not to be self draining which couldn't be noticed by the operator.
- (7) The Danish Maritime Authority had required full testing documentation from the manufacturer. In its letter of 24 February 2004 to the Commission, the Danish Maritime Authority contended that insufficient documentation had been provided by the manufacturer to substantiate compliance with the applicable requirements, in particular as regards test records, product information, construction details and certification.
- (8) In its letter, the Danish Maritime Authority made no evaluation of potential shortcomings in the testing standards themselves, considering that the problems observed did not imply that the standards were insufficient.

(1) OJ L 46, 17.2.1997, p. 25. Directive as last amended by Directive 2002/84/EC of the European Parliament and of the Council (OJ L 324, 29.11.2002, p. 53).

- (9) Upon receipt of the letter from the Danish Maritime Authority the Commission entered into consultation with the Danish Maritime Authority, the manufacturer, the French Government as notifying Member State and the notified body having issued the EC type-examination certificate in question on the latter's behalf (hereinafter referred to collectively as 'the parties'). Documentation was also received by the Commission from the Danish manufacturers Pres-Vac Engineering A/S through the association named Danish Maritime.
- (10) Among the supplementary information provided by the Danish Maritime Authority during the procedure before the Commission were test reports on valves removed from ships following the interim measures. These tests related to valves of the models NEW-ISO-HV-80, NEW-ISO-HV-65 and NEW-ISO-HV-100 and confirmed the findings referred to in the letter of 24 February 2004 from the Danish Maritime Authority; furthermore the tests raised the issue of potential flashback which, if demonstrated, would imply a particularly serious risk to safety.
- (11) The reply of Bureau Veritas to the Commission's consultation included an item by item rebuttal of the points where the Danish Maritime Authority, in its letter of 24 February 2004, had found the valves not to be in conformity with the applicable requirements. The reply included documentation from the manufacturer comprising evidence of test records, flow records, calibration tests, an instruction manual clarification, a type-approval test report on flash-back and endurance burning tests.
- (12) This documentation is sufficient to verify whether or not the applicable requirements have been met and therefore complies with paragraph 7 of module B in Annex B of Directive 96/98/EC.
- (13) As regards the requirements concerning the check lift system assembly, the view expressed by the Danish Maritime Authority is that this should include all valve moving parts including the booster-disc. However, as the applicable standard refers only to verifying that the 'valve' lifts easily and not remaining in the open position, it must be considered within the notified body's latitude to consider that the valve as designed was in conformity with the requirements. It should also be noted that Bureau Veritas, with due consideration to the DMA interpretation, has encouraged the manufacturers to modify the check lift system, and it is understood that procedures are in hand to expedite modifications and update the EC-type examination certificate accordingly.
- (14) Furthermore, the instruction manual supplied for the NEW-ISO-HV series, including drawings in exploded form of the parts in order of opening up and reassembly, whilst basic in nature and content, is sufficient for a diligent operator to operate the valves safely, and it is well adapted to the level of expertise to be expected of staff overhauling the valves.
- (15) It should therefore be considered that the requirements of ISO 15364:2000 concerning certification and manual means of verification are complied with.
- (16) According to information supplied by Bureau Veritas, EC type-examination certificate number 11582/A1 EC had been issued, as regards model NEW-ISO-HV-80, for valves holding a nominal booster disc diameter of 155 mm in accordance with the prototype tested for such purpose.
- (17) On 15 October 2004, in response to an enquiry of the Italian authorities, Bureau Veritas acknowledged that the NEW-ISO-HV-80 valves produced until 27 November 2002 were fitted with a booster-disc of 150 mm diameter due to a mistake on the drawing. The valve with the 150 mm diameter booster-disc had been re-tested for flash-back and capacity and the manufacturers had decided to inform all the ship-owners concerned immediately with a view to replacement of the booster disc. The mistake, although discovered by the manufacturer and rectified as from 27 November 2002, had not been reported to Bureau Veritas at the time.
- (18) The valve of the model NEW-ISO-HV-80 with serial number ISO 20277101 which was removed from M/T 'Orahope', was in effect measured by Force Technology in Denmark to carry a booster disc of 150 mm. Likewise, the valve model NEW-ISO-HV-80 with serial number ISO 20528101, tested by Force Technology in Denmark at the request of Athenian Sea Carriers Ltd., was reported to carry a booster disc of 150 mm in diameter. As can be seen from the reported markings in these units' plates, the marks on these valves were affixed in 2002. In contrast, the valve of the model NEW-ISO-HV-80 with serial number ISO 1841203, which was removed from M/T 'Nord Africa' had been constructed with a booster disc of 156 mm in diameter as measured by Force Technology, falling within the tolerance relative to the type applied by the manufacturer, which should be considered reasonable; the mark of this valve was affixed in 2003.
- (19) It has thus been established that until at least 27 November 2002 the manufacturer placed on the market an indeterminate number of valves of the model NEW-ISO-HV-80 under EC type-examination certificate number 11582/A1 EC that failed to conform to the approved type, and that the mark was unlawfully affixed to these valves.

