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TO ALL MEMBERS

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Dear Sirs

Indonesia and the Philippines – Safe Carriage of Nickel Ore Cargoes

Introduction

As Members may be aware, in October and November 2010 three ships - 'Jian Fu Star', 'Nasco Diamond' and 'Hong Wei'- capsized and sank whist carrying nickel ore from Indonesia to China with the loss of 44 seafarers. The cause of the losses has not been conclusively resolved but nickel ore, like iron ore fines and many concentrates, is a cargo which may liquefy if the moisture content of the cargo exceeds the Transportable Moisture Limit (TML) when loaded. Liquefaction of such a cargo can result in the loss of stability which in turn can lead to a ship capsizing. It is therefore very possible that all three ships were lost as a result of cargo liquefaction.

There have been a number of other recent reports of cargoes of nickel ore loaded in both Indonesia and the Philippines liquefying and causing the loss of stability to the carrying ship but fortunately none resulted in the loss of the ship. In one such case the carrying ship grounded causing extensive hull damage. Currently nickel ore is only loaded in four locations in the Philippines: Santa Cruz (Luzon), Surigao and Tubay (Mindanao) and Rio Tuba (Palawan Island).

Liquefaction of some ore cargoes can be caused during a sea voyage, by the motion of the ship in the seaway or vibrations caused by the main engine or other on-board machinery.

The International Group informally raised its concerns about the loading and carriage of nickel ore from Indonesia and the Philippines with the Indonesian and Philippine delegations that attended the 88th session of the IMO Maritime Safety Committee (MSC) which was held between 24 November – 3 December 2010. Intercargo made an intervention at that session expressing its concerns with respect to the hazards and risks associated with the carriage of cargoes that can liquefy, such as nickel ore. In addition, Intercargo pointed out that some charterers and Masters had been put under extreme pressure to accept shippers' declarations and testing reports without having been permitted the opportunity of independently verifying such declarations and reports. The Marshall Islands supported Intercargo's intervention and the Indian delegation outlined the actions that the Indian authorities were taking to improve the safe carriage of iron ore fines cargoes loaded in India.

Specific Concerns Associated with the Loading and Carriage of Nickel Ore.

The loading and carriage of nickel ore cargoes from both Indonesia and the Philippines has given rise to the specific concerns set out below.

(a) Most mines are situated in remote locations and loading/port facilities are therefore non-existent or very limited and loading equipment and methods rudimentary. Cargo is stockpiled, uncovered, on the beach and consequently totally exposed to the prevailing weather conditions.

(b) The traditional practice has been to ship nickel ore cargoes in the dry season, between February – May/June, when rainfall in past years was negligible. However, in recent years the distinct demarcation between the wet and dry seasons has been substantially eroded and heavy rainfall is now experienced during the dry season. The stockpiles are therefore no longer protected by the more predictable weather patterns of past years.

(c) The mines are not easily accessible due to their remoteness and it is therefore difficult for independent surveyors/experts acting for the ship to attend the mines and take samples of the cargo to be loaded.

(d) There are few, if any, independent laboratories in Indonesia and the Philippines. The mines generally have their own laboratories but it is often not possible to determine whether the correct testing equipment is available and in a satisfactory condition or whether they are following the procedures laid down by the International Maritime Solid Bulk Cargoes Code (the IMSBC Code) when testing cargo samples. Such audits as it has been possible to carry out of mine equipment and testing and sampling procedures suggest not. Accordingly, the reliability of the information and documentation which the shipper is required to provide under the IMSBC Code (which became mandatory internationally on 1 January 2011), most notably the Transportable Moisture Limit (TML) certificate and the Flow Moisture Point (FMP), is questionable.

(e) The composition and physical properties of nickel ore vary considerably from location to location. Since the cargo is not homogenous it is difficult to accurately determine the TML and moisture content of the cargo as a whole. Frequently shippers will only provide one TML certificate for a cargo that has been drawn from a number of different sources and is not homogenous, which is contrary to the Code.

(f) Nickel laterite has a high clay content. Because of this, testing the FMP of a sample using the usual flow table method can be subjective and the results questionable. If the flow table method of testing is not suitable, section 1.1.1 of the Code provides that the procedures to be adopted should be those approved by the relevant authority of the Port State.

