



## NJUG CASE STUDY

### **CASE STUDY 60: *Polestar Spells the End of Confined Space* *Winner of the NJUG 2011 Safety Award***

The National Joint Utilities Group (NJUG) is the UK industry association representing utilities on street works issues. The 41 utility companies and 17 contractors we represent work to deliver gas, electricity, water and telecommunications to both individual consumers and UK plc.<sup>1</sup> NJUG has also recently launched an NJUG Affiliates programme, which allows organisations offering products and services to the street works sector which support the delivery of the NJUG Vision to join the NJUG community.

NJUG members need to continue to drive forward further improvements. We have therefore developed the NJUG Vision for Street Works, which revolves around six main principles:

- Safety is the number one priority
- Utilities deliver consistent high quality
- Utilities work together and in partnership with local authorities and contractors to minimise disruption
- Utilities keep the public informed on all aspects of works
- Utilities maximise the use of sustainable methods and materials
- Damage to the underground assets is avoided

This case study is an example of NJUG delivering on these principles and turning the vision into reality.

#### **Overview**

The dangers of working within confined spaces were cleverly addressed by Veolia Water's Simon Fry who designed and constructed 'Polestar'- a wireless miniature camera and screen that allows the user to remotely read the meters from outside of confined spaces.

#### **Case Study**

A recent inspection of confined space meter pits entered by Veolia Water's Welsh Water Contract meter reading team caused great concern after it was discovered that Oxygen concentrations were low enough to quickly and significantly incapacitate an entrant breathing the atmosphere. This exercise confirmed that the risks associated with even relatively shallow and small confined spaces can be fatal and that an alternative to confined space entry to read meters was required.



Therefore a design for a piece of equipment that would allow remote reading of the meters from outside of confined spaces was designed.

The equipment consisted of a number of adjustable poles to allow access to the meter and a wireless miniature colour video camera which transmits video images to a wireless 2 inch colour video screen. With an authorised budget of just £200, he constructed the design during his spare time, christening the invention 'Polestar'.



Polestar heralds the end of confined space entry for meter reading within Veolia Water, offering hugely significant benefits in respect of the health and safety of their employees now and into



<sup>1</sup> NJUG's current members are Energy Networks Association (representing electricity and gas), Water UK (representing all water and wastewater companies), National Grid, BT Openreach, and Virgin Media. Our associate members are Clancy Docwra, Skanska, Balfour Beatty, Morgan Sindall, Carillion, First Intervention, Laing O'Rourke, Compass, AMEC, Enterprise, Morrison Utility Services, Fastflow Pipeline Services, May Gurney, CLC Ltd, PJ Keary and Murphy Ltd. Including members through trade associations, NJUG represents forty-one utility companies, seventeen utility contractors.

the future. Additional benefits to the company are in time and money saved in relation to confined space entry such as specialist training, hire of equipment, time taken to enter and read meters. PoleStar has completely removed the need for confined space entry for all water meter reading activities in Wales. Further evolutions of PoleStar have been supplied nationally and internationally to the wider Veolia group including Veolia Water Romania.

**Feedback Email from Andrew Davis – Area Manager – Veolia Water - Welsh Water Contract during development of PoleStar device**

*Simon,*

*Thanks for coming down on Tuesday and for the loan of PoleStar. We made 10 visits to the problematic C/S sites and had to physically enter 2 chambers!!!! The remainder we read via the camera. Of the sites we had to enter, one was due to a damaged meter that we were unable to read even when we entered. The other was down to the cover being over the reading and I could not open it.*

*Congratulations must go to you for coming up with a wonderful piece of kit. It saved us having to enter the chambers, thus eliminating the danger and need to spend as long at each site. The additional light that you left with me worked on some of the chambers but was too bright in others. I am thinking of amending the position of the additional light source to see if that makes a difference, with your approval, of course. I will let you know how this goes. One point for discussion is the rigidity when on the extension poles, even one. The full extension when used with the cable is strong and easily controlled.*

*Hope this makes sense for you. If you want to discuss any of this, give me a ring. As for the home for the camera, we are more than happy to look after it for you so we can utilise it in the future!!!*

*Andrew D Davies*