- (20) On 20 October 2004 Bureau Veritas informed the Commission that further tests had been conducted on 6 and 7 October 2004 by the Korean Institute of Machinery and Materials, which had been requested to investigate the influence of the booster disc diameter (150mm/155mm) on the flow curve, confirm the peak pressure rise (pressure surge), and confirm the flashback test results. The tests indicated that the valve with a 150 mm diameter booster disc had quite different peak pressure and flow characteristics than those displayed by a unit corresponding to the approved prototype under identical testing conditions.
- (21) Flow data must be presented in a true and correct way as they are used for structural/tank integrity purposes, pipe dimensioning, and to determine maximum loading and discharge rates for the ship. The manufacturer was fully aware since November 2002 that the flow data which had been supplied to and utilised by system designers in selection of the proper size valve, for the vessels fitted with non-standard valves, was in fact erroneous given that the flow data supplied related to the EC type-examination prototype test. The documentation provided to the Commission demonstrates that only after the communication of 15 October 2004 sent by Bureau Veritas to the Italian authorities and at the behest of the latter following the interim measures communicated by the Danish Maritime Authorities, did the manufacturer set out to identify the vessels equipped with the defective valves and undertake remedial action.
- (22) The remedial action reportedly consists in replacing the booster disc without further modification of the valve. No evidence has been provided to the Commission that the valves so repaired meet the applicable requirements in accordance with Article 5(1) of Directive 96/98/EC and allow safe operation of the ships concerned.
- (23) Test results and ship inspection reports provided to the Commission on the valves covered by the interim measures are largely contradictory. While there is a considerable amount of data that suggest that NEW-ISO-HV valves conforming to type might under certain conditions fail to meet the applicable requirements for flash back and deviate from the flow data furnished by the manufacturer, such data cannot be considered conclusive given the uncertainty on the circumstances of the tests, as regards *inter alia* the condition of the tested valves, which had been removed from ships, the testing facilities where the tests were carried out and the calibration of the instruments used.
- (24) Furthermore, these tests seem to have been carried out on different test rigs, due to different interpretations of the applicable standard ISO 15364, which refers to 'a recognized national or international standard'.
- (25) The 'recognized national or international standard' should be considered, for the purposes of Directive 96/98/EC, to be the standard EN 12874:2001, which lays down precise mounting conditions for the testing of the devices in question.
- (26) The mark is to be affixed at the end of the production phase and include the last two digits of the number of the year in which it is affixed.
- (27) Every reasonable effort must be made to remove any potential threat to the safety of the ships equipped with this model of valves,
- HAS ADOPTED THIS OPINION:
1. The interim measures notified by the Danish Government to the Commission by letter of 24 February 2004 in respect of valves of the model NEW-ISO-HV manufactured by TANKTECH Co. Ltd. are adequate and proportionate for the protection of maritime safety and therefore justified.
 2. The Commission recommends that the Member States ensure that valves of the model NEW-ISO-HV-80 to which the mark referred to in Article 11 of Directive 96/98/EC (hereinafter, 'the mark') has been affixed before 1 January 2003 are removed from their markets.
 3. The Commission recommends that, where the valves referred to in paragraph 2 are installed on board ships flying their flag, the Member States ensure that they are removed.
 4. The Commission furthermore recommends that the Member States ensure that all valves of the model NEW-ISO-HV-80 manufactured by TANKTECH Co. Ltd to which the mark has been affixed after 1 January 2003 and which have been installed on board ships flying their flag are examined as soon as possible in order to ascertain that they conform to the type. Where upon examination those valves are found not to conform to the type, the Commission recommends that they are removed and that the case is reported to the Commission and to the other Member States.

5. Where valves of the model NEW-ISO-HV-80 manufactured by TANKTECH Co. Ltd not bearing the mark have received a certificate of equivalence in accordance with Article 8(3) of Directive 96/98/EC, paragraphs 2 to 4 apply *mutatis mutandis*.
6. The Commission recommends that the parties carry out jointly within a reasonable time, which should normally not exceed six months, a new test on a representative sample of new valves of the model NEW-ISO-HV of all sizes at a mutually agreed laboratory in accordance with the applicable testing standards, including in particular European standard EN12874:2001, with the aim to determine whether or not the type meets the applicable minimum requirements under normal ship operating conditions. They should communicate the results to the Commission and to the Member States forthwith.
7. Pending the results of the tests referred to in the preceding paragraph, the Commission recommends that the Member States take all other precautionary measures they deem necessary in respect of valves of the model NEW-ISO-HV manufactured by TANKTECH Co. Ltd. installed on board the ships flying their flag.

Done at Brussels, 9 June 2005.

For the Commission
Jacques BARROT
Member of the Commission