

Memorandum

Date: September 29, 2022

To: Eileen Sobeck, Executive Director
State Water Resources Control Board
Post Office Box 100
Sacramento, California 95812-0100

From: **Department of Water Resources**

Subject: Recommendations to the State Water Resources Control Board
Pursuant to California Water Code Section 10609

The Department of Water Resources (DWR) is pleased to provide the following recommendations developed in response to the 2018 Legislation (Senate Bill 606 [Hertzberg] and Assembly Bill 1668 [Friedman]) enacted in support of “Making Water Conservation a California Way of Life.” The Legislation included provisions for advancing urban water use efficiency through developing and implementing various water use efficiency standards, variances for unique uses of water, and commercial, industrial, and institutional (CII) performance measures, among other requirements. Full reports detailing our methods, technical analyses, studies, public input, and recommendations will follow.

These recommendations for long-term urban water use efficiency reflect technical considerations, public input, and the imperative to continue California’s progress in urban efficient use of water for future generations. If adopted, DWR’s recommendations on outdoor residential and CII water use on landscapes with dedicated irrigation meters, combined with the indoor residential water use standard recommendations submitted to the Legislature jointly by DWR and State Water Resources Control Board (State Water Board), pursuant to Water Code 10609.4 (b)(1), would result in expected long-term water savings of approximately 450,000 acre-feet per year starting in 2030 – considering 2019 population and 2017-2019 water use data, the water savings are enough to supply about 1.6 million homes or 4.7 million residents for both indoor and outdoor annual water needs.

The 2018 Legislation required DWR, in coordination with the State Water Board, to conduct necessary studies and investigations and recommend the following for adoption by the State Water Board:

- Standards for outdoor residential use that incorporate the principles of the Model Water Efficient Landscape Ordinance (MWELO) adopted by DWR.
- Standards for outdoor irrigation of landscape areas with dedicated irrigation meters, or other means of calculating outdoor irrigation use in connection with CII water use, that incorporate the principles of the MWELO adopted by DWR.

- Performance measures for CII water use:
 - Recommendations for a CII water use classification system for California that address significant uses of water.
 - Recommendations for setting minimum size thresholds for converting mixed commercial, industrial, and institutional meters to dedicated irrigation meters (DIMs) and evaluation of, and recommendations for, technologies that could be used in lieu of requiring DIMs.
 - Recommendations for CII water use best management practices (BMPs), which may include, but are not limited to, water audits and water management plans for those CII customers that exceed a recommended size, volume of water use, or other threshold.
- Appropriate variances for unique uses that can have a material effect on an urban retail water supplier's Urban Water Use Objective (UWUO) and threshold of significance for each recommended variance.
- Guidelines and methodologies for the State Water Board to adopt that identify how an urban retail water supplier calculates its UWUO.

Consistent with the legislative directive, DWR established a robust public process involving a diverse group of stakeholders, including urban water suppliers, non-profit organizations, and other interested parties, for the review and development of the recommendations. Working Groups were convened to assist in the development of the recommendations and served as the primary forums for public engagement. Public meetings were held to provide for broader public engagement.

Recommendations:

1. Recommendations for the Outdoor Residential Water Use Efficiency Standard (ORWUS)

- A. Existing Residential Landscapes. DWR recommends an ORWUS of 0.80 in 2023, transitioning to an ORWUS of 0.63 and no higher in 2030 and beyond. It is acknowledged that the State Water Board may consider the latest information on climate change and aridification during the rule making process.

This phase-in approach is intended to provide a reasonable pathway for urban water supplier compliance with these new State water efficiency standards.

Prior to these final recommendations, DWR publicly shared and sought feedback on a draft ORWUS of 0.65 for 2030 and beyond. Taking into consideration DWR's legislative mandate and the imperative to achieve reasonably greater long-term water use efficiency for climate resilience, DWR recommends an ORWUS of 0.63 for 2030 and beyond.

