SB 555: Water Loss Performance Standards

Public Stakeholder Workgroup Meeting #2

Water Loss Monitoring Technologies
Descriptors for Technologies

- Measures water loss volume
- Identifies water loss type
- Gathers more data
- Conducts analysis
- Helps locate leaks
- Transmits data
- Acoustic
- Automates
- High cost
Quantifying and Monitoring

Desktop analysis and field records

Water loss audit

Component analysis

Leakage management software

Leak flow calculations

Piping Material at location of failure
Age of piping at location of failure
Average Pressure at Failure Location
Suspected cause of failure
Soil condition at location of failure
How was failure repaired?
Nature of failure
Quantifying and Monitoring
Geographic Information Systems Supervisory Control and Data Acquisition (SCADA)

Desktop analysis and field records

Advanced metering infrastructure

Geographic Information Systems

Supervisory Control and Data Acquisition (SCADA)
Quantifying and Monitoring

Field measurements

District Metered Areas

500 - 3000 connections

Minimum use conditions
Real Loss Interventions

Acoustic leak detection

Ground microphone

Probes

Correlators
Real Loss Interventions

Acoustic leak detection

Loggers

Transmitters

Inline leak detection
Real Loss Interventions

Surveys

Visual surveys

Hydrant surveys

Comprehensive surveys
Real Loss Interventions

Pressure-based or Tracer gas

Pressure-based Inline leak detection

Tracer gas detection
Real Loss Interventions

Imaging/Radar

Ground Penetrating Radar

Inline camera
Real Loss Interventions

Repairs

Timely response

Coordinate between detection and repair crews

Record type of failure

Estimate volume of leakage
Monitoring

**Desktop analysis**
- Water loss audit
- Identifying high pressure zones

+ **Field records**
- Component analysis
- Leak flow calculations
- Leakage/Pressure/Transient management software

**Advanced metering**
- Geographic Information Systems

**SCADA (Telemetry)**
# Real Loss Interventions

## Detection

<table>
<thead>
<tr>
<th>Ground microphone</th>
<th>Probes</th>
<th>Acoustic Correlators</th>
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## Imaging

- **Ground Penetrating Radar**
  - ![Icon](image6.png)

## In-pipe methods

- **Tracer gas detection**
  - ![Icon](image7.png)
- **Inline leak detection**
  - ![Icon](image8.png)

## Quick response to repairs and improved recording

- **Camera**
  - ![Icon](image9.png)
- **Pressure-based Acoustic**
  - ![Icon](image10.png)
Questions for Discussion

• Has your agency identified priorities for your distribution system to address water loss control?
• Has your agency planned or implemented an approach for reducing water loss? If yes, what are the steps involved and technologies used?
• Which distribution system characteristics and operational requirements did your agency need to consider while selecting or implementing these technologies?
• Did your agency need to amend your approach based on lessons learned or new findings?
• Are there technologies and practices that your agency is unable to implement in its water distribution system, and why?