Step Change Safety Alert Template

Alert Title

Fire on Hedemora Diesel Engine

What leaked and where from? E.g.: "Lube oil leak from compressor system open vent"

Incident Date

4th April 2013

The date on which the incident occurred, not when this form was completed

Location Type

Semi-submersible Production Unit

E.g. Floating/Fixed Production, Drill Rig, Vessel, etc.

Specific Equipment Involved

Hedemora diesel engine.

Give as much detail as possible about the equipment involved

Description of What Happened

Operations were planned to bring on Well WD P02 that would require the MOL pump and a standby diesel generator to be run. The CRO applied pre-authorised smoke detector inhibits to prevent activation by exhaust fumes from the diesel engine. Operations were ongoing when an alarm sounded indicating a fault on the Hedemora diesel engine. As the Operator entered the engine room to investigate he could see flames coming from one of the cylinder heads. The Operator manually initiated a GPA and being an ERT member was able to tackle the fire with a CO^2 extinguisher.

Be as detailed as possible. Give equipment history and approximate time(s) of actions/occurrences related to the incident

Cause of Incident

- **Mechanical Failure** - grub screw worked loose creating leak path for diesel fuel.
- **Failure related to Design –** grub screw was able to back off even when Loctite was applied.
- **Procedural –** potential for fuel to be ejected on to adjacent hot surfaces had not been identified by risk assessment.
- **Improper Maintenance –** There was no planned maintenance routine in place for the fuel pump at the time of the incident.
- **Improper Operation –** the standby generator had been in continual use to support base power demand resulting in increased frequency of failures.

Build from OIR/12 checklist

Incident Consequences

Minor property damage

Include the release itself and any subsequent emergency actions/dangerous occurrences

Lessons Learned

- Design integrity of potential HCR leak sources should be assured
- Appropriate risk assessment of process and auxiliary equipment should be performed and documented
- Operational demands on standby equipment should be better managed to minimise failure potential
- All operationally-critical equipment should be subject to planned maintenance

Include a few bullet points clarifying what was learned from the incident

Recommendations/Actions

- Overhaul fuel pumps with complete new Woodward parts on all operational Hedemora generators
- Grub screws to be secured using high strength, high temperature "Loctite 278"
- Update maintenance records to ensure only new Woodward service kits are used on the fuel pumps.
- Implement planned maintenance routines to correctly overhaul the fuel pumps.

- Consider replacement of the Hedemora generators with more up to date engines

Include a few bullet points stating any recommendations/actions that will be made/taken as a result of the lessons learned

Contact Details (Optional)

Kirsty Hart – Health & Safety Adviser - EnQuest

If you would like your submission to be anonymous, leave this section blank