

The Power of Teamwork



Washington Gas, which serves the Washington, D.C., metropolitan area, has successfully moved their keyhole activities from an in-house, one-off program, to a year-round endeavour that is fully integrated and supported by the company's alliance partner and construction contractors, and has resulted in real savings.

While this transformation neither happened overnight nor without concerted effort nor planned capital investment by their contractors, the end result has been very impressive indeed.

In addition to the work with its contractors, Washington Gas focused a significant amount of effort working with the permitting/paving jurisdictions in order to gain their acceptance, and sometimes reconfirmation, of keyhole as a form of final paving/restoration.

It's also a great model for gas utilities to adopt if they are seeking a way to tackle their own accelerated pipe replacement and repair programs while completing the work both on-time and on-budget.

By implementing a comprehensive keyhole program with an emphasis on a strong contractor/utility alignment, Washington Gas has demonstrated how to successfully get the job done effectively and efficiently.

Recognizing that there was potential for savings by incorporating keyhole technology into the work methodologies, from 2006 to 2008 Washington Gas worked closely with their contractor crews using time and material rates (T&M) on a select range of applications, to set bench-marks for the upcoming contracting process.

By 2008, with the scope of work clearly defined and the program and processes identified, the contractors could confidently respond to the RFP and bid the work with greater bottom-line accuracy. More importantly, contractors would have the confidence to purchase the necessary capital equipment knowing that the work would be secured for years to come.

Northern Pipeline Construction (NPL) worked closely with Washington Gas during the initial stages of the keyhole assessment study. NPL already was Washington Gas' Alliance Partner and bid and successfully added a portion of the accelerated pipe replacement program to its existing contract.

NPL's capital investment would be significant and included: 31-construction crews; 28-keyhole crews – including 5 separate and distinct keyhole core setting crews used exclusively for the core reinstatement process; support from 19-vacuum excavation units and 5- Utilicor Heavy Duty Series 500 coring trucks; as well as a fleet of auxiliary equipment from dump trucks to special

trailers outfitted exclusively for the core reinstatement process. However, NPL knew from the outset that if they performed to plan, their return on investment (ROI) would be secure.

The use of keyhole coring and reinstatement technology executed as a production line process also lowered the cost and improved the efficiency of this pipeline replacement project.

According to Clayton Munsey, Washington Gas Manager Field Technologies, "Making an 18-inch diameter keyhole cut, rather than a conventional 3- by 5-foot or 4- by 6-foot utility cut, has reduced our costs by approximately 5 - 35 percent, depending on the type of use - scattered work or part of a programmatic approach to replacement. A majority of savings comes from eliminating the need for extensive pavement restoration work associated with digging a conventional sized hole."

However, the cost savings realized by Washington Gas were only part of this good news story. Allowing Washington Gas's Alliance Partner to secure longer term commitments from the utility and guaranteed work volumes were also key to the program's success.

Also, in addition to the cost savings, improved customer service was realized with quicker completion of final restoration as compared to traditional construction, where the final restoration occurs at the end of the overall work.

Brandon Wytovich, NPL's asset manager for the Washington, D.C., metropolitan area, understands that utility work is a two way street. "For a contractor to be able to gain the efficiencies associated with a properly run rehabilitation program requires an upfront commitment on our part to a large and scalable workforce and a

significant capital investment in purpose-built coring and vacuum equipment." Wytovich continued, "It also means training on new procedures and techniques. We had to continually train and educate new employees to ensure that core reinstatements were done properly, as this was where most of the savings for Washington Gas would be realized. In addition, Washington Gas shared some of the saving with us, which made the upfront capital equipment purchase cost effective. This was truly a win-win scenario."

"The Alliance was the perfect platform for keyhole to be piloted", says Tracy Townsend, Washington Gas' Division Head of Safety, Compliance, Construction & Operations Support and Technology. "We knew that NPL had the experience and equipment to quickly kick-start a keyhole program and tackle this large volume of work. With our commitment to them, as a long-term partner including stability in work, they were able to make the investment in equipment, manpower and training needed to ensure the program would be executed properly and in a timely manner."

The scope of work on this project involved a comprehensive five-year keyhole program that included running new services, main replacement and coupling encapsulations. By working hand-in-hand with a dedicated contractor, the Washington Gas keyhole project has been running on time and on budget.

Congratulations to a utility and a contractor who both have realized significant efficiencies and cost reductions by working together and by moving their construction practices into the 21st century.



Washington Gas crews utilize keyhole coring and core reinstatements to gain efficiencies