- B. New Residential Construction. DWR recommends an ORWUS of 0.55, or a more efficient standard that may be identified in future MWELo amendments.
- C. Special Landscape Areas (SLAs) in Residential Parcels. DWR recommends for SLAs, such as gardens or play areas with turf:
 - i. If an urban retail water supplier chooses to include the residential SLAs with the CII-DIM calculations, DWR recommends a CII-DIM water use standard of 1.0 consistent with MWELo guidelines for SLAs. Calculation details will be provided in the full recommendation reports.
 - ii. Alternatively, if an urban retail water supplier chooses to include the residential SLAs in the ORWU calculations, DWR recommends an ORWUS of 0.80 in 2023 and transitioning to a lower ORWUS of 0.63 in 2030 and beyond.
- D. Include 20 Percent of Irrigable-Not Irrigated and 100 Percent of Irrigable-Irrigated Landscape Area. DWR recommends that urban retail water suppliers apply the ORWUS to the sum of Irrigable-Irrigated and 20 percent of Irrigable-Not-Irrigated (INI) landscape areas, with the former adjusted for residential SLAs evaluated under the CII-DIM water use standard. A future adjustment to this INI “buffer” may be warranted pending the outcome of further studies and investigations that DWR recommends be conducted jointly by DWR and the State Water Board.

2. Recommendations for a Water Use Efficiency Standard for CII Outdoor Irrigation of Landscape Areas with Dedicated Irrigation Meters (or Equivalent Technology) (CII-DIMWUS)

- A. Existing CII Landscapes. Based on the evaluation of available ORWUS data and limited CII landscape data, DWR recommends a CII-DIM (or equivalent technology) water use efficiency standard of 0.80 for 2023, transitioning to a standard of 0.63 and no higher in 2030 and beyond for existing landscapes (similar to the recommended ORWUS), with modifications for SLAs. It is acknowledged that the State Water Board may consider the latest information on climate change and aridification during the rule making process.
- B. New CII Landscapes. New CII landscape efficient outdoor water use should use a CII-DIM (or equivalent technology) water use efficiency standard of 0.45, or of the value that may be identified in future MWELo amendments, with modification for SLAs. New CII landscape refers to landscapes installed or rehabilitated after January 1, 2020.

- C. Landscape Area Measurement. The recommended standard would require urban retail water suppliers to identify DIMs and measure the associated irrigated CII landscapes within five years after the State Water Board adopts the regulation.

- D. Additional SLAs. DWR recommends the following additional SLAs under CII-DIMWUS
 - i. Bioengineered slopes
 - ii. Public swimming pools
 - iii. Supplemental water for ponds or lakes including, but not limited to, sustaining wildlife, recreation, or other public benefit. Note that urban retail water suppliers who provide supplemental water to ponds and lakes for sustaining wildlife under specific regulatory requirements should apply for the variance for this purpose

- E. Exempt Landscapes. DWR recommends that landscapes exempt in the Government Code 65598 and 2015 MWELo also be excluded from the UWUO.

3. Recommendations on Variances for Unique Uses of Water

Through investigation of available data and public input, DWR has concluded that sufficient evidence supports the establishment of the eight variances identified in the 2018 Legislation; however, two should be refined: “Significant use of water for soil compaction and dust control” should be limited to “significant use of water for dust control for horse corrals and animal exercising arenas,” and “significant use of water to irrigate vegetation for fire protection” should be modified and expanded to “significant use of water during major emergencies.” The details containing the threshold of significance used will be provided in the full recommendation reports.

DWR also explored additional potential variances beyond the eight identified in the 2018 Legislation. Through research and public input, DWR found that “significant use of water for home use medical devices” had merits to be considered as a potential variance. However, the development of this variance is recommended to be deferred until such time that use of home medical devices becomes prevalent enough that it could have a material effect on urban retail water suppliers’ UWUO.

4. Recommendations on CII Water Use Performance Measures

Because of the recognized complexity and diversity in CII water use and necessity of maintaining economic productivity, except for the CII outdoor irrigation with dedicated meters, water use efficiency in the CII sectors is not based on standards or quantification of water use, but rather it is subject to compliance with “performance measures”. “Performance measures” means actions to be taken by urban retail water suppliers that will result in increased water use efficiency by CII water users. Urban retail water suppliers must document implementation of the CII water use performance measures in their annual water use report to DWR. DWR recommends the following CII performance measures.

