

KISH P & I LOSS PREVENTION CIRCULAR KPI-LP-72-2013
(Accidents related to Fuel Leakage & Oil-soaked rag fire and Lessons to be Learnt)

► **Accident 1: Fuel leakage from main engine fuel pump:**

A product tanker was proceeding on a long voyage after the completion of dry-docking and associated surveys. During the ocean passage, the fire alarm was suddenly activated in the engine room. Instead of a fire, the cause of the alarm turned out to be a large leakage of fuel oil from a flange on the inlet pipe of the main engine no. 4 fuel injection pump.

**Result of investigation:*

- 1-The fuel system had been overhauled, but no senior ship's engineer supervised its refitting in dry-dock. As they did not have a new spare, the yard workers had reused the gasket of the flange connection on the suction side of the fuel injection pump even though it was damaged;
- 2-The insulation and leakage containment cover over the fuel line had not been renewed/refitted.

**Lessons learnt:*

- 1-Proper planning is necessary in dry-dock and during major repairs to ensure that responsible officers are delegated to supervise the refitting of critical components;
- 2-The condition, integrity and tightness of piping should be regularly checked, especially on critical equipment and fuel oil systems;
- 3-The vessel must ensure that adequate quantities of original spare parts are available at all times, and that all gaskets are renewed whenever pipelines are opened up and reconnected;
- 4-Wherever appropriate, lagging and containment covering must always be refitted, or renewed, if damaged;
- 5-All defective parts discovered after an incident must be carefully preserved to allow detailed investigations and to establish the underlying cause(s) so that effective corrective and preventative actions can be taken.



Fuel oil leakage at camshaft side



Fuel oil leakage on fuel pump side



Reused torn gasket that caused the leak at the flange connection



Corrective action implemented – fuel inlet pipe re-connected with new gasket and covered with insulation and containment covering

► **Accident 2: Oil-soaked rag caused fire on deck:**

Arriving at a river port after a short coastal passage, a container feeder vessel was transiting upriver under daytime pilotage, when the bridge team suddenly observed thick black smoke rising from forward. The fire alarm was activated and speed was reduced while the emergency team proceeded to the location, with two crewmembers wearing breathing apparatus. The fire was seen to be on a pile of rags and cotton waste and it was quickly extinguished with fire hoses.

**Result of investigation:*

Earlier during the voyage, linseed oil had leaked from a container that had been discharged at the previous port, after which the deck crew had mopped up the oil from the deck. It was intended to land the oil soaked material at the next port, so the crew had collected and stowed it on deck overnight on a rubber mat abaft the forward wave-breaker. The rags spontaneously heated to above the self-ignition temperature of the vegetable oil. The resulting fire caused substantial burn damage to adjacent electrical fittings and paintwork on the deck, vertical surfaces of the bulkhead and a ventilator cowl.



Fire damage to paint and fittings on wavebreaker and deck

(The information extracted from MARS of Nautical Institute)