

(12/7/15) Public Workshop
Urban Water Conservation
Deadline: 12/2/15 by 12:00 noon



December 2, 2015

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The Honorable Felicia Marcus, Chair and Board Members
State Water Resource Control Board
c/o Jeanine Townsend, Clerk to the Board
State Water Resources Control Board
1001 I Street
Sacramento, CA 95814

Subject: Comment Letter- Urban Water Conservation Workshop

Dear Chair Marcus and Board Members:

We appreciate the opportunity to provide input to the State Water Resources Control Board ("State Board") on the potential extension and modification of the existing Emergency Conservation Regulation ("Emergency Regulation") that may be imposed in January, should the drought continue into 2016. We understand the importance of preserving water supplies, and are committed to helping the State manage water resources sustainably.

The purpose of this letter is to provide written comments in advance of the December 7, 2015 Public Workshop. We are responding to the three questions in the workshop notice:

1. What elements of the existing Emergency Regulation, if any, should be modified in an extended Emergency Regulation?
2. What additional data, if any, should the State Board be collecting through the Emergency Regulation and how would it be used?
3. How should the State Board account for precipitation after January 2016 in its implementation of any extension of the Emergency Regulation?

We are requesting three specific refinements to the Emergency Regulation and are providing feedback based on insights gained from the existing restrictions. The recommended refinements are to address key technical limitations inherent in the existing Emergency Regulation. The additional proposed data to be collected will be used to implement the recommended refinements, and the recommendation for accounting of precipitation is based on balancing uncertainty and public perception.

What elements of the existing Emergency Regulation, if any, should be modified in an extended Emergency Regulation?

There are many factors that impact water use patterns and the ability to achieve reductions in water demand. These include but are not limited to: climate variations, population and economic growth, and the impact recycled water irrigation use has on achieving overall potable water demand percentage reduction targets. Based upon our experience with the Emergency Regulation over the last six months, it is clear that slight adjustments would more equitably and appropriately account for these factors. We believe these would best be implemented through a series of numeric adjustments to the compliance calculation methodology.

In developing equitable refinements to the compliance calculation methodology, the following principles were considered:

- Adjustments should be simple and straightforward, using data that is publically available;
- Given the status of the Emergency Regulation, any adjustments should be applied to the existing compliance calculation used by the State Board, rather than attempting to develop an entirely new methodology;
- Use or application of adjustments should be at the discretion of the water supplier and no agencies should have compliance targets adjusted upwards; and
- Adjustments should apply only under the current Emergency Regulation, or extension thereof.

Although we are proposing three specific adjustments to address climate variation, growth and recycled water use, respectively, there are other factors the State Board should consider to improve the technical depth and equity of the Emergency Regulation. These include, but are not limited to: impacts to agencies' ability to reduce demands due to early (pre-2013) investments in conservation, population and housing density,

and other factors affecting agencies ability to fulfill the State’s reduction targets during the drought.

Investments in Drought-Resilient Supplies:

In addition to reducing potable water use, adjustments should be made to allow water suppliers to meet targets through the use of sustainable drought resistant supplies. Throughout the State, agencies have developed and managed water supplies to reduce the impact of water shortages. Examples of beneficial projects include potable reuse of recycled water, desalination of both seawater and brackish groundwater, and the banking of water for emergency purposes. These projects improve water reliability and resiliency across the State and reduce demand on drought stressed supplies. Adjustments should be made to the Emergency Regulation to acknowledge the benefit of these supplies and encourage investment in self-reliant water supplies. These supply portfolios and their regional benefits will be addressed through separate proposals to the State Board.

Climate Equity Adjustment:

Because of climate variation across the State, the Emergency Regulation impacts customers in the warmer, drier areas of the State more than those in cooler, wetter areas. Maintaining a landscape palette of trees, shrubs, and other water-efficient plant materials in areas with higher Evapotranspiration rates simply requires more water, as demonstrated in the table below.

Impact of Climate on Water Needs for Landscaping

	Supplier A	Supplier B
Climate	Wetter/Cooler	Hotter/Drier
Average Evapotranspiration (ETo), July - September (in inches)	14.86	21.52
July - September Water Need for 1,000 sq. ft. of Efficient Landscaping (in gallons) based on average Evapotranspiration ¹	5,095	7,378
Water Suppliers Conservation Standard	16%	28%
Reduction Requirement (gallons)	815	2,066
Adjusted Maximum Available Water (per 1,000 sq. ft.)	4,280	5,312
Percent of Local ETo	46.2%	39.6%

1. Maximum Allowable Water Application for 1,000 sq. ft. of area using the ET Adjustment Factor of 0.55 (Model Water Efficient Landscape Ordinance, 2015)

