



Marine Safety Forum – Safety Flash 15-10

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Subject: Fire in Engine Room

A fire broke out in the engine room onboard a PSV when she was on passage to an offshore location. The vessel was manned by 14 crew, fortunately there were **no** personal injuries sustained throughout this incident. The fire was extinguished with the fixed water sprinkler system with assistance from the crew. However, this resulted in a complete loss of propulsion for a long period before the vessels' crew was able to start a diesel generator which provided limited power, propulsion and she then returned to port under escort.

The root cause for the incident was a burst low-pressure flexible fuel hose located on top of and at the forward end of the diesel generator (see pictures). This is the auxiliary fuel filter hose and is pressurised (<6bar) when not in use. The system is to be used when the main engine fuel filter needs to be changed during operations whereby the generator cannot not be stopped. The fuel sprayed over the generator flowed underneath the manifold shield and settled on the manifold where due to heat, fuel vapour was created and then ignited. Additionally, the spread of the fire was increased due to various items stowed on the deck grating directly above the engine (see picture).

Findings:

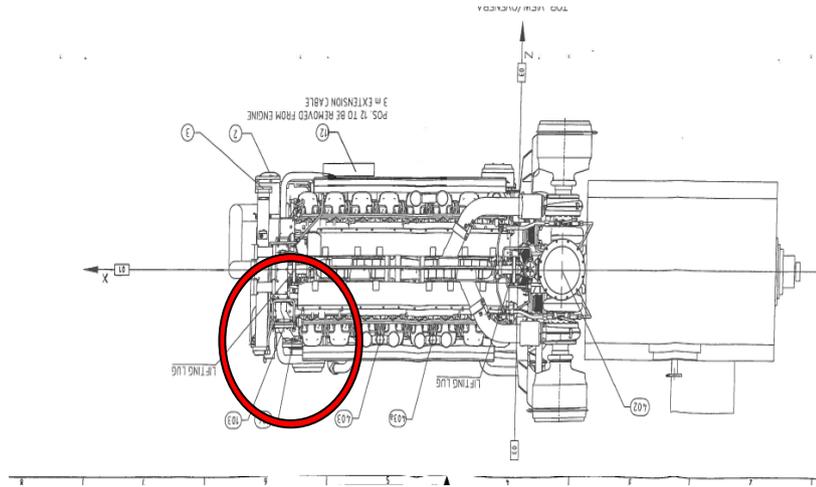
During the pre-delivery sea trials of the vessel, rigid air ducting was installed directly above the fuel filter hose. When the hose was pressurised the ducting caused an excessive bend and rubbing which created a weak point. This potential hazard was not detected by many interested parties over a considerable period of time, i.e. standard watch-keeping duties, on-hire inspections, port state control, manufacturer's service visits and class inspection / approval visits etc.

Actions:

There are numerous actions following the investigation the main ones are:

- Fleet experience transfer issued immediately following incident to check ALL hoses for condition and replace accordingly.
- Fleet experience transfer issued regarding the stowing of items above machinery.
- PMS to include guidance from IMO, P&I, SOLAS with regard to engine room fire prevention measures.
- Incident to be rolled out across the fleet as part of the monthly safety campaigns.
- Review the robustness of the inspection / examination process during planned maintenance.
- Liaise with manufacturers on engine design, manifold protection and "hot spot" arrangements.

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Exhaust manifold shield



Probable path of fuel underneath shield



Fire damaged items on grating



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