

Innovations

PMC develop range of home grown innovations and showcase at stand down days and Warwick

As you may have seen at the innovation session at the stand down days, PMC have developed a range of home grown innovations that are routinely used on the network. They are also helping to make significant savings on project works. Some members of PMC Ambergate went to Warwick to showcase these innovations to the wider National Grid staff. The event was a success with lots of interest from across the business.

The lapping tool

PMC developed a tool to repair valves that is saving millions across the network



The problem

PMC were called in to investigate a leaking stem seal on a 30” pig trap at Partington AGI. On removing the stem seal it was visibly evident that this had been leaking for some time, causing significant scoring/corrosion through the leak path area.



The traditional method was to cut out and replace the valve, this also means recompressing the line at significant costs.

The solution

PMC developed a repair method that avoided the need to replace the valve.

The solution was a lapping tool that fits the stem seal area and then re-grind the sealing face of the site valve.

The trial

PMC procured an identical valve to the one on site. The valve was stripped down and the seal face of the stem seal was damaged to simulate site conditions.

The lapping tool was designed, manufactured and tested on the valve.

The end result was a success and the lapping tool has been used multiple times to repair and recover valves, making significant savings across the business.



Small diameter grouted tee

How PMC developed a technique to re-life valves that will save millions across the network

The problem

Thousands of valves installed before 1985 have a build up of corrosion on the vent and sealant lines that are attached to the valve. The traditional method to deal with a valve in this condition requires excavation to the bottom of the valve, shutting the gas off at both ends and recompressing, then replacing the valve. This takes several months, costs a significant amount and has health and safety repercussions.

The solution

PMC started working on a solution to combat this widespread issue that was affecting the network. The result is a new innovation called the small diameter grouted tee.

The small diameter grouted tee is attached to the vent and sealant lines, stopples are inserted into this connection and any trapped energy in the sealant line is then drained.

Once the stopple is removed, maintenance can now take place on the valve whilst the gas stays live. Estimated cost saving are £100,000 per valve.

The trial

The small diameter grouted tee was trialled at Kings Lynn compressor station. The critical nature of the project added increased pressure on the innovation being a success. If it was a success, it could potentially reduce costs by £2million.

The trial was a success and this technique can now be used across the network.

Vent Stack

How PMC developed a lightweight portable instrument for venting gas



The challenge

PMC set themselves the challenge of designing a lightweight portable venting device to be used across the transmission and distribution network.

Designed as a safety and environmental initiative, the objective was to standardise high pressure venting procedures across the business.

The solution

The design had to be robust enough to take field use and be pressure rated, but light enough that it can be lifted manually.

As part of the design process, PMC had to use maximum pressures, flows and volume of gas to calculate the weight needed on each foot to keep the vent still in all conditions. Whilst the vent stack is light weight and collapsible it is tested for pressure of up to 141 Bar.

There have been a total of 155 vent stacks made so far and these have been used across all networks.