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**Abstract Title:** The Advantages and Disadvantages of CCTV Inspection of Water Distribution Mains

**Abstract Theme:** Asset Management, Pipelines' Condition Assessment, State of Water Infrastructure; Levels of Service, Performance Indicators

**Abstract:**

Closed-Circuit Television (CCTV) inspection has been a mainstay for recording the visual condition of wastewater collection systems for nearly fifty years. Advancements in the technological field have since allowed several manufacturers to add high resolution cameras to tethered probes, so that engineers and operators can view internal pipe conditions directly from the field.

But, what can we really tell from televising the internal condition of a water main and how should those conditions be described and rated? On the one hand, while CCTV can be used to visually assess the structural integrity of a pipe, leaks might not be identified through visual inspection – especially in water mains, where leaks exfiltrate instead of infiltrate. On the other hand, CCTV may assist in the navigation of a leak detection technology, through gate valves and such forth, ensuring that the technology travels safely through the water main so that it can actually get to any leaks that may be in the pipe.

This presentation will discuss recent industry research into the use of CCTV in assessing water distribution and transmission lines. It will include a number of visual inspections of pressurized water mains with different pipe materials, flow, age, and depth profiles, to provide a comprehensive overview.