PREVENTION AT SEA

CIRCULAR 01/2019

"IS YOUR FUEL OIL IN ACCORDANCE WITH THE SULPHUR LIMITS?"

Don't Cure,
PREVENT

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Case#1: During a Port State Control (PSC) Inspection onboard a tanker vessel in Rotterdam and following the Laboratory analysis of a fuel sample taken by PSC inspectors, it was observed that the Sulphur content of the fuel burnt in the Main Engine was 0.135%. The results from the analysis of the settling and service tank samples showed 0.130% and 0.125% Sulphur content respectively.

This resulted in the vessel's detention by the PSC Inspector and an imposed fine of $50.000.

The PSC Officer also commented that the changeover procedure had not been ship specific.

The vessel's trading area covered several voyages in and out of Emission Control Areas (ECAs). Consequently, the vessel's crew was well versed with the required changeover process. In addition, the Company's QSMS clearly stated the need for pre-planning to ensure that on ECA entry the main and auxiliary engine fuel system only contained compliant fuel. This also applied for the settling and service tanks as well as all related pipelines.

What went wrong ?

- During the last bunkering operation the vessel bunkered two different grades of fuel oil. The fuel grade with the lowest sulphur content was loaded after the one with the higher sulphur content. The Flushing of the fuel oil piping system was not performed properly prior bunkering of the fuel oil with the lower Sulphur content.
- Even though there is an established procedure for the storage of different fuel oil types, it was not followed as the low Sulphur fuel oil was stored in the same tank where a high Sulphur fuel oil was previously stored.
- In view of the fact that the vessel in question was equipped with only one settling and service tank, the process for flushing the piping line required 36-48 hours. The vessel's crew did not calculate the time correctly (according to the FOBAS Calculator) and flushed the piping line in approximately 4 hours.

THE CHANGE-OVER PROCEDURE REQUIRES SIGNIFICANT ATTENTION FROM THE CREW IN TERMS OF OPERATION AS WELL AS EXTENSIVE PREPARATION ON BOARD THE SHIP

Vessels trading between areas with different Sulphur limitations need to have detailed change-over procedures readily available on board the ship. The crew needs to be well trained and aware of associated risks related to the change-over, otherwise they risk Engine Failure, Power Loss as well as Blackout.

Remember the following tips!

Since this case is a good example of what can happen, not only in an ECA but also when the global sulphur limit drops to 0.50% in 2020, **Prevention at Sea** would like to draw attention to the following:

- Proper bunker delivery records need to be kept and retained onboard for a period of three years. In case of discrepancies between the bunker delivery records and the laboratory results on the sulphur contents of the low sulphur fuel taken, this should immediately be followed by informing the bunker supplier of this discrepancy as well as the Port State Control which the ship will arrive at, the soonest possible.
- Samples of the fuel oil delivered should be sealed by the bunker supplier and ship's officer and kept until the fuel oil is substantially consumed;
- Make suitable arrangements for laboratory analysis of the fuel oil delivered;
- A written procedure for fuel oil change-over should be maintained and followed, allowing for sufficient time for the fuel oil service system to be fully flushed of all fuel oil exceeding 0.10% sulphur content, prior to entering a Sulphur Emission Control Area (SECA);
- The fuel oil change-over plan or records of change-over and fuel oil transfer activities need to be kept for reference for PSC Officers;
- Need to have a dedicated tank for low sulphur fuels, that is clean at all times and separated from other the fuel oil tanks in order to avoid possible contamination;
- In addition to cleaning tanks, all of the pipework in the fuel oil service system needs to be flushed, since it may be a further contamination hazard. Flushing the remaining pipework and fuel oil service system after all tanks have been cleaned could take another 1 to 2 days.
- A vessel with only one settling tank should consider stopping the purifier and draining any remaining oil to the overflow tank before refilling with 0.50% sulphur Heavy Fuel Oil. Ships with two settling tanks and two service tanks have greater flexibility as well as the option of cleaning tanks or draining, opening and inspecting before filling.
- If fuels of more than one sulphur grade are to be loaded through the same bunker hose/ line, it is recommended that the fuel grade with the lowest sulphur content be loaded first followed by other grades in ascending order of sulphur content;
- Using the provided FOBAS / LR Calculator, calculations of the lead time for change-over need to be carried out using the following parameters:
  - Settling tank volume – when change over starts (=dead level)
  - Service tank volume - when change over starts (=alarm low level)
  - System & piping volume - when change over starts (=approx. 1 m3)
  - Sulphur Content % of HSHFO in service tank (≤3.50 %)
  - Sulphur content % of LSMGO in the storage tank (≤0.10%)

2020 sulphur cap – What should I do?

Ship Implementation Plan

Under the new IMO guidance, the Ship Implementation Plan (SIP) for 2020 is suggested to cover various items, including but not limited to:

1. Risk Assessment and Mitigation Plan (impact of new fuels);
2. Fuel oil system modifications and tank cleaning (if needed);
3. Fuel oil capacity and segregation capability;
4. Procurement of compliant fuel;
5. Fuel Oil Changeover Plan (conventional residual fuel oils to 0.50% Sulphur compliant fuel oil);
6. Documentation and Reporting

Prevention at Sea's SIP ensures consistent implementation of the 0.5% sulphur limit

Don't Cure Prevent

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FOR MORE INFORMATION,
PLEASE DO NOT HESITATE TO CONTACT US.

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