

# **Water Loss Performance Standards Draft Regulatory Text**

## **Title 23. Waters**

### **Division 3. State Water Resources Control Board and Regional Water Quality Control Boards**

#### **Chapter 3.5. Urban Water Use Efficiency and Conservation**

#### **Article 1. Water Loss Performance Standards for Urban Retail Water Suppliers**

##### **§ 980. Definitions**

As used in this Article:

- (a) “Active leak detection” means the industry approach used to proactively detect and locate leaks in water distribution systems owned or operated by urban water suppliers.
- (b) “Annual audit” means the annual water loss audit submitted by an urban water supplier pursuant to Water Code 10608.34, subdivision (b).
- (c) “Annual background leakage” is the total fraction of real loss that is not detected by active leak detection in a distribution system, in acre-feet per year. The default value shall be the value calculated in accordance with section 982, subdivision (a)(1).
- (d) “Annual reported leakage” is the total volume of real loss occurring due to reported leaks on mains and reported leaks in lateral and service lines, in acre-feet per year. The default value shall be the value calculated in accordance with section 982, subdivision (a)(2).
- (e) “Annual unreported leakage” is the average baseline real loss that remains after deducting the annual reported leakage and the annual background leakage, in acre-feet per year. The default value shall be the value calculated in accordance with section 982, subdivision (a)(3).
- (f) “Apparent losses” means the type of inaccuracies associated with customer metering and billing inaccuracies in addition to water loss to theft as reported in the annual audit as “apparent losses.”
- (g) “Average baseline real loss” means the average of the real loss reported in the annual audits submitted for the fiscal or calendar years 2017, 2018, 2019 and 2020. The urban water supplier may choose to calculate the average baseline real loss using three out of the four years of 2017, 2018, 2019 and 2020 if the value not used varies by over 10 gallons per service connection per day for suppliers reporting in gallons per connection per day or 740 gallons per mile per day for suppliers reporting in gallons per mile per day from the each of the values for the other three years or if the value not used is negative.
- (h) “Average duration between reporting and repair of reported leaks on laterals and service lines” means the average duration between the time when the urban water supplier becomes aware of a leak occurring on lateral and service

lines and the time when it repairs the leak, rounded to the closest whole number, in days. Unless a supplier uses its own values as indicated in this article, the default value shall be 8.

- (i) “Average duration between reporting and repair of reported leaks on mains” means the average duration between the time when the urban water supplier becomes aware of a leak occurring on mains and the when time it repairs the leak, rounded to the closest whole number, in days. Unless a supplier uses its own values as indicated in this article, the default value shall be 3.
- (j) “Average flow rate for reported leaks on laterals and service lines” means the average real loss per unit time from reported leaks occurring on lateral or service lines, in gallons per minute per leak. Unless a supplier uses its own values as indicated in this article, the default value shall be 7.
- (k) “Average flow rate for reported leaks on mains” means the average real loss per unit time from reported leaks occurring on mains, in gallons per minute per leak. Unless a supplier uses its own values as indicated in this article, the default value shall be 50.
- (l) “Average leak detection survey frequency” is the average length of pipelines on which the urban water supplier can conduct active leak detection, in miles per month, as follows:
  - (1) For urban water suppliers with average length of mains less than 500 miles, average length of mains divided by 24;
  - (2) For urban water suppliers with average length of mains equal to or more than 500 miles, but less than 1,000 miles, average length of mains divided by 30;
  - (3) For urban water suppliers with average length of mains equal to or more than 1,000 miles, but less than 4,000 miles, average length of mains divided by 36; and
  - (4) For urban water suppliers with average length of mains equal to or more than 4,000 miles, but less than 6,000 miles, 114 miles.
  - (5) For urban water suppliers with average length of mains equal to or more than 6,000 miles, 130 miles.
- (m) “Average length of mains” means the average of the values of total length of pipelines owned or operated by the urban water supplier reported as “length of mains” in the annual audits submitted in 2017, 2018, 2019 and 2020, in miles, unless the values provided are negative or the audit has not been submitted.
- (n) “Average number of service connections” means the average of the values of the total number of customer service connections supplied by the urban water supplier reported as “number of active and inactive service connections” in the annual audits submitted in 2017, 2018, 2019, and 2020, unless the values provided are negative or the audit has not been submitted.
- (o) “Average operating pressure” means the average of the values of the pressure in the distribution system owned or operated by the urban water supplier reported as “average operating pressure” in the annual audits submitted in

2017, 2018, 2019, and 2020, in pounds. per square inch, unless the values provided are negative or the audit has not been submitted.

