



NJUG CASE STUDY

CASE STUDY 43: Water Meter Adaptor and Remote Repair Clamp

The National Joint Utilities Group (NJUG) is the UK industry association representing utilities on street works issues. The 37 companies¹ we represent work to deliver gas, electricity, water and telecommunications to both individual consumers and UK plc.

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:

1. Safety is the number one priority
2. Damage to underground assets is avoided
3. Utilities work together and in partnership with local authorities to minimise disruption
4. Utilities deliver consistent high quality
5. Utilities maximize use of sustainable methods and materials
6. Street works in the UK are regarded as world class

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

Overview:

Balfour Beatty Utility Solutions (BBUS) is dedicated to generating new, innovative ways of working, which will allow the company to work with the most advanced and least disruptive techniques. The BBUS Innovation and Development (I&D) team work closely with its clients and operations teams to deliver three core objectives:

- Improve safety and productivity
- Reduce disruption
- Minimise its environmental impact

The I&D team develop all its solutions in-house, analysing and refining ideas to deliver completely bespoke and unique ways of working across all areas. The team aims to develop practical solutions and implement them to become business as usual.

During 2006/07 a number of think tanks were set up via BBUS with its partners and clients to discuss current operational activities and what would deliver the three objectives noted above. One issue at the top of the list was the complexity and disruption caused by excavation and reinstatement. With this in mind a range of projects were set up to find the latest technology to inspect mains without the need for excavation and without risking further damage to underground assets. This project's aim was to provide less disruption to the traveling public. Here are two examples of the projects undertaken:

Case study:

Water Meter Adaptor

The Water Meter Adaptor project was identified by the BBUS operations teams following the success of the Stop Tap By-Pass technique, which was developed in 2006. This technique pushed the boundaries in

¹ NJUG's current members are Energy Networks Association (representing electricity and gas), Water UK (representing all water and wastewater companies), National Grid, Openreach, and Virgin Media. Our associate members are Clancy Docwra, Skanska Utilities, Balfour Beatty, Morrison Utility Services, Morgan Est, NACAP, PJ Keary, First Intervention, Carillion, Enterprise, Laing O'Rourke and AMEC. Including members through trade associations, NJUG represents thirty-seven utility companies, and twelve utility contractors.

mains rehabilitation repairs, as it allowed the customers water supply to be maintained whilst major repairs were being carried out.

The I&D team were asked if operations teams could maintain customer water supplies during pipe repair works, why couldn't they install a new water meter using the same technique? The BBUS Water Meter Adaptor facilitates the work being carried out by utilising the existing stop tap body, the benefit being no excavation is required for the job.

This product was designed by the I&D team and manufactured and developed by a company called T and T Engineering. BBUS has received excellent feedback on this new and innovative method of working, which comes with a wealth of benefits for both the client and the customer. Currently, three BBUS clients are running extensive field trials (up to 6 month periods) with the water meter adaptor, prior to high volume installation.



Balfour Beatty Utility Solutions

*Water Meter
Adaptor
installation on
site*

Remote repair clamp

To improve standards and performance of pipe damage repairs BBUS, in partnership with Viking Johnson, has developed a new clamp that allows pipe repairs to be carried out without turning off the water supply. To reduce the extent of damaged assets, BBUS has worked with Viking Johnson to develop a new clamp that can be fixed to a live pipe from above ground, therefore removing risk to the operative by not having to enter the excavation and risk further damage to the pipe work.

The remote fix clamp is installed by using an application tool developed by the team and if leakage detection has been accurate, the repair can be carried out in much smaller excavations.

To reduce customer water supply interruptions BBUS are challenged to carry out main repairs live. Working closely with Viking Johnson has enabled BBUS to participate in the development of this unique clamp which allows repairs to be done live while keeping the operator safe.



*Remote repair clamp
demonstrated at BBUS
test facility in Derby*