PICA
Pipeline Inspection and Condition Analysis Corporation

Near Field EM Inspection

- Prestressed Concrete Cylinder Pipe
  - Potable Water
  - Raw Water
  - Industrial (including Nuclear)

Overview

In 2022, PICA enhanced standard Near Field Electromagnetic (EM) Testing technology that had been commonplace (for the last 20 years) to assess PCCP. We added more detectors and incorporated the ability to run multiple EM inspection frequencies simultaneously. This greatly improves the EM sensitivity to broken wires.

PICA's Near Field Testing (NFT) EM technology can accurately identify and quantify broken prestressing wires in PCCP. Other important benefits include: modular tool design enabling introduction through 18-inch access ports, ability to simultaneously support complimentary data sets (such as CCTV or LiDAR), and on-site 48-hour data turn around.

PICA's NFT tools detect 5 continuous wire breaks (or more) in pipelines from 36" to 200+" diameter in dewatered applications.

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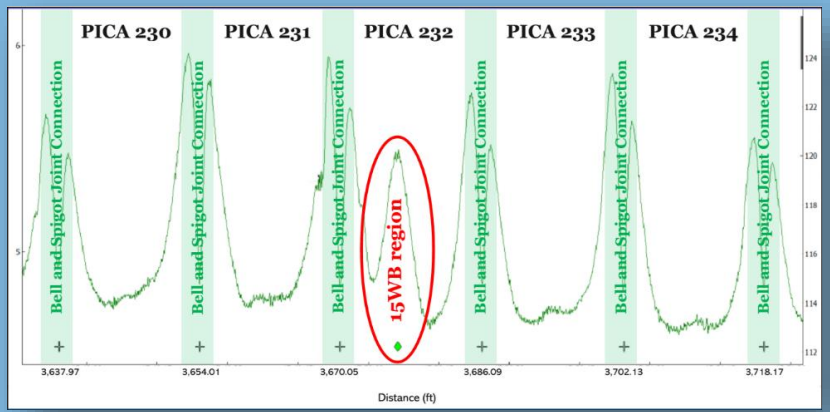
Case Study Where: Detroit, Michigan

- What: 120-inch PCCP water main.
- When: August 2022.
- How: NFT inspection using large diameter tool.
- Why: Pipeline failure.
- Distance: 1.5 miles (2.4 kms) in total.

Details

In the summer of 2022, a 120-inch diameter critical water transmission main constructed of embedded cylinder PCCP experienced a sudden disruptive failure. With the main down for repairs, PICA was contracted to conduct an emergency inspection. PICA assembled and shipped the inspection equipment within a day after being contacted. On the first day after arrival, PICA's crew collected the inspection equipment from the warehouse, constructed the tool, and performed short calibration scans. The inspection was successfully completed the following day.

Wire break data was reviewed on-site the same evening and preliminary inspection results were submitted to the client within 48 hours. Wire breaks were accurately logged on 7 of the 525 pipes inspected.



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