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Sent: Sunday, August 18, 2019 5:55 PM
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Subject: [dma] ALL FLEET VESSELS/ DA-11, Cargo Damage(Soya Bean Meal) due to excessive heating of Fuel Oil Tanks during transport at sea

Ref : DMA/AIFI/98/C 1044

Date: 18/08/2019

Dear Captain
Good Day,

Recently one of fleet vessels loaded Soya Bean Meal in bulk from “KANDLA” at West Coast of India in summer season. Discharging port was B.I.K (Iran) and length of voyage including anchorage stay was about 7 days. Four days after commencement of cargo discharge in B.I.K, it has found that cargo in two cargo holds, adjacent to fuel oil DB tanks was burnt out and discolored due to excessive heating up of the fuel oil tanks. Depth of spoiled cargo was about 30-50cm. Investigation revealed that in spite of advice of hold surveyor at loading port regarding high temperature of the fuel tanks ,the ship staff neglect to close steam to the fuel tanks.

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Cause of incident:

When the fuel oil is heated, the temperature of the tank plating rises and affects the adjacent cargo and possibly causing cargo deterioration. In the case of agricultural products which are liable to self-heat, any hot surface, even an un-insulated engine room bulkhead, may promote self-heating. Hot fuel oil in double bottom tanks has caused cargo damage. The cargo damage may extend several meters high. The holds affected are usually towards the stern where double bottom fuel tanks are typically situated.

The intensity of damage depends on the following reasons:

- I. Temperature of the fuel oil
- II. The length of time that the product has been exposed to hot tanks
- III. The properties of the commodity concerned

Recommendations to avoid similar incidents of overheating of cargo:

- 1) The engineers should be advised of the precise nature of the product and the proposed stowage plan well in advance of loading so that a suitable fuel oil management strategy can be adopted to minimize the risk of heat damage to the cargo.
- 2) The IMSBC Code schedule for the cargo should be consulted for any particular requirements regarding stowage in way of heated fuel tanks and engine room bulkheads which are not insulated.
- 3) Where possible, heated fuel tanks which do not border the cargo holds should be used.

- 4) If it is necessary to heat a fuel tank which is in direct contact with the cargo, the oil should be heated to the minimum extent necessary to allow safe transfer. Excessive heating of fuel oil and fuel residues should be avoided. Similarly, hot oil should not be transferred into fuel tanks bordering the cargo holds.
- 5) As far as practicable only the fuel tanks in use should be heated. In a recent case a double bottom tank containing fuel oil that was not being used was inadvertently heated to a high temperature for the entire voyage.
- 6) Fuel oil heating arrangements should be included in the vessel's planned maintenance system and undergo regular checks and tests

You are requested to confirm receipt, discuss the contents in the next consolidated meeting on board & keep a copy in the file DA-11 .

Best Regards,
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(Note: This e-mail has been sent as BCC <blind carbon copy to : All R.O.D.-SMC Vessels, to eliminate the lengthy list that would result if this e-mail is printed)