- (p) “Average unit cost of leak detection surveying” is the average total cost incurred by the urban water supplier to conduct active leak detection, including equipment and labor costs and additional administrative costs associated with active leak detection, per unit mile of pipeline owned or operated by the urban water supplier, in dollars per mile surveyed. Unless a supplier uses its own values as indicated in this article, the default value shall be 595.
- (q) “Average unit leak repair costs for mains” means the average total cost incurred by the urban water supplier to repair each occurring leak on mains, including equipment and labor costs and additional administrative costs associated with repair, in dollars per leak. Unless a supplier uses its own values as indicated in this article, the default value shall be 5,946.
- (r) “Average unit leak repair costs for laterals and service lines” means the average total cost incurred by the urban water supplier to repair each occurring leak on laterals and service leaks, including equipment and labor costs and additional administrative costs associated with repair, in dollars per leak. Unless a supplier uses its own values as indicated in this article, the default value shall be 2,330.
- (s) “Average variable production cost” means the average of the values of the cost to produce and supply the next unit of water for the urban water supplier reported as “variable production cost” in the annual audits submitted in 2017, 2018, 2019 and 2020, in dollars per acre-foot, unless the values provided are negative or the audit has not been submitted.
- (t) “Board” means the State Water Resources Control Board.
- (u) “Department” means the Department of Water Resources.
- (v) “Detected” means leaks found on the water distribution system owned or operated by an urban water supplier using active leak detection.
- (w) “Efficiency of leak detection equipment” is the average ratio of occurring leaks discovered by the urban water supplier on excavation solely due to active leak detection to the total number of leaks detected by active leak detection, in percent. Unless a supplier uses its own values as indicated in this article, the default value shall be 70.
- (x) “Executive Director” means the board’s executive director.
- (y) “Exported water” means the volume of water sold to another agency as reported by the urban retail water supplier in the annual audit as “water exported.”
- (z) “Imported water” means the volume of water purchased from another agency as reported by the urban retail water supplier in the annual audit as “water imported.”
- (aa) “Infrastructure condition factor” is a factor that relates the total background leakage with the unavoidable background leakage based on distribution system characteristics. It can be determined by assessing the distribution system’s

condition, and evaluating the infrastructure condition factor if the real loss comprised of no total background leakage and if the real loss comprised of only total background leakage. Infrastructure condition factor is the total background leakage divided by the unavoidable background leakage for the distribution system owned or operated by the urban water supplier. Unless a supplier uses its own values as indicated in this article, the default value shall be 1.

- (bb) "Laterals or service lines" means the pipelines in the water distribution system owned or operated by the urban water supplier that convey water from mains to service connections.
- (cc) "Leak" means failure of pipeline or other parts of water distribution infrastructure that leads to real loss from the water distribution system owned or operated by the urban water supplier.
- (dd) "Mains" means pipelines in the water distribution system owned or operated by the urban water supplier that conveys water from the point of input to the distribution system to smaller lateral pipelines that distribute water throughout the urban water supplier's service area.
- (ee) "Marginal avoided cost of water for 2020" means the value of per unit volume of water saved due to reduced real loss, including the current variable production cost of water and anticipated costs for providing safe, accessible water and improving groundwater basin sustainability in compliance with the Sustainable Groundwater Management Act, in dollars per acre-foot. Unless a supplier uses its own values as indicated in this article, the default value shall be 1,093.
- (ff) "Median household income determination" means the calculation conducted by the Board to determine the median household income for each urban water supplier service area based on the median household income data for counties of California and census tract data.
- (gg) "Metered" means when the water furnished or delivered through a part of the water distribution system is measured through a water meter. "Water meter" has the same meaning as in Water Code Section 516.
- (hh) "Month of implementation" means the month after the end of 2021 to implement water loss control, and ranges from 1 to 360.
- (ii) "Number of reported leaks on laterals and service lines" means the number of leaks that are found without active leak detection and are reported to the urban water supplier by the general public or the supplier's own personnel, on its lateral or service lines, in leaks per thousand average number of service connections per year. Unless a supplier uses its own values as indicated in this article, the default value shall be 2.3.
- (jj) "Number of reported leaks on mains" means the number of leaks that are found without active leak detection and are reported to the urban water supplier by the general public or the supplier's personnel, staff or contractors on its mains, in leaks per mile of average length of mains per year. Unless a supplier uses its own values as indicated in this article, the default value shall be 0.2.