The table above shows customers of two different water suppliers and each supplier’s assigned Conservation Standard based on July through September 2014 water production. Each customer in the table has a climate-appropriate landscape as defined by the 2015 State Model Landscape Ordinance (Maximum Water Allowance of 55% of local ETo). However, as a result of significant differences in the suppliers’ local

Evapotranspiration rates and the application of the assigned Conservation Standards, the customer of Supplier B has a lower volume of water available to their landscape to preserve the health of the climate-appropriate landscape as defined in existing legislation. To ensure more equitable treatment of customers in all climate zones throughout the State, we propose a one-time adjustment to the Conservation Standard based on a supplier’s actual local average Evapotranspiration rate (ETo) compared to a calculated statewide average. The adjustment would be based on July through September 2014 ETo data voluntarily provided by each water supplier electing to use the climate equity adjustment. ETo data, including the source of the data, would be subject to review by the State Board.

The formula for determining the proposed adjustment is as follows:

$$\text{Conservation Standard} \times (1 - \text{Deviation from Statewide Average ETo})$$

- Where:
- The Conservation Standard is defined in the May 2015 Emergency Regulation; and
 - The Statewide Average ETo is the water production-weighted average of all water suppliers.

In the example above, the ETo in Supplier B’s region is 15 percent higher than the statewide average. Therefore the adjusted Conservation Standard is as follows:

$$28\% \times (1 - 15\%) = 24\%$$

The impact of the climate adjustment on the customer is shown in the table, below.

Impact of Climate Adjustment on Customer B

	Supplier in Wetter, Cooler Climate: Customer A	Supplier in Hotter, Drier Climate: Customer B
Climate	Wetter, Cooler	Hotter, Drier
Average Evapotranspiration (ETo), July -September (in inches)	14.86	21.52
July - September Water Need for 1,000 sq. ft. of Efficient Landscaping (in gallons) ¹	5,095	7,378
Original Conservation Standard for Each Agency	16%	28%
Adjusted Conservation Standard	16%	24% ²
Adjusted Reduction Requirement (in gallons)	815	1,771
Adjusted Maximum Available Water (per 1,000 sq. ft.)	4,280	5,607
Percent of Local ETo	46.2%	41.8%

1. Maximum Allowable Water Application for 1,000 sq. ft. of area using the ET Adjustment Factor of 0.55 (Model Water Efficient Landscape Ordinance, 2015)
 2. Based on 15 percent higher local ETo deviation from the State

As the table shows, while the adjustment would change the hotter, drier water supplier's Conservation Standard from 28 percent to 24 percent, that supplier's customers would still have a significantly greater reduction outdoor irrigation relative to the local Evapotranspiration rate when compared to customers in the wetter, cooler water supplier's service area.

Growth Equity Adjustment:

Just as there is an undue burden placed on customers when climate is not considered, there is an undue burden placed on local economies when growth is not considered.

Since 2013, there has been substantial regional variability in growth across the state. Some water agencies have added a significant number of new connections and associated water demands since 2013 as a result of strong economic growth. This additional water demand from the growth is not accounted for in the existing Emergency Regulation.

Agencies with growth since 2013 have had to reduce all of their customers' demands much more than their required Conservation Standard, as shown in the table below, in order to comply with the Emergency Regulation. Requiring agencies that are experiencing growth and economic recovery to disproportionately decrease water use to meet their required Conservation Standard is clearly inequitable and not the intent of the Emergency Regulation. In fact, the Governor's intent appears to focus on reducing economic impacts and encouraging continued economic growth.

Growth Impacts on Water Demand Reduction Requirements

	Agency A	Agency B
Growth Since 2013	None	6% Growth
2013 Baseline Active Service Connections	85,000	85,000
2015 Reporting Year Service Connections	85,000	90,000
Increase in number of active service connections	0	5,000
AF per active service connection	0.071	0.071
2013 Monthly Baseline Production, AF	6,000	6,000
Increase in Demand due to Growth	0	353
Conservation Standard	28%	28%
Production Target, AF	4,320	4,320
Water Savings to Meet Required Reduction Target, AF	1,680	2,033
Actual Percent Reduction to Meet Target	28%	34%

Agencies experiencing growth since 2013 should be given an adjustment in the form of an increase to the agency's 2013 "baseline" demand. The adjustment needs to be agency specific and based on the increase in the number of connections as population change does not incorporate demands from new business and industry.

The baseline demand adjustment would be calculated each month to account for on-going growth since 2013, and the additional demand from the growth would be added to the 2013 production baseline. This proposed adjustment would be calculated in three steps using the following method:

Step One: *Calculate the Demand per Connection.*

Monthly Demand 2013/Number of Connections = Demand per Connection

Step Two: *Estimate Monthly Demand from New Development.*

Number of New Connections x Demand per Connection = Demand from New Development

Step Three: *Adjust 2013 Monthly Baseline Production.*

2013 Monthly Production + Demand from New Development = Adjusted Baseline

