

Engineering Bulletin 093

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Water bath heater incident Lack of design checks on modification contributed to incident

Background

A maintenance standby team attended site following a call out to investigate a low gas outlet temperature alarm from a water bath heater. The team were attempting to relight the pilot and main burners to the water bath heater when there was an explosion that resulted in failure of an inspection plate on the exhaust/flue, injury to an employee and damage to the unit.

One of the contributing factors to the incident was that there had been a significant plant modification to the exhaust flue. This was the component that failed during the explosion, leading to the injury and damage to the heater. There is no record of when this modification was completed and therefore no design to check for suitability.



Action

Modifications and repairs to gas assets should be carried out to T/PM/G/17 (for Gas Distribution) and T/PM/G/35 (for Gas Transmission). The control of modifications and repairs is a key control measure for process safety.

Failure to carry out the necessary design appraisal puts everyone on site and in the vicinity at risk. There are many examples in the oil and gas industry where temporary repairs or modifications have been inappropriately carried out resulting in major incidents e.g. Longford, Flixborough, Grangemouth, Milford Haven.

It may have been believed, in this case, that the T/PM/G/17 procedure did not apply, since the fire tubes are not gas containing – however, as demonstrated by this incident, good design is clearly essential in this and other situations. If you are unsure whether the modification procedure applies, please consult the Network Integrity team in your respective business.

There are important reasons why ALL repairs and modifications should be appropriately designed and appraised, not least of all, to ensure the safety of our colleagues and the general public.

The main reasons for notification are to:

- Ensure the design / repair method is fit for purpose
- Update the asset records
- Update the PSSR Database (if applicable)
- Ensure that new / modified equipment will be scheduled for maintenance in the future

Remember these rules apply equal to software modifications and alteration of any trip settings.

For further information regarding this Bulletin please contact your Line Manager or Robert Owen on 07721 748008