- (kk) “Number of unreported leaks on laterals and service lines” means the number of leaks that are found through active leak detection on its lateral or service lines in leaks per thousand average number of service connections per year. Unless a supplier uses its own values as indicated in this article, the default value shall be 9.5.
- (ll) “Number of unreported leaks on mains” means the number of leaks that are found through active leak detection on its mains, in leaks per mile of average length of mains per year. Unless a supplier uses its own values as indicated in this article, the default value shall be 0.01.
- (mm) “Owned or operated” refers to components of the water distribution system that the urban water supplier owns or uses, or both, to distribute water to its service area.
- (nn) “Rate of rise of leakage” means the rate at which real loss rises in the distribution system owned or operated by the urban water supplier, in gallons per service connection per day per year. This is equivalent to the volume of leakage that rises per unit time between two leak detection surveys, after repairing all detected leaks through the preceding active leak detection and repair effort in portions of the distribution system. Unless a supplier uses its own values as indicated in this article, the default value shall be 4.
- (oo) “Real loss” means the volume of annual leakage volume due to physical leakage, not including apparent losses, reported in the annual audit as “current annual real loss.”
- (pp) “Repair” means using the appropriate method to fix a leak to stop real loss occurring from it.
- (qq) “Reported leaks” means leaks occurring in the water distribution system owned or operated by the urban water supplier that are found without active leak detection and are reported to the urban water supplier by the general public or the supplier’s personnel, staff or contractors.
- (rr) “Service area” means the geographical area in which an urban water supplier supplies water and has distribution system infrastructure and/or service connections.
- (ss) “Service connection” has the same meaning as in Health and Safety Code section 116275.
- (tt) “Unavoidable background leakage” means the minimum volume out of the average baseline real loss that is not detected by active leak detection in a distribution system.
- (uu) “Unbilled metered water” means the volume of water supplied by the urban retail water supplier that is not billed but metered as reported by the urban retail water supplier in the annual audit as “unbilled metered consumption.”
- (vv) “Unreported leakage over 2027” means the sum of the twelve months of Monthly unreported real loss with intervention, as calculated pursuant to section 982, subdivision (a)(10), as follows:

- (1) For urban water suppliers reporting by calendar year, the sum of the twelve months of Monthly unreported real loss with intervention for the months of January through December of 2027.
- (2) For urban water suppliers reporting by fiscal year, the sum of the twelve months of Monthly unreported real loss with intervention summed for the months of July 2026 through June 2027.
- (ww) “Urban water supplier” or “supplier” means a supplier that meets the definition set forth in Water Code section 10617, except it does not include suppliers when they are functioning solely in a wholesale capacity.
- (xx) “Water from own sources” means the volume of water withdrawn from water resources controlled by the urban water supplier as reported by the urban retail water supplier in the annual audit as “volume from own sources.”

**Authority: Section 1058, Water Code.**

**References: Article X, Section 2, California Constitution; Sections 102, 104, 105, 350, 1846, 10617, and 10632, Water Code.**

**§ 981. Volumetric Water Loss Performance Standards**

- (a) No later than January 1, 2028, each urban water supplier shall reduce real loss from its distribution system to no greater than the water loss standard identified in this article, as reflected in the supplier’s reported real loss in its annual audit submitted in 2028.
- (b) If the urban water supplier’s real loss reported in its 2028 annual audit exceeds the supplier’s water loss standard calculated in accordance with in section 982, the supplier will be in compliance with subdivision (a) of this section if the supplier has achieved its water loss standard as reflected in the real loss levels reported in its annual audit submitted in either 2026 or 2027.
- (c) After 2028, each urban water supplier’s compliance with its water loss standard shall be assessed in every third year beginning in 2031 based on a running three-year average of the real losses reported in its three most recent annual audits. A supplier shall maintain, for each compliance assessment, real loss that is no greater than 5 gallons per connection per day above the supplier’s water loss standard.
- (d) An urban water supplier’s water loss standard may be adjusted to include changes to the supplier’s data used in section 982, pursuant to section 984.
- (e) In accordance with section 985, an urban water supplier may seek approval of a variance to its water loss standard in response to unexpected adverse conditions.
- (f) Compliance with this section shall be assessed beginning January 1, 2031 for an urban water supplier whose service area meets the following criteria:
  - (1) The service area has a disadvantaged communities (DAC) or severely disadvantaged communities (SDAC) designation owing to the median household income of the supplier’s service area being less than or equal

