

Notice on Potential Explosion Hazard with Refrigerated Shipping Containers

Relevant shipping companies:

Recently AMSA and IRI issued marine notices respectively to parties concerned regarding a potential explosion hazard involving refrigerated shipping containers. It is reported that 2 mechanics in Vietnam and another mechanic in Brazil died due to the explosion of the containers.

The containers, known as “reefers”, were originally processed in Vietnam. The cause of the explosion is suspected to be a faulty coolant. The containers have been contaminated with bad coolant, which can become explosive when exposed to air. Lloyds Register suggested in their safety alert 31/2011 the contamination may have arisen due to topping up of systems with different types of gas. However, the root cause hasn’t been identified so far. The Administrations will continue to seek further information on this situation and will endeavour to continue to provide advice to its stakeholders as further information comes to hand.

AMSA has been advised that owners have records that are being used to identify containers that may have been affected and recommend that where a refrigerated container is identified as potentially being affected it should not be plugged in and should be isolated from other containers. The container owner/operator and shipper or consignee should be notified immediately. Precautions should be put into place to prevent further explosion incidents from happening.

This Classification Information is published on CCS website (www.ccs.org.cn) and is to be forwarded by CCS branches to relevant shipyards, marine product manufacturers, designers and shipping companies in relevance to their business area.

Classed Ship in Service Department
China Classification Society

Annex

- 1: AMSA Marine Notice 15/2011
- 2: IRI Marine Safety Alert No.158-11



Marine Notice 15/2011

Possible Explosion Hazard with Refrigerated Shipping Containers

AMSA has become aware that there is the possibility that refrigeration units fitted to shipping containers re-gassed in Vietnam between March 2011 and June 2011 may have been filled with contaminated refrigerant gas.

The risk of explosion has also been identified by Lloyds Register in their safety alert 31/2011, where it has been suggested that the contamination may have arisen due to topping up of systems with different types of gas. In normal operation this situation should not create a hazardous situation while the refrigerant gas remains sealed within the pipe work and compressor system of the refrigeration unit of the container.

The possible risk associated with this contamination is being investigated by the owners and providers of refrigerated containers, who have advised that the contaminant appears to have the potential to ignite, on coming in contact with the oxygen in the atmosphere, causing an explosion. It is noted that incidents attributed to this situation have only occurred when the compressor unit has been running.

Investigations are ongoing by shipping lines and in Vietnam, however the scope of this issue has not finally been determined and a hazardous situation may arise where service or maintenance on a refrigeration unit is undertaken. Such work should only be undertaken by qualified refrigeration technicians using appropriate precautions. Given the current understanding of the nature of the hazard it is essential that procedures to capture refrigerant gas are complied with and that none of the gas is vented to the atmosphere.

While this issue is not solely related to the maritime industry, AMSA is continuing to seek further information on this situation and will endeavour to continue to provide advice to its stakeholders as further information comes to hand.

AMSA has been advised that owners have records that are being used to identify containers that may have been affected and recommend that where a refrigerated container is identified as potentially being affected it should not be plugged in and should be isolated from other containers. The container owner/operator and shipper or consignee (as appropriate) should be notified immediately. Reporting of incidents/accidents in accordance with all other legislative obligations is also required.

Mick Kinley
A/g Chief Executive Officer
November 2011

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MARINE SAFETY ADVISORY NO. 158-11

To: Regional Marine Safety Offices, Nautical Inspectors, Masters, Owners/Agents

Subject: OFPC SAFETY ALERT

Date: 11 November 2011

Please be advised that the Office of Fire Prevention and Control (OFPC) has issued a safety alert (attached) regarding a potential explosion hazard involving refrigerated shipping containers. Two instances of explosions have been reported and the cause of the explosions is suspected to be a faulty coolant, which could have been installed in up to 8,000 containers.



POTENTIAL EXPLOSION HAZARD INVOLVING REFRIGERATED SHIPPING CONTAINERS

U.S. ports are on the alert for refrigerated shipping containers that are reported to have exploded, resulting in the death of two mechanics in Vietnam and another mechanic in Brazil.

