

Step Change Safety Alert Template



Alert Title

Unintended Hydrocarbon Release of Lube Oil resulting in fire in fire in Pump Room

Incident Date

09/07/2013.

Location Type

Fixed Platform.

Specific Equipment Involved

Paxman V12 diesel fire pump engine Rocker gear casting sheared.

Description of What Happened

At 0800hrs on 9th July the fire pump online was swapped from number 1 to number 3. The operator performed the necessary pre start checks prior to starting fire pump 3.
Between 0820hrs and 0830hrs a Mechanical Technician performed a visual running check on fire pump number 3. He noticed nothing unusual i.e. no evidence of fire, smoke or damage.
At approx 0910hrs a smoke head alarmed in the control room indicating smoke in one of the fire pump rooms. (They are in a single loop so it was unclear at this stage which fire pump room the smoke head was in.)
An operator was dispatched to investigate and upon arrival in the area he noted smoke emitting from the door of fire pump room 3. He reported it to the control room and immediately isolated the fuel supply emergency shut off valve.
At this point a 2nd smoke detector came in and initiated the GPA automatically.
The Emergency Response Team (ERT) were mobilised to the scene and upon entering fire pump room 3 reported a small fire above the telephone hood at a light fitting.
The ERT quickly extinguished the small fire with 2 long bursts on a dry powder extinguisher
The ERT withdrew from the pump room and jammed open the doors to allow the smoke and dry powder to dissipate
Upon re-entering the light fitting was found to be melted at the battery end so the power was isolated. At this point it was observed that 2 small candle like flames in oil pools were on the side of the fire pump. Both were extinguished by blowing them out.
Area was made safe and personnel returned to duties.

Cause of Incident

Following strip down and close inspection, the rocker gear casting was found to have completely sheared causing the injector retaining arm securing bolt to unfasten.
This in turn allowed the injector and fuel line to become partially ejected from head striking the underside of the rocker cover, causing the rocker cover securing stud to shear resulting in the rocker cover parting from the rocker box.
The result was hot lube oil spraying over the hot exhaust manifold and 2 adjacent light fittings.
The likely ignition source is the exhaust manifold due to its high temperature.

Incident Consequences

The incident resulted in a hydrocarbon release (2litres), a small fire and damage to the fire pump taking it out of service.

Lessons Learned

The need to carry out immediate inspection on all similar components for failure potential.

Recommendations/Actions

Take action to ensure your asset is not susceptible from this type of failure
Follow up on service vendor recommendation to remove all rocker gear castings for NDT inspection and certification.

Contact Details (Optional)

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