- to 80 percent of the median household income of California per the median household income determination conducted by the board;
- (2) The service area has a calculated benefit to cost ratio till 2028, pursuant to section 982, subdivision (a)(24), of less than 2; and
  - (3) The urban water supplier's water loss standard calculated pursuant to section 982, subdivision (b)(1) is lower than the supplier's average baseline real loss by 25% or more.

**Authority: Sections 1058, 10608.34, Water Code.**

**References: Article X, Section 2, California Constitution; Sections 102, 104, 105, 350, 1846, 10617, and 10632, Water Code.**

**§ 982. Economic Model**

- (a) Except as provided in subdivision (d), each urban water supplier's water loss standard shall be based on the formula identified in subdivision (b), with the following inputs based on each supplier's own data or the default value:

- (1) Annual background leakage:

$$\begin{aligned} \text{Annual background leakage} = & (0.2 \times \text{Average length of mains} + 0.008 \times \text{Average number of service connections}) \\ & \times \text{Infrastructure Condition Factor} \times \left( \frac{\text{Average operating pressure}}{70} \right)^{1.5} \end{aligned}$$

- (2) Annual reported leakage:

$$\begin{aligned} \text{Annual Reported leakage} = & \text{Average length of mains} \times \text{Average flow rate for reported leaks on mains} \times \\ & \left( \frac{\text{Average operating pressure}}{70} \right) \times \\ & \text{Average duration between reporting of and repair of leaks on mains} \\ & + \text{Number of reported leaks on laterals and service lines} \times \\ & \frac{\text{Average number of service connections}}{1000} \times \\ & \text{Average flow rate for reported leaks on laterals and service lines} \times \\ & \left( \frac{\text{Average operating pressure}}{70} \right) \times \text{Average duration between reporting of and} \\ & \text{repair of leaks on laterals and service lines} \end{aligned}$$

- (3) Annual Unreported leakage:

Annual Unreported leakage shall be calculated by deducting Annual Background leakage and Annual Reported leakage from Average baseline real loss

- (4) Months taken to survey whole system:

Months taken to survey whole system shall be calculated by dividing Average length of mains by Average leak detection survey frequency

(5) Unreported leakage per part of system:

Unreported leakage per part of system shall be calculated by dividing annual unreported leakage by months taken to survey whole system

(6) Rate of rise of leakage per part of system:

Rate of rise of leakage per part of system shall be calculated by dividing Rate of rise of leakage by months taken to survey whole system

(7) Monthly water lost due to backlog of unreported leakage:

Monthly water lost due to backlog of unreported leakage shall be calculated as follows:

$$\frac{1}{12} \times \text{Unreported leakage per part of system} \\ \times (\text{Months taken to survey whole system} \\ - \text{month of implementation} + 1)$$

(8) Monthly water lost from rising leakage prior to first leak survey:

Monthly water lost from rising leakage prior to first leak survey shall be calculated as follows:

$$(\text{Months taken to survey whole system} - \text{month of implementation} + 1) \\ \times \left( \text{rate of rise of leakage per part of system} \times \left(\frac{1}{12}\right)^2 \right. \\ \left. \times (\text{month of implementation} - 0.5) \right)$$

(9) Monthly water lost from rising leakage after survey:

Monthly water lost from rising leakage after survey shall be calculated as follows:

$$\frac{1}{2} \times \text{rate of rise of leakage per part of system} \times \left(\frac{1}{12}\right)^2 \\ \times \text{Months taken to survey whole system}^2$$

(10) Monthly unreported real loss with intervention:

Monthly unreported real loss with intervention shall be the sum of Monthly water lost due to backlog of unreported leakage plus Monthly water lost from rising leakage prior to first leak survey plus Monthly water lost from rising leakage after survey

(11) Monthly unreported real loss without intervention:



Monthly unreported real loss without intervention shall be calculated as follows:

$$\frac{\text{Months taken to survey whole system}}{12} \times \left( \text{Unreported leakage per part of system} + \frac{\text{rate of rise of leakage per part of system} \times (\text{month of implementation} - 0.5)}{12} \right)$$

