

WSSC FY2018 Water Audit and Water Loss Reduction Plan

Commission Meeting
May 2019

Background

- ▶ Water Audit
 - What
 - Why
 - When
 - How
- ▶ Identify Water Loss
 - Significance to WSSC
- ▶ Water Loss Reduction Plan
 - Regulatory framework

Water Loss Defined

$$\text{WATER SUPPLIED} - \text{WATER USED} = \text{WATER LOSS}$$

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

FY2018 Water Audit Summary

Water Supplied	59,810 MG
- Water Used	49,289 MG (82.4%)
= Total Losses	10,521 MG (17.6%)
Estimated Apparent Losses <i>(Metering Inaccuracies, Theft, Data Errors)</i>	2,705 MG (4.5%)
Estimated Real Losses <i>(System Leakage)</i>	7,816 MG (13.1%)

Cost of Water Loss

		Water Loss (MG)	Cost of Water Loss
Apparent Losses		2,705	\$15.4 M
	Unauthorized Consumption	145	\$0.8 M
	Customer Metering Inaccuracies	2,444	\$13.9 M
	Data Handling Errors	116	\$0.7 M
Real Losses	System Leakage	7,816	\$2.1 M
TOTAL LOSSES		10,521	\$17.5 M

Note:

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

Historical Water Loss

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

Water Loss Reduction

- ▶ Current Activities
 - Meter accuracy testing
 - Detection of unauthorized consumption
 - Infrastructure replacement
 - Leak detection crews
 - System pressure management

Water Loss Reduction

- ▶ New & Innovative Activities
 - Advanced Metering Infrastructure (AMI)
 - Customer to Meter (C2M)
 - Restructuring Customer Service
 - Implement satellite-based leak detection FY20
 - Improve upon water loss quantification

Water Loss Reduction

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

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 loss
 - Choose practical water loss metrics and goals based on volume and revenue
 - Implement plan
 - Assess results / continuous improvement program

Questions

