

Oil Industry Safety Directorate

Safety Alert

E&P (Offshore)

No. 13/02

Title: Fire during Hot Bolting

Location: Production platform

Activity Type
(Result/outcome): Fire

What happened:

During hot bolting (the practice of removing and replacing or freeing and re-tightening bolts on live piping and equipment) of inlet valve flange on a glycol contact tower, an operator inadvertently struck and broke a grease fitting of the valve with a hammer. The fitting released high pressure gas into the direction of the flame arrestor of line heater located approximately 10 feet from the contact tower's inlet valve. The gas ignited and was eventually extinguished using dry chemical.

What caused it:

Although a task-specific Job Safety Analysis (JSA) was conducted prior to initiating the hot bolting project, the following critical hazards and mitigating measures were not identified:

- The fired component of the line heater was not shut-in prior to initiating the project.
- The close proximity of the grease fitting was not identified as being a potential hazard.

Corrective actions:

- In a situation where there is a heat source in the immediate area with the possibility of flammable contents being released, hot bolting is not advised. A safer option would be to shut-in the effected equipment and bleed off all pressure before commencing the bolting operation.
- During JSA, specific consideration should be given to potential sources of release and ignition points.
- The JSA process should be used to review site-specific detailed job steps and uncover hazards associated with the specific job being undertaken.
- Operators should use only non-sparking tools when conducting hot bolting operations.

It is provided for information purpose. This information should be evaluated to determine if it is applicable in your operations, to avoid reoccurrence of such incidents.