(12) Water saved in month of implementation:

Water saved in month of implementation shall be calculated by deducting Monthly unreported real loss with intervention from Monthly unreported real loss without intervention

(13) Marginal avoided cost of water in 2022:

Marginal avoided cost of water in 2022 shall be calculated as follows:  
Marginal avoided cost of water in 2020 multiplied by 1.118

(14) Value of water in month of implementation:

Value of water in month of implementation shall be calculated as follows:

$$\text{Marginal avoided cost of water in 2022} \times (1 + 0.0049 \times (\text{month of implementation} - 1))$$

(15) Benefit in month of implementation:

Benefit in month of implementation shall be the product of water saved in month of implementation and value of water in month of implementation

(16) Present value of benefit for each month:

Present value of benefit for each month =

$$\frac{\text{Benefit in month of implementation}}{(1.0029)^{\text{month of implementation}}}$$

(17) Cost of leak detection during each month:

Cost of leak detection during each month shall be the product of Average leak detection survey frequency and average unit cost of leak detection surveying

(18) Unreported leakage per month:

(A) If month of implementation is less than months taken to survey whole system, then unreported leakage per month shall be calculated as follows:

$$\text{Unreported leakage per part of system} + \text{month of implementation} \times \left( \frac{1}{12} \right) \times \text{rate of rise of leakage per part of system}$$

(B) If month of implementation is greater than months taken to survey whole system, then unreported leakage per month shall be calculated as follows:

$$\left(\frac{1}{12}\right) \times \text{Months taken to survey whole system} \\ \times \text{rate of rise of leakage per part of system}$$

(19) Cost of leak repair during each month:

Cost of leak repair during each month shall be calculated as follows:

$$\frac{\text{Unreported leakage per month}}{\left(\frac{\text{Annual unreported leakage}}{\text{Efficiency of leak detection equipment}}\right)} \\ \times (\text{Number of unreported leaks on mains} \\ \times \text{Average unit leak repair cost for mains} \\ + \text{Number of unreported leaks on laterals and service lines} \\ \times \text{Average unit leak repair costs for laterals and service lines per leak})$$

(20) Total leak detection and repair cost for each month:

Total leak detection and repair cost for each month shall be the sum of cost of leak detection during each month plus cost of leak repair during each month

(21) Present value of cost for each month:

$$\text{Present value of cost for each month} = \\ \frac{\text{Total leak detection and repair cost for each month}}{(1.0029)^{\text{month of implementation}}}$$

(22) Present value of net benefit in month of implementation:

Present value of net benefit in month of implementation shall be calculated by deducting Present value of cost for each month from Present value of benefit for each month

(23) Present value of net benefit over 30 years:

Present value of net benefit over 30 years is the sum of present value of net benefit in month of implementation summed from January 1, 2022 through December 31, 2051

(24) Benefit to cost ratio till 2028:

The Benefit to cost ratio till 2028 is the sum of present value of benefit for each month from January 2022 through December 2027 divided by the sum of the Present value of cost for each month from January 2022 through December 2027.

- (b) (1) Each urban water supplier's water loss standard shall be the sum of annual reported leakage plus annual background leakage plus unreported leakage over 2027.  
 (2) If Present value of net benefit over 30 years is negative, the standard is equal to the average baseline real loss.

