



NGN successfully trials Subline DR structural pipe rehabilitation technique to minimise customer disruption

Clever innovation technology helped minimise disruption to customers during a recent gas mains replacement project in Keighley.

Northern Gas Networks, (NGN) the gas distributor for the North, carried out a scheme in Haincliffe Road, replacing 250 metres of an ageing metal main with new, more durable polyethylene pipes.

Completing the work around Haincliffe Road would usually have involved digging metres of open trench, in order for engineers to reach the main.

As the works were located at a busy junction with Halifax Road, a three-way traffic light system would have also been implemented, causing disruption to traffic, residents and businesses. Part of the site also incorporated the historic Keighley and Worth Valley Steam Railway line, which could have added significant engineering complexities and additional time onto the project, as the pipe being replaced runs along the top of a 19th century bridge.

In order to ensure no damage to the bridge, NGN chose to use the Radius Systems pipe insertion solution rather than the open trench technique.

Traditional insertion practice involves either pushing or pulling a new pipe of a smaller diameter than the host into the main, which reduces the capacity of the new main.

Thanks to Network Innovation Allowance funding, NGN have worked in partnership with Derbyshire pipe manufacturer Radius Systems and their pipeline engineering division RadiusPLUS to further develop their innovative Subline DR rehabilitation technology, where the polyethylene (PE) pipe's diameter is reduced as part of the manufacturing process.

The reduced diameter pipe is then coiled in one operation to facilitate transport and is delivered to site ready to be inserted into the main, allowing the technique to be used as a time-saver on smaller pipe diameter projects.

Once inserted, the pipe is pressurised using cold water, to revert it back to its original diameter and form a close-fit against the bore of the original mains pipe, providing maximum capacity within the pipeline. An automated high-tech unit specifically designed as part of this development with NGN, carries out the reversion process, pumping water into the

new pipeline and recycling it through a self-contained closed system.

Richard Hynes-Cooper, Head of Innovation at NGN said: "It's a really clever solution and one that allows us to reduce the length of the project, save costs, and minimise disruption to customers. "It also reduces safety risk for our workers, and minimises the amount of spoil that digging creates."

Dave Sykes, Head of Operations at RadiusPLUS added: "The trial was a success and the development of an off-the shelf reduced diameter coiled pipe and equipment has saved NGN a considerable amount of time and cost on this project."

For more information on our pipe rehabilitation technologies, please contact RadiusPLUS:
t: +44 (0)1773582317
e: radius-plus@radius-systems.com.

RadiusPLUS are a subsidiary of Radius Systems and specialise in live pipeline engineering services and pipeline rehabilitation through innovative lining technologies.