

Revised Draft Proposal: Inclusion of Apparent loss in Water Loss Control Regulation

Summary

“Apparent loss” is defined in the American Water Works Association (AWWA) M36 manual as the non-physical water loss or revenue loss that occurs when water loss deliveries are not measured accurately. Real loss, or losses from physical leakage, are estimated in a water loss audit by subtracting delivered water and estimated apparent loss and production meter inaccuracies from total water supplied into the distribution system.

Stakeholders have suggested that real loss estimates need greater accuracy than is reflected in currently reported data in order for the Board to use these data to set reasonable standards. The improvement in real loss estimates is contingent on reliable estimates of the large supply and delivery volumes, and thus the associated meter accuracy. Data handling and billing errors can contribute to errors in real loss estimates. Some stakeholders have also requested that the Board include apparent water loss control measures within the Water Code section 10608.34 regulatory requirements.

Several water suppliers report relatively low real loss, with 94 suppliers under 16 gallons per connection per day. A large number¹ of these suppliers do not conduct source meter testing or calibration, which could introduce an error in the real loss estimate. A deeper dive into the underlying data informing the audit would improve accuracy in water loss reporting.

The revised draft proposal would require urban retail water suppliers to report on their current practices to improve the accuracy of apparent loss estimates, and thus their real loss estimates. Staff recommends that the reporting be in form of responses to the proposed data submission request by 2022.

Proposed regulatory requirements

Urban water suppliers shall provide responses to the following data submission request by 2022²:

¹ The number of suppliers that could not provide data on source meter inaccuracies, despite reporting water supplied through own sources, ranged from 160 to 183 suppliers (about 42 to 52% of reporting suppliers). About 20% of suppliers could not provide data on export meter inaccuracies, despite reporting water exports.

² Suppliers meeting proposed criteria for low real loss and high data quality would be exempted from the requirement to respond to this questionnaire.

1. What proportion of your agency's source/production water withdrawals is metered, in percent? _____

2. Does your agency have a program for regular flow testing of its production and source meters for accuracy?
 - As of December 1, 2022, Agency has a program for regular flow testing of source/production meters. List the proportion of source/production meters tested in the calendar year of 2022 both by total number of flowmeters and by volume of total annual withdrawals. _____
 - As of December 1, 2022, Agency plans to begin a program for regular flow testing of source/production meters by the year _____. List the proportion of the agency's total annual withdrawals that the production/source meters to be tested annually would represent: _____%.
 - As of December 1, 2022, Agency does *not* plan to have a program for regular flow testing for accuracy of source/production meters.
 - Other _____

3. On an average basis, how frequently are source meters installed in your system flow tested to determine accuracy? Select all that apply.
 - Agency flow tests all source/production meters (by number of flowmeters) once every _____ years for accuracy.
 - Agency annually flow tests source/production meters for accuracy representing _____% of the total annual withdrawals.
 - Agency will begin annual flow tests source/production meters for accuracy representing _____% of the total annual withdrawals by the year _____.
 - List the proportion of Agency's total number of source/production flowmeters that have not been flow tested for accuracy at least 36 months prior to December 1, 2022. _____
 - List the proportion (%) of Agency's annual volume of water measured by source/production flowmeters that has *not* been flow tested for within 36 months prior to December 1, 2022.
 - Other: _____

4. Does your agency have a program for regular electronic calibration of secondary instrumentation that supports the Agency's source or production meters?
 - As of December 1, 2022, Agency has a program for regular electronic calibration of source meters/production meters. List the proportion of source/production meters tested in calendar year 2022 both by total number of flowmeters _____ and by volume of total annual withdrawals _____.

- As of December 1, 2022, Agency plans to begin a program for regular electronic calibration of the secondary instrumentation installations that support source meters by the year ____.
 - As of December 1, 2022, Agency does *not* plan to have a program for regular electronic calibration of the secondary instrumentation installations that support the Agency's source/production meters.
 - Other _____
5. On an average basis, what is the frequency at which the Agency conducts regular electronic calibration of the secondary instrumentation installations that support the Agency's source/production meters?
- Agency conducts electronic calibration of its secondary instrumentation of all source/production meters (by number of flowmeters) once every ____ years.
 - Agency annually conducts electronic calibration of its secondary instrumentation of source/production meters representing ____% of the total annual withdrawals.
 - Agency will begin annually conducting electronic calibration of its secondary instrumentation of source/production meters for accuracy representing ____% of the total annual withdrawals by the year ____.
 - List the proportion of Agency's total number of source/production flowmeters that have *not* undergone electronic calibration within 36 months prior to December 1, 2022. _____
 - List the proportion of Agency's total withdrawals represented by source/production flowmeters that have *not* undergone electronic calibration within 36 months prior to December 1, 2022. _____
 - Other _____
6. What proportion of your agency's authorized consumption is measured by customer meters?
- Percentage of customer accounts _____%
- Percentage of volume of delivery to customers _____%
7. Does your agency have a program for regular flow testing of its customer meters for accuracy? (include testing during new installations)
- As of December 1, 2022, Agency has a program for regular flow testing of customer meters. List the proportion of customer meters tested in calendar year 2022 both by total number of customer meters and by volume of total annual deliveries. _____
 - As of December 1, 2022, Agency plans to begin a program for regular flow testing of customer meters by the year _____. List the proportion of the

- Agency's total annual deliveries that the customer meters to be tested annually would represent: ____%.
- As of December 1, 2022, Agency does *not* plan to have a program for regular flow testing for accuracy of customer meters.
 - Other _____
8. How frequently are customer meters installed in your system flow tested (include testing during new installations) to determine accuracy? Select all that apply.
- All customer meters are tested once every ____ years.
 - A representative sample of ____% of the entire customer meter fleet is flow tested every ____ years.
 - A representative sample of meters representing ____% of the total annual deliveries is flow tested every ____ years.
 - Customer water meters are flow tested only upon customer request.
 - Agency has *not* conducted accuracy testing for at least 95% of the residential customer meter fleet within the past five years.
 - Other _____
9. Which types of data handling and billing errors (e.g., Systematic Data Handling Error) has your Agency identified in the last year? (check all that apply)
- The billing account activation process results in a period of time that can elapse between the date of the water meter installation and the date that an active billing account is established in the Customer Billing System, thereby allowing water consumption to occur without billing for the elapsed time period.
 - The customer billing system allows accounts that are not active (such as a vacant house) to exist in "non-billed" status, under which a bill is not issued.
 - The customer billing system programming creates monetary credits to customers by employing negative values in consumption readings for the billing period.
 - Municipally owned buildings do not have water meters or annual readings of water consumption, thereby consuming water that is not tracked in the billing process.
 - Other _____