- A. CII Water Use Classification System. Based on the evaluation of technical and financial feasibility and public feedback, DWR recommends a water use classification system that is water-centric with complete coverage of all CII water uses with 19 categories.

DWR also recommends the schedule for implementing a CII water use classification system requiring urban retail water suppliers to complete their classifications be within five years after the State Water Board adopts the regulation.

Implementation of the CII water use classification system will not require urban retail water suppliers to reengineer their billing systems or any established account management practices but will require information mapping for reporting purposes. In addition, this new requirement will require DWR to provide additional technical assistance and develop guidance for mapping CII water uses into the adopted CII water use classification system.

- B. Commercial, Industrial, and Institutional Conversion Threshold Performance Measure. DWR conducted studies and investigations to recommend a minimum size threshold for converting mixed CII meters to dedicated irrigation meters (or equivalent technologies) or in-lieu technologies. Many CII landscapes or portions of landscapes are irrigated using water from a meter that serves both indoor and outdoor water uses. Based on the analysis conducted by DWR and stakeholder feedback, DWR recommends a conversion threshold of one acre of landscape area irrigated by a mixed-use meter on a per parcel basis for converting to a DIM (or equivalent technology) or in-lieu technologies.

DWR also recommends the schedule for implementing the CII conversion threshold performance measure requiring urban retail water suppliers to complete their landscape area measurements and determination of whether or not a dedicated meter (or equivalent technology) or in-lieu technologies will be implemented be within five years after the State Water Board adopts the regulation.

C. Recommendations on Commercial, Industrial, and Institutional In-Lieu Technologies Performance Measure. Related to the CII conversion threshold performance measure, is the performance measure for implementing technologies to be used in-lieu of requiring dedicated irrigation meters for those irrigated landscape areas served by mixed use meters that exceed the conversion threshold. Recognizing that the legislation states that performance measures are actions taken by urban retail water suppliers to improve CII water use efficiency, based on studies, investigations, and stakeholder input, DWR recommends the following in-lieu technologies that result in demonstrated or expected improvements in CII water use efficiency:

- Water budget-based rate structures
- Water budget-based management without a rate structure
- Hardware improvements with enhanced performance
- Remote sensing combined with other data and hardware improvements
- Landscape plant palette transformation programs
- Others (as approved by the State Water Board)

Additionally, DWR recommends that urban retail water suppliers include programs for offering or assisting CII water users implement BMPs for communication, irrigation system maintenance, and irrigation scheduling.

DWR also recommends the schedule for implementing the CII in-lieu technologies performance measure requiring urban retail water suppliers to complete their landscape in-lieu technologies be within five years after the first year of landscape measurement under the conversion threshold performance measure.

D. Recommendations on Commercial, Industrial, and Institutional Best Management Practices, Performance Measure, and Threshold for Implementation. DWR was also directed to study and make recommendations on BMPs for those CII water users that exceed a threshold. Many water use efficiency BMPs can only be implemented by the CII water user; however, urban retail water suppliers can, through various mechanisms, facilitate this implementation. There is no single approach to implementing CII-BMPs because of the wide variability in CII water users and urban retail water supplier characteristics; what works for some CII water user types and urban retail water suppliers, will not necessarily work for all. Therefore, selection of specific CII water user BMPs that will be supported by urban retail water supplier programs is necessarily subject to local determination of those that will be most effective for service area CII water users.

DWR recommends a performance measure requiring urban retail water suppliers to design a CII-BMP implementation program specific to their service area CII-customers targeting water users that exceed the sector (classifications) and individual thresholds, including the following elements:

- These thresholds of significance are 1) CII water use sectors that comprise the top 20 percent of all CII water use, and 2) individual top 2.5 percent of CII water users, excluding process water use, regardless of sector.
- The minimum CII-BMP implementation program elements include at least one CII-BMP from each of the five recommended categories (outreach, technical assistance, and education; incentives; landscape; collaboration and coordination; and operational) targeted to sectors and/or individual customers above the individual customer threshold.
- The BMPs implemented as part of the program are required to be supported with documentation demonstrating increased water use efficiency and use of the BMP does not require approval by the State Water Board or DWR, as long as the BMP is demonstrated to increase water use efficiency.

