Overview

Released in 2017, the “EMIT” (Electromagnetic Inspection Technology) is the latest in PICA’s line of state-of-the-art pipe inspection tools. It is specifically designed to non-destructively assess large diameter pipelines up to 78” in diameter.

The EMIT's unique collapsible design enables technicians to insert sections of the tool through small access locations that are 24 inches in diameter, eliminating the need to excavate and cut the pipeline to gain access.

The tool is completely self-contained with battery power, data storage and distance tracking all integrated on the tool itself. Target pipe applications are internally lined (cement, coal tar, epoxy) steel pipe, riveted pipe, lock-bar pipe, Cement Mortar Lined and Coated (CML&C) Steel Pipes and Bar-Wrapped Steel Cylinder Concrete Pressure (AWWA C303) Pipes.
In early 2017, the RAFT tool completed a five-mile (8 km) inspection of 36-inch bar-wrapped concrete cylinder pipeline that carries millions of gallons of water per day to a water treatment plant for processing. Installed in the late 1940’s, the feeder main is a critical part of the local water system and asset managers wanted to perform a detailed, non-destructive condition assessment. The inspection identified several areas of thinning of the steel cylinder, which if left untreated would have resulted in serious pipeline failures in the near term. Some of these areas were verified by removal of the internal concrete liner which surprisingly showed no sign of distress.

In late 2017, the EMIT tool completed a five-mile (8 km) inspection of 65 to 66-inch water transmission pipeline comprised mostly of PCCP pipe with an internal steel liner. The internal diameters ranged from 63 to 69-inches due to variations in the cement mortar lining thickness and the presence of welded steel pipe in several locations along the Feeder Main. The almost 60-year-old main is a critical part of the local water system and asset managers wanted to perform a detailed, non-destructive condition assessment.

The inspection identified several areas of interest, such as partially threaded grout plugs, and seam weld defects. At one of the seam weld defects, cracking and water intrusion behind the internal cement liner were confirmed by the client; the extent of the weld defect was verified with a liquid penetrant inspection by the pipeline asset management team (image on right).