(g) Ships are invariably loaded whilst at anchor from barges or landing craft which have themselves been loaded from stockpiles situated on the beach. The cargo may well have been subject to rainfall after samples have been taken and tested, during transportation from the mine to the beach and while stockpiled on the beach. The IMSBC Code requires that the interval between testing for the moisture content and loading shall never be more than seven days but in many instances this period is not observed.

(h) There have been a number of reports of surveyors appointed on behalf of the ship to take cargo samples and conduct independent testing, being subject to extreme pressure by shippers to accept the results of the tests carried out by the mines. In certain instances the 'pressure' has been nothing short of physical intimidation.

International Maritime Solid Bulk Cargoes Code (IMSBC Code)

The IMSBC Code is issued under SOLAS 1974 and its Protocols. The IMSBC Code sets out the internationally agreed provisions for the safe stowage and shipment of solid bulk cargoes, including cargoes that may liquefy, such as nickel ore. Those cargoes not specifically listed are covered by section 1.3 of the IMSBC Code. The IMSBC Code became mandatory internationally on 1 January 2011.

Regulation VI/2 SOLAS 1974 requires the shipper to provide the Master or his representative with all relevant information relating to the cargo sufficiently in advance of loading to enable precautions which may be necessary for the proper stowage and safe carriage of the cargo to be put into effect.

Section 4 of the IMSBC Code sets out the obligations and responsibilities imposed on the shipper for providing information about the cargo.

Most importantly for cargoes that may liquefy (Group A cargoes), certificates should be provided evidencing the moisture content of the cargo at the time of shipment and the transportable moisture limit (TML). The TML is defined in the IMSBC Code as 90% of the Flow Moisture Point (FMP). The FMP can only be determined by laboratory analysis of cargo samples. Any cargo with a moisture content in excess of the TML should not be accepted for loading (unless on specially constructed or fitted ships). Nickel Ore does not have its own schedule in the IMSBC Code but should be regarded as being a Group A cargo.

(A) Master's Obligations

The Master or his representative should monitor the loading operation from start to finish. Loading should not be commenced until the Master or the ship's representative is in possession of all requisite cargo information in writing as described above.

The Master has an overriding authority under SOLAS not to load the cargo or to stop the loading of the cargo if he has any concerns that the condition of the cargo might affect the safety of the ship.

(B) Shipper's Obligations

(1) Cargo Information

The shipper must provide the Master or his representative in writing with all information and documentation required under the IMSBC Code in sufficient time before loading, to ensure that the cargo can be safely loaded onto, carried and discharged from the ship (section 4.2.1).

(2) Documentation

The documentation must include:

(a) a certificate/declaration certifying the moisture content of the cargo to be loaded in each of the ship's holds, together with a statement that to the best of the shipper's knowledge the moisture content is the average moisture content of the cargo. Where a cargo is to be loaded into more than one cargo space, the certificate or declaration of moisture content shall certify each type of material loaded into each space, unless following proper sampling and testing it is apparent that the different types are uniform throughout the whole consignment.

(b) a certificate certifying the TML of the cargo together with the FMP test result prepared by a competent laboratory.

The IMSBC Code requires that the interval between testing for the Flow Moisture Point (FMP) and loading be no more than 6 months for regular materials unless the production process is changed in any way and the interval between testing for the moisture content and loading shall never be more than 7 days. However with irregular materials, such as nickel ore, every shipment should be checked. Masters should be wary of moisture content certificates provided by the shipper's laboratory and moisture content percentages that are very close to the TML. If there is significant rainfall between the time of testing and the time of loading the shipper must conduct test checks (section 4.5.2) to ensure that the moisture content of the cargo is still less than its TML.

(3) Laboratories

The shipper must identify the laboratory used to conduct the tests on the cargo samples. However, as stated above, little reliance can be placed on the results of testing conducted by mine laboratories and samples should be the subject of independent testing by surveyors and experts appointed on behalf of the ship.

(4) Stockpiles

The shipper must identify the stockpiles from which the cargo is to be loaded and confirm in writing that the samples tested - and in respect of which certificates have been issued/declarations made - originated from those stockpiles.

(5) Barges

Where barges are used to transport cargo to the ship they must be capable of being individually identified by the master/ship/appointed surveyor.