DWR also recommends an alternative pathway for those urban retail water suppliers that have long-term CII-BMPs implementation programs where additional water use efficiencies for CII water users above the threshold may not be achievable.

Furthermore, DWR recommends the schedule for implementing the CII-BMPs performance measure requiring urban retail water suppliers to complete their program development be within three years after the State Water Board adopts the regulation.

5. Recommendations for Bonus Incentive, Methods of Calculation, and Supporting Data Requirements

Potable reuse can be implemented in two different forms: direct potable reuse (DPR), in which recycled water is provided directly to end use, and indirect potable reuse (IPR), in which recycled water is discharged into an environmental buffer for further diversion or extraction for use, along with other sources of water present in the environmental buffer. Environmental buffers can be a surface water storage or groundwater aquifer, resulting in different needs in accounting methodologies.

Based on the four methodologies for IPR that were presented to stakeholders, and that considered data accessibility, staff and technical resources availability, compliance with available regulations and standards, and legislative intent to encourage potable reuse, DWR recommends a methodology that is largely based on Option 2a with some modification (Last-In-First-Out Inclusive of Water Loss Criteria Methodology, as described in the Working Group materials and detailed in the full recommendation report). The recommended methodology uses delivered amounts of potable recycled water to qualified end uses that implicitly include consideration of system losses without unnecessary complexity in the accounting methodology.

This methodology is straightforward for implementation and meets all legislative requirements, and associated guidelines have also been developed. A template for calculating an eligible bonus incentive was developed for use by urban retail water suppliers. DWR will modify the template as necessary after adoption by the State Water Board.

DWR recommends deferring the methodology associated with calculating a bonus incentive for DPR until the State Water Board adopts criteria and regulations for DPR permitting requirements per Assembly Bill 574 (Quirk) of 2017. Until these criteria and regulations are adopted, DPR should not be allowed.

6. Recommendations on Guidelines and Methodologies for Calculating UWUO

DWR recommends guidelines and methodologies for calculating the UWUO as outlined below. The comprehensive guidelines and methodologies are contained in the full recommendation report.

- Calculation of the four efficient water use components that are subject to the standards:
 - Efficient Indoor Residential Water Use
 - Efficient Outdoor Residential Water Use
 - Efficient Outdoor Water Use by Commercial, Industrial, and Institutional Landscape Areas with Dedicated Irrigation Meters
 - Efficient Distribution System Water Loss. If the State Water Board approves a different methodology for calculating efficient distribution system water loss, the State Water Board method will supersede DWR's methodology.
- Calculation of variances for unique uses of water that could have a material effect on an urban retail water supplier's UWUO.
- Calculation of the UWUO based on the water use efficiency standards (compliance with the efficiency standards is based on the overall objective and not the individual standards it comprises) and variances.

- Calculation of potable reuse water bonus incentive
- Determination of prior year actual water use
- Data accuracy requirements and process for using alternative data
- Comparison of the actual water use to the UWUO

7. Compliance with 2020 SB X7-7 Targets

Urban retail water suppliers are required to comply with their SB X7-7 targets. They must maintain their water use below these targets in the future as California transitions to UWUOs based on water use efficiency standards. Urban retail water suppliers that do not meet their 2020 SB X7-7 targets must come into compliance with these targets as well as their UWUO. DWR recommends that for urban retail water suppliers whose calculated UWUOs plus their “excluded demands” (such as CII indoor water use and CII outdoor water use not connected to a dedicated landscape meter; see WC §10609.2 (d)) exceed their 2020 targets, the State Water Board adjust components of their UWUOs to prevent backsliding from their 2020 SB X7-7 targets.

Next Steps

Full recommendation reports with details will follow, including: outdoor standards, summary of variances, bonus incentive for potable reuse, CII water use classification system, guidelines and methodologies for calculating the UWUO and actual water use, reports on CII water use performance measures, a comprehensive summary of recommendations, outreach summary report, individual reports on each variance, and additional technical reports and appendices.

If you have any questions or need additional information, please contact me, or your staff may contact Deputy Director Kristopher A. Tjernell at (916) 651-2403.



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