

Near-miss: Fire hazard from leaking fuel supply line

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A potential fire hazard was discovered, caused by a failed fuel pipe connection on the supply line to the main engines.

What happened?

The Chief Engineer was called to engine room with a report of a leak on a low pressure fuel supply line supplying both main engines. Upon arriving in the engine room and assessing the situation, a temporary repair was effected, due to being unable to isolate the pipe. Self-amalgamating tape was used to reduce the leak to a weep and then fibre-glass resin and bandage was applied, to try and seal the weep.

At the time, both main engines were running with the starboard engine on load, although the port propeller was declutched. Three auxiliary engines and all the thrusters were on load.

IOGP Life Saving Rules:



Energy isolation



Bypassing safety controls



temporary repairs to the pipe



What were the causes of the incident?

The **immediate cause** was found to be a failed weld on a T-piece of the pipe.

The **root cause** is believed to be the age of the pipe, an original fit from the vessel's construction, incurring natural degradation over time.

Actions taken and lessons learned

- The leak was discovered early as a result of due diligence and good watchkeeping, which allowed for a controlled temporary repair.
- The vessel notified shore management as soon as possible after the incident, providing detailed Incident reports, supporting information and photographs.
- Vibration, owing to the proximity of the main engines, is going to be an issue with equipment of this sort. Engineers should maintain awareness of equipment shortcomings and manufacturing design weaknesses.
- As such failures cannot always be predicted and vessels should always carry appropriate pipe repair solutions such as plastic steel, fibre glass resin, pipe repair clamps etc.

In this case, a trend in the failure of fuel supply piping was noticed; this was the 4th failure within 4 months.

Members may wish to refer to the following incidents:

- Cracked fuel line results in an engine fire

- Fatal engine room fire on suction dredger Arco Avon [*cause of death: the third engineer was attempting to repair a failed fuel pipe when fuel, under pressure in the pipe, ignited*]
- Near miss: Fire hazard arising from failed fuel pipe connection

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