Step Change Safety Alert Template

Alert Title

Minor gas leak from fitting in gas turbine hood

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

Incident Date

28/01/2013

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

Location Type

Fixed Production

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

Specific Equipment Involved

Swagelok fitting on fuel gas system

Give as much detail as possible about the equipment involved

Description of What Happened

As part of a site visit an operations technician entered the enclosure of the gas turbine and noticed a smell of gas. There were no alarms from the fire and gas heads in the module and the HVAC was running.
The technician located the suspected leak location to be near a 0.5" Swagelok fitting on the fuel gas supply system and, and at approximately 30-40cm from this point, his personal gas monitor registered 60% of LEL.
The technician turned off the fuel gas supply to the unit and reported the incident.
After the fuel gas was isolated and the gas level in the enclosure was zero the technician attempted to tighten the Swagelok fitting where the leak had been identified. The fitting was found to be tight. The subsequent investigation showed that the fuel gas supply pressure in the line was 14bar. The line had been pressured up for approximately 10days prior to the incident.
The Swagelock fitting was pressure tested with air at 15bar and found to be leak-tight. Nitrogen was then used to pressure up the fuel-gas system and again it was found to be leak tight. As no leak had been found hydrocarbons were then introduced into the fuel gas system in a controlled manner to 14bar. Again no leak was found and there were no indications of hydrocarbons on the portable gas meter in the enclosure.

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

Cause of Incident

build-up of gas in the enclosure due to sub performance of HVAC

Build from OIR/12 checklist

Incident Consequences

The technician isolated the fuel gas supply to gas turbine and reported the incident.

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

Lessons Learned

The HVAC system to the enclosure was also investigated and found not to be functioning 100% correctly
It is suspected that this may have contributed to the build-up of gas in the enclosure if a weep were present. It was decided that it was safe to start up the gas turbine and, using an operational risk assessment (ORA), monitor the enclosure for fuel-gas leaks for the following two weeks.

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

Recommendations/Actions

Complete ORA to allow operation of the turbine while monitoring enclosure and fuel gas cabinet for hydrocarbon levels. ORA to run for two weeks from start-up.

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

Contact Details (Optional)

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