



AGI Safe

Value Tracking Case Study



AGI Safe

Background

The AGI Safe is a software package developed to perform quantitative risk assessments on a range of above-ground high pressure gas installations, including compressor sites, pressure reduction stations and offtakes. The tool is used to assess modifications to existing installations and for new builds.

The continuous management and improvement of safety risk involves the development of new tools and techniques, which in themselves impact of the risk profile of a site. The AGI safe tool has been developed to allow the user to consider changes to site layout or additional safety features in a quick and flexible manner

What's new?

The enhanced functionality developed by the project includes five key aspects:

- Modelling of pipework in pits
- Creation of a module to model onsite Emergency Shut Down procedures
- Provision for modelling 'L' shaped pipework areas and long, thin sections of pipework
- Automatic generation of escalation matrices for thermal radiation
- Provision for a user defined wind rose so assessments can take into account local wind patterns

The benefits

The AGI Safe tool was used for the assessment of new vent stack designs for Peterborough compressor station. The tool was used to calculate the land required for compliance to safety zones in a number of different venting scenarios.

The existing specification detailed that a radiation contour of 1.58kW/m² would apply in this scenario however both the existing perimeter fence and existing National Grid land ownership was outside this contour.

The team then assessed the required zones through the use of the AGI Software tool, with the new enhanced capability on modelling thermal radiation distances. Based on this assessment a deviation was agreed against the NG specification. This has resulted in reduced land purchase while still protecting site staff and the general public from site operations and the unlikely event of a gas release from the vent stacks then being ignited.

Financial savings

The additional purchase area of 2.37 acres which was required for compliance with the 1.58kW/m² contour would have incurred a cost of £100,000 and would be subject to landowner consent. Further assessment established that applying this approach at Huntingdon Compressor Station would also require additional land purchase, so it can be seen that without the AGI Safe tool, existing methods could give rise to numerous instances of costly land purchase for future projects. To date the project has saved £84k through site improvements.

Implementation

The tool was rolled out across the business at used at several sites winning a Chairman's award in the process. The business are now looking to develop the tool further with stakeholder input and possible new technologies.