The containers, known as “reefers,” were originally processed in Vietnam. The cause of the explosions is suspected to be a faulty coolant, which could have been installed in up to 8,000 containers.

Precautions, such as flagging containers imported from Vietnam, are being taken to prevent explosions in the U.S. The Port of Oakland shut down two of nine terminals and port workers are reportedly refusing to work on containers processed in Vietnam.

Concerns, however, extend beyond the ports and to the general public. Reefers of this nature are often shipped out to other parts of the country by means of train or truck.

A representative from Maersk Line, the company whose containers blew up, has assured that new precautions have been put into place to prevent further explosion incidents from happening.

Maersk Line has removed all 844 reefer containers in its fleet that have undergone repairs in Vietnam since February.

“While we cannot state with total certainty that we have identified the root cause, we are confident that we have taken the necessary precautions to avoid further incidents,” said Soren Toft, head of center operations, inland terminals and equipment at Maersk.

Multiple international shipping agencies are conducting a comprehensive review of refrigerated containers processed at a Vietnam port, the Pacific Maritime Association said in a statement, after some units exploded, reportedly killing two mechanics in Vietnam and one in Brazil.

Besides the inherent risk for longshoremen -- who in Oakland, Calif., have even refused to move containers processed in Vietnam -- industry workers expressed concern for the general public once these faulty containers, known as “reefers,” are unloaded and shipped out on trucks and freight trains.

The station reported that authorities think the containers have been contaminated with bad coolant, which can become explosive when exposed to air.

The refrigeration units being segregated were processed at the Port of Kat Lai in Vietnam, the Pacific Maritime Association statement said. Any unit that was transported through Vietnam is being flagged upon arrival in at U.S. ports on the West Coast.

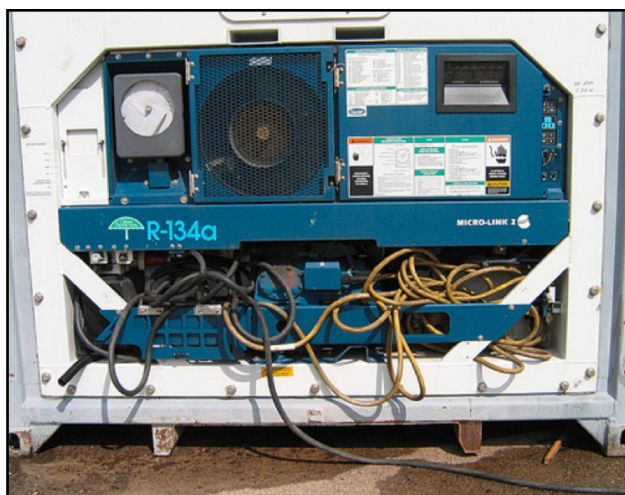
Chris O'Neil, a commander from the U.S. Coast Guard, said the guard is working with the shipping industry to identify containers in inventory that dates back months. He could not speculate how many containers went through Vietnam ports during that time.

The Port of Oakland shutdown two of its seven terminals Tuesday due to concern about several ocean vessels that had the potential to be carrying faulty containers, Robert Bernardo, a spokesman from the port said. The port was fully operating on Wednesday.

The Coast Guard said it is working closely with shippers and port officials around the nation to identify any potentially faulty containers, isolate them, and ensure they are rendered safe.

On Oct. 18, Maersk Line alerted the World Shipping Councils Safe Transport of Containers Working Group that refrigeration units have exploded in three instances for no apparent reason, The World Cargo News reported.

Source: <http://www.longshoreshippingnews.com/>
<http://www.foxnews.mobi/quickPage.html?page=38321&content=59823362&pageNum=-1>



Close-up of a typical refrigeration unit



40 foot "Reefer" shipping container

Analysis:

Somewhere between 11 million and 15 million containers enter this country every year. That's an average of about 35,000 every day. The suspect containers may not enter any ports in New York State; however, a significant number could be transported to or through NYS on trucks or by rail. Depending on the type of refrigeration and insulation, a "reefer" can keep the contents refrigerated or frozen for 10 to 30 days. It is conceivable that food items being shipped from the Pacific Rim could transit to or through NYS.



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