- (3) If present value of net benefit over 30 years is zero or positive, the standard is equal to the sum of annual background leakage plus annual reported leakage plus unreported leakage over 2027.
- (c) For purposes of subdivision (a) of this section, each input value, except real discount rate, average annual rise in price of water, and effective timeline for lifecycle benefit-cost analysis, shall be either the default value identified in section 980, or the supplier's own value if adequately supported by documentation submitted to the board. If the board concludes that any specific value used by a supplier is not adequately supported by documentation, the board shall promptly communicate that deficiency to the supplier with a timeline within which to cure the deficiency.
- (d) (1) The water loss standard for an urban water supplier whose average baseline real loss is 16 gallons per connection per day or less, or, for an urban water supplier that reports real loss in gallons per mile per day in the annual audit, 1,184 gallons per mile per day or less, is 16 gallons per connection per day, or, for an urban water supplier that reports real loss in gallons per mile per day in the annual audit, 1,184 gallons per mile per day, assessed on a three-year average basis every three years beginning 2028, if supplier also meets the following criteria for its annual audits:
- (A) The supplier does not show a variability higher than 10 gallons per connection per day for suppliers reporting in gallons per connection per day or 740 gallons per mile per day for suppliers reporting in gallons per mile per day for real loss on any annual audit for the years 2017, 2018, 2019 and 2020.
  - (B) For a supplier that has reported a negative value for the real loss for any of the years 2017, 2018, 2019 or 2020, it has identified the cause for the negative value and the steps taken to correct it.
  - (C) The supplier's water from own sources, imported water and exported water are completely metered.
  - (D) If the supplier's water from own sources is greater than 5% of the total water supplied, the supplier demonstrates that meters measuring at least 95% of the total produced volume are tested on at least an annual basis.
  - (E) If the supplier's imported water volume is greater than 5% of the total water supplied, the supplier demonstrates that meters measuring at least 95% of the total imported volume are calibrated on at least an annual basis.
  - (F) If the supplier's exported water volume is greater than 5% of the total water supplied, the supplier demonstrates that meters measuring at least 95% of the total exported volume are tested on at least an annual basis.
  - (G) All customer accounts, excluding those measuring fire-flow, are metered, with at least 90% success rates in meter reading.
  - (H) A statistically significant sample of customer meters, as determined by the supplier, or 300 meters, whichever is lower, are tested annually.

- (1) If the unbilled metered water volume is higher than 1% of the total water supplied, the supplier reads the meters for accounts that are supplied through unbilled metered water accounts at the same or greater frequency as the supplier reads the meters for the majority of customers.
- (2) This subdivision shall only apply to urban water suppliers that submit, on or before January 1, 2023, supporting documentation to demonstrate they meet the real loss and data quality criteria of this subdivision.
- (3) An urban water supplier whose average of its real loss reported for the years 2021 and 2022 is 16 gallons per connection per day or less, or, for an urban water supplier that reports real loss in gallons per mile per day in the annual audit, 1,184 gallons per mile per day or less, shall maintain real loss at or below 16 gallons per connection per day, or, for an urban water supplier that reports real loss in gallons per mile per day in the annual audit, 1,184 gallons per mile per day, assessed on a three-year average basis every three years beginning 2028, provided that the supplier also meets the criteria identified in subdivision (f)(1) of this section in its annual audits, except that for subdivisions (f)(1)(A) and (B) the supplier's data shall be for the years 2021 and 2022.

Authority: Sections 1058, 10608.34, Water Code.

References: Article X, Section 2, California Constitution; Sections 102, 104, 105, 350, 1846, 10617, and 10632, Water Code.

### **§ 983. Questionnaires**

- (a) Each urban water supplier, except those meeting the criteria in section 981, subdivision (f), shall submit responses to specific questions developed by the board on metering practices and data handling that influence data quality for water loss audits by January 1, 2023. Questions shall solicit information on the following:
  - (1) The proportion of source/production water withdrawals that is metered
  - (2) The program for regular flow testing of its production and source meters for accuracy
  - (3) Frequency with which source meters are tested
  - (4) The program for regular electronic calibration of secondary instrumentation that supports source or production meters, including the frequency of calibration
  - (5) The proportion of authorized consumption that is measured by customer meters
  - (6) The program for regular flow testing of customer meters for accuracy
  - (7) Frequency with which customer meters are flow tested to determine accuracy
  - (8) Types of data handling and billing errors identified in the prior year
- (b) Each urban water supplier, except those meeting the criteria in section 981, subdivision (f), shall submit responses to specific questions developed by the board on pressure management practices and associated estimated real loss reduction that influence data quality for water loss audits by July 1, 2024, and

updated responses by July 1, 2027. Questions shall solicit information on the following:

