

**Abstract for 2017 Presentation**

October 20, 2016

**A proactive approach to pipeline management: City of Vancouver Case Study**

A proactive approach in pipeline management includes identification of problematic pipe sections before major failures occur. This provides utilities with financial benefits, whilst keeping the environment, safety and public relations a priority. Pipeline operators have inspection technologies that enable them to determine the condition of their pipeline assets. By combining regular inspections and risk analysis an operator develops an understanding of past events, current events, and what events may happen.

In March 2016, the City of Vancouver (COV) teamed with Pure Technologies to perform a condition assessment and risk analysis on their 30 year old 900/750-millimetre Powell-Clark Feeder Main. Because this water main needed to remain in service during the assessment, the 6,000 metre concrete pipeline was inspected using free-swimming leak detection and electromagnetic technology. Planning for the test included a detailed review of the record drawings; manufacturer information; identifying insertion, extraction, and tracking locations; and contingency planning. The assessment technologies used by COV assist in 1) identifying, localizing, and quantifying the presence of damage in the pipe wall and leaks in individual segments of pipe along the pipeline and 2) providing risk analysis and repair prioritization for pipes identified with damage and leakage. As such, Pure Technologies was able to categorize the structural damage found for COV, allowing them to prioritize its rehabilitation program and allocate funds accordingly. The project demonstrates that by using quantitative data from assessment projects, a customized pipe rehabilitation solution can be built that saves money and resources allowing COV to make more informed decisions regarding the aging infrastructure.