Recommended precautions

1. Loading should not be commenced until the Master is in possession of all requisite cargo information and documentation/certificates that a shipper is obliged to provide under the IMSBC Code and any local regulations which do not conflict with the requirements of the IMSBC Code, and is satisfied that the cargo is safe to load and carry.

2. Following consultation with the Association, a surveyor should be appointed on behalf of the ship in advance of loading to assist the Master. However, it should be made clear to the competent authorities (which, in the Philippines, is likely to be the Bureau of Mines), shippers and charterers that the appointment of a surveyor by the ship is not intended to and does not relieve the shipper of his obligations under the IMSBC Code and any local regulations.

The terms of the surveyor's appointment should include the following:

(a) To assist the Master with compliance with his obligations under the IMSBC Code and any local regulations which do not conflict with the requirements of the IMSBC Code.

(b) To contact and liaise with shippers to identify the stockpiles from which the cargoes are to be shipped on the subject ship and to ensure that representative samples are correctly taken in accordance with sections 4.4 and 4.6 of the IMSBC Code.

(c) To take owners' own representative samples for testing in an independent competent laboratory which is likely to be located outside the country.

(d) To liaise with an independent expert to ensure that the laboratory conducts its tests in accordance with Appendix 2 of the IMSBC Code.

(e) To compare the shipper's certificates with owners' own test results for TML and moisture content. Masters should be wary of moisture content certificates provided by the mine laboratories and moisture content percentages that are very close to the TML. If there is significant rainfall between the time of testing and the time of loading the shipper must conduct test checks.

(f) To monitor the loading operation from start to finish, paying particular attention to the weather conditions and the presence of any moist cargo in the barges/landing craft.

(g) To stop loading if further moisture and/or can tests are conducted, as necessary, on any parts of the cargo presented for shipment (sections 4.5.2 and 8.4 of the IMSBC Code).

(h) To monitor the stockpiles and/or barges to ensure that the cargo presented for shipment is from the designated and tested stockpiles and/or barges. This will involve keeping a careful tally and identification of barges/landing craft offered for loading.

(i) To ensure loading is suspended during periods of rainfall.

(j) To carefully examine cargo offered for loading from barges/landing craft and, if in any doubt of the moisture content, conduct 'can' tests, particularly when rainfall has been experienced. The 'can' test is described in section 8 of the IMSBC Code as a spot check a Master can conduct if he is suspicious of the condition of the cargo, and is not meant to replace or supersede laboratory testing which is the responsibility of the shippers. Section 8 states that if the sample shows signs of liquefaction - i.e. flat surface with evidence of free moisture - arrangements should be made to have additional laboratory tests conducted on the material before it is accepted for loading. Nevertheless, cargo should never be accepted on the basis of the 'can' test alone as it is difficult to accurately interpret the behaviour of the sample in the can and accordingly its moisture content. The test may indicate if a cargo is unfit for shipment but cannot determine if a cargo is fit to be loaded – this can only be determined by laboratory testing.

3. If the Master or his appointed surveyor is presented with any document seeking confirmation that the cargo is safe to carry they should refuse to sign it. The obligation under the IMSBC Code is on the shipper to declare that the cargo is safe to carry and signing such a document could prejudice a Member's rights of recourse against a shipper in the event of a subsequent casualty.

4. Report any instance of commercial pressure exerted on or intimidation of the Master, surveyor or experts to the Association so that this may be taken up by the International Group with the Indonesian/Philippine authorities.

5. Members should consider how they might protect themselves contractually before agreeing to carry nickel ore cargoes, for example, by the use of an appropriate protective clause in the charterparty. Equally Members should not be pressurised into entering into charterparties which restrict their right to fully apply the provisions of the IMSBC Code, appoint independent surveyors of their choice or take and test cargo samples.

6. Members should refer to the Association any contractual and/or safe carriage concerns they may have relating to nickel ore cargoes loaded in Indonesia or the Philippines.

Consequences of a Member's failure to comply with the IMSBC Code

The risks of loss of life, damage to the environment and loss of property are only too apparent, but if a Member fails to comply with the IMSBC Code and/or local regulations which do not conflict with the requirements of the IMSBC Code, they should also be aware that they might be prejudicing Club cover.

Clubs in the International Group have issued a similar circular.

Yours faithfully
Tindall Riley (Britannia) Ltd
Managers

This circular should be placed in the Binder in Section 2. Cargo