



Acoustic Pipeline Monitoring

Most wastewater utility operators that have evaluated their entire collection system will tell you that 20% of their pipe is causing 80% of their capacity and maintenance problems.

Identify Capacity Issues Within Minutes at Minimal Cost!

Duke's portable pipeline assessment tool (SL RAT) – identifies capacity issues in gravity sewers within minutes without the need of traditional CCTV- at 1/10th_ the cost! This quick tools allows for up to 20,000 ft per day of cost-effective system evaluation.

The transmitter (TX) sits on top of adjacent manholes, transmitting a sound wave through the sewer line to the receiver (RX). The RX listens and interprets the acoustic signal providing a score from zero to ten. A score of ten indicates all of the sound was transferred: no obstructions and no immediate attention is needed. A zero score indicates no sound was transferred, which points to a blockage or belly in the pipe, and the need to set up a protocol for cleaning. After cleaning, the low-scoring segments are tested again. If there is no score improvement, the blockage is something other than debris, which indicates the need for CCTV of the line. However, over 100 million feet of evaluation / data shows that 72 percent of lines received a score that required no more attention.

Additionally, each component is equipped with GPS and the ability to communicate between the TX and RX via RF – thus providing your organization with world class data labeling, data registration, and test validation capabilities. Over 230 municipalities currently using the SL RAT!





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Project Profile: Rats in the House

Little Rock Water Reclamation Authority (LRWRA) has cut their SSO rate by 50% since implementing acoustic inspection.

Results:

- LRWRA acoustically inspected 4.8 million feet, or approximately 80% of their collection system in 11 months
- Only about 20% of segments inspected required a cleaning work order
- Approximately 50% of those work orders were problems caused by roots, grease or debris
- Approximately 2% of the system ultimately turned over to other departments for more substantial and regular maintenance or rehabilitation activities, which is substantially less than LRWRA's initial projections
- The additional time savings allowed LRWRA to increase their preventative maintenance from 35% annually to 75%, without having to add additional resources.
- The results of this demonstration of the SL-RAT show promise for its application as a tool for cost-effective, pre-cleaning assessment and post-cleaning quality assurance, resulting in increased system capacity.

Duke's Superpowers SL-RAT: Next Generation SSES, Maintenace and Rehabilitation

During the Acoustic inspection and monitoring program, Duke's clients are given credentials to log on and view Duke's real-time data collector to identify blocked line segments so maintenance crews can be immediately deployed. With this data collected, stored and readily available via Duke's 360 Portal it also allows your overall collection system O&M program to more effectively implement critical CMOM and asset management programs.

Duke's 360 innovative technology is the smart wastewater strategy to help municipalities proactively control system I/I and power its infrastructure.



Duke's highly portable onsite assessment tool (SL RAT) identifies capacity issues in gravity sewers within minutes without the need of traditional CCTV- at 1/10th of the cost!



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