- (1) Devices used to control pressure transients in the water distribution system
  - (2) Inspection, maintenance and repair of devices installed for controlling pressure transients in the distribution system
  - (3) Inspection, maintenance and repair of pressure reducing/modulating valves in the distribution system
  - (4) Frequency with which each device for controlling pressure transients is inspected
  - (5) Portions of the system that have high operating pressure
  - (6) Potential for reducing or modulating pressure to reduce leakage
  - (7) For update response due by July 1, 2027, approach to reduce leakage in high leakage zones
  - (8) For update response due by July 1, 2027, whether pressure management can be implemented while meeting water quality and fire flow requirements for the distribution system
  - (9) Estimated feasible water loss reduction as a result of pressure management, projected to 2035.
- (c) Each urban water supplier, except those meeting the criteria in section 981, subdivision (f), shall submit responses to specific questions developed by the board on asset management practices and associated estimated real loss reduction that influence data quality for water loss audits by July 1, 2024, and updated responses by July 1, 2027. Questions shall solicit information on the following:
- (1) Maintenance of records regarding distribution infrastructure failures
  - (2) Data fields included in infrastructure failure records
  - (3) Approach to identifying and prioritizing replacement, rehabilitation, or protection of water distribution infrastructure components that break or leak, including system and environmental factors
  - (4) For update response due by July 1, 2027, total projected length of water distribution pipe in miles replaced in each year between 2027 and 2035
  - (5) For update response due by July 1, 2027, the actual length of water distribution pipe in miles replaced on an average basis annually between 2024 and 2027
  - (6) For update response due by July 1, 2027, projections regarding distribution infrastructure components that will be replaced, rehabilitated, or provided enhanced protection through 2035
  - (7) For update response due by July 1, 2027, estimated feasible water loss reduction, projected to 2035

***Authority: Sections 1058, 10608.34, Water Code.***

***References: Article X, Section 2, California Constitution; Sections 102, 104, 105, 350, 1846, 10617, and 10632, Water Code.***

#### **§ 984. Adjustments**

- (a) An urban water supplier may submit to the Board, no later than July 1, 2023, a request for adjustment to its water loss standard based on utility-specific conditions affecting operations and system conditions.
- (b) A request for adjustment must include a description of specific parameters or data that would be adjusted, documentation supporting the request, and an assessment of impacts from the adjustment of input(s).
- (c) The executive director, or executive director's designee, shall provide a decision on a request to adjust an urban water supplier's water loss standard within 90 days of receiving the request and supporting documentation. This may be extended by the executive director or the executive director's designee upon a determination that the supporting documentation is insufficient.

***Authority: Sections 1058, 10608.34, Water Code.***

***References: Article X, Section 2, California Constitution; Sections 102, 104, 105, 350, 1846, 10617, and 10632, Water Code.***

#### **§ 985. Variances**

- (a) An urban water supplier may seek approval of a variance to its water loss standard if needed to respond to unexpected adverse conditions out of the utility's control. Examples include major damage to the utility's distribution system or storage infrastructure, major unexpected changes in avoided water costs, and major changes in the utility's financial situation (e.g., bankruptcy or substantial loss of revenue). Drought shall not generally support a variance pursuant to this section.
- (b) Any request for a variance shall include a description and assessment of impacts from the identified adverse condition, a clearly identified need for the revision, a proposed schedule, or milestones, for return to the usual standard, and documentation supporting the request.
- (c) The variance shall be in the form of an extension of the compliance period or a temporary adjustment of the real loss standard identified in section 982 for the urban water supplier.
- (d) The executive director, or the executive director's designee, shall provide prompt decisions on requests for variances.

***Authority: Sections 1058, 10608.34, Water Code.***

***References: Article X, Section 2, California Constitution; Sections 102, 104, 105, 350, 1846, 10617, and 10632, Water Code.***

#### **§ 986. Additional Conservation Tools**

- (a)(1) When an urban water supplier does not meet its standard required by section 981 the executive director, or the executive director's designee, may issue conservation orders requiring additional actions by the supplier to come into compliance with its water loss standard.

- (2) A decision or order issued under this article by the board or an officer or employee of the board is subject to reconsideration under article 2 (commencing with section 1122) of chapter 4 of part 1 of division 2 of the Water Code.
- (b) The executive director, or the executive director's designee, may issue an informational order requiring an urban water supplier to submit additional information relating to water loss. The failure to provide the information requested within 30 days or any additional time extension granted is a violation subject to civil liability of up to \$500 per day for each day the violation continues pursuant to Water Code section 1846.
- (c) Submitting any information pursuant to this article that the person who submits the information knows or should have known is materially false is a violation of this article and is punishable by civil liability of up to five hundred dollars (\$500) for each day in which the violation occurs. Every day that the error goes uncorrected constitutes a separate violation. Civil liability for the violation is in addition to and does not supersede or limit any other remedies, civil or criminal.

***Authority: Sections 1058, 10608.34, Water Code.***

***References: Article X, Section 2, California Constitution; Sections 102, 104, 105, 350, 1846, 10617, and 10632, Water Code.***