



FY2019 Water Audit and Water Loss Reduction Plan

June 17, 2020

Agenda

- Background
- Water loss defined
- FY2019 water audit summary
- Cost of water loss
- Historical water loss
- Water loss reduction strategies



Background

- Water audit
 - What
 - Why
 - When
 - How
- Identify water loss
 - Significance to WSSC Water
- Water loss reduction plan
 - Regulatory framework

Water Loss Defined

- Water supplied – water used = water Loss
- AWWA categorizes water loss into Apparent Losses & Real Losses
- Apparent Losses
 - Customer metering inaccuracies
 - Theft and illegal connections
 - Data handling errors
- Real Losses
 - Transmission, distribution and service main leakage

FY2019 Water Audit Summary

Water Supplied	59,029 MG
- Water Used	48,294 MG (81.8%)
= Total Losses	10,734 MG (18.2%)
Estimated Apparent Losses (metering inaccuracies, theft, data errors)	2,729 MG (4.6%)
Estimated Real Losses (system leakage)	8,005 MG (13.6%)

Cost of Water Loss

		Water Loss (MG)	Cost of Water Loss
Apparent Losses		2,729	\$15.8 M
	Unauthorized consumption	143	\$0.8 M
	Customer metering inaccuracies	2,471	\$14.3 M
	Data handling errors	115	\$0.7 M
Real Losses	System leakage	8,005	\$2.1 M
TOTAL LOSSES		10,734	\$17.9 M

- Cost of Apparent Losses Based on Retail Cost
- Cost of Real Losses Based on Production Cost

Historical Water Loss

Fiscal Year	Percentage Water Loss
FY2012	17.4%
FY2013	17.1%
FY2014	15.7%
FY2015	17.9%
FY2016	20.9%
FY2017	15.7%
FY2018	17.6%
FY2019	18.2%

Water Loss Reduction Strategies

Current Activities

- Meter accuracy testing
- Detection of unauthorized consumption
- Infrastructure replacement (pipelines and meters)
- Leak detection
- System pressure management

Water Loss Reduction Strategies

New and Innovative Activities

- Advanced Metering Infrastructure (AMI)
- Customer to Meter (C2M)
- Implement satellite-based leak detection
 - Satellite scan 1,000 miles of pipe four times
 - Follow up with field leak detection
 - Cost-benefit evaluation
- Improve upon water loss quantification

Water Loss Reduction Strategies

Initiative on Water Loss Evaluation

- Phase I – Assessment of past water audits and water loss reduction methods (completed)
 - Analyze existing data
 - Identify data gaps
- Phase II – Data gathering
 - Better quantify water loss
 - Evaluate impact of implementing C2M and AMI

Water Loss Reduction Strategies

Initiative on Water Loss Evaluation

- Phase III – evaluation and plan implementation
 - Evaluate newly collected data
 - Perform cost-benefit analysis
 - Create a plan towards developing activities which can reduce water loss at a cost less than the value of water
 - Choose practical water loss metrics and goals based on volume and revenue
 - Implement plan
 - Assess results / continuous improvement plan

Questions?

