



Metering and Gas Quality Training Simulator

Value Tracking Case Study



Metering and Gas Quality Training Simulator

Background

Training for AGI has been designed and built to be representative of equipment typically found on National Gas Transmission (NGT) and other operators' systems (e.g. pipework, valves, flow computers, gas quality equipment). The AGI has been designed to operate on compressed air due to the absence of a local natural gas supply. As a result, the potential for realistic gas quality and metering training is currently limited. This project looks to develop an innovative solution utilising simulated software scenarios to replicate meter suspect alarms and gas quality breaches that an engineer might feasibly be faced with.

What's new?

The first part of the implementation plan is to get the device integrated and installed with the current site equipment on the training AGI. A training course (train the trainer) will then be given so all trainers are aware of how the device should work and also be shown how to create a new scenario. In conjunction with this, training courses will be adapted and developed to capture the full functionality of the simulator and ensure that training is therefore realistic for gas quality and metering issues. As training courses are rolled-out it may become apparent that different scenarios need to be developed and added to the simulator. This can be done and will be rolled-out in future training sessions.

The Gas Quality Simulator will enable the AGI training installation to be used to its full potential; it will provide the ability to simulate real gas quality issues whilst also retaining the option of switching

to the pre-existing setup. From a user point of view, control of the simulator will be readily accessible with two unobtrusive programs: XferData and Scenario.exe. Test scenarios can easily be switched and reconfigured onsite as necessary. Training at this site will support the development of National Grid's staff under its Safety and Technical Competency (STC) framework. They will be able to put into theory into practice, gaining valuable practical experience of realistic operational scenarios on a representative installation in a safe and controlled setting. This will aid their staff in resolving real onsite issues in a more efficient and timely manner.

The benefits

Training benefit of NG staff reduces requirement for specialist contractors. Also, the current situation involves NGT contracting specialists to attend site in the event of metering or gas quality alarms when Network or GTAM staff cannot resolve the issue. Qualified natural gas measurement engineers are specialist engineers and not widely available. Reliance on external consultancies is a risk. Training of employees in this specialised area both reduces the risk and cost associated with management of the gas measurement assets. This training tool would be available to other network operators, and so would improve the skill base across an industry with an aging workforce.

Implementation

Following completion, the training outputs have not been used to date but are ready to be progressed based on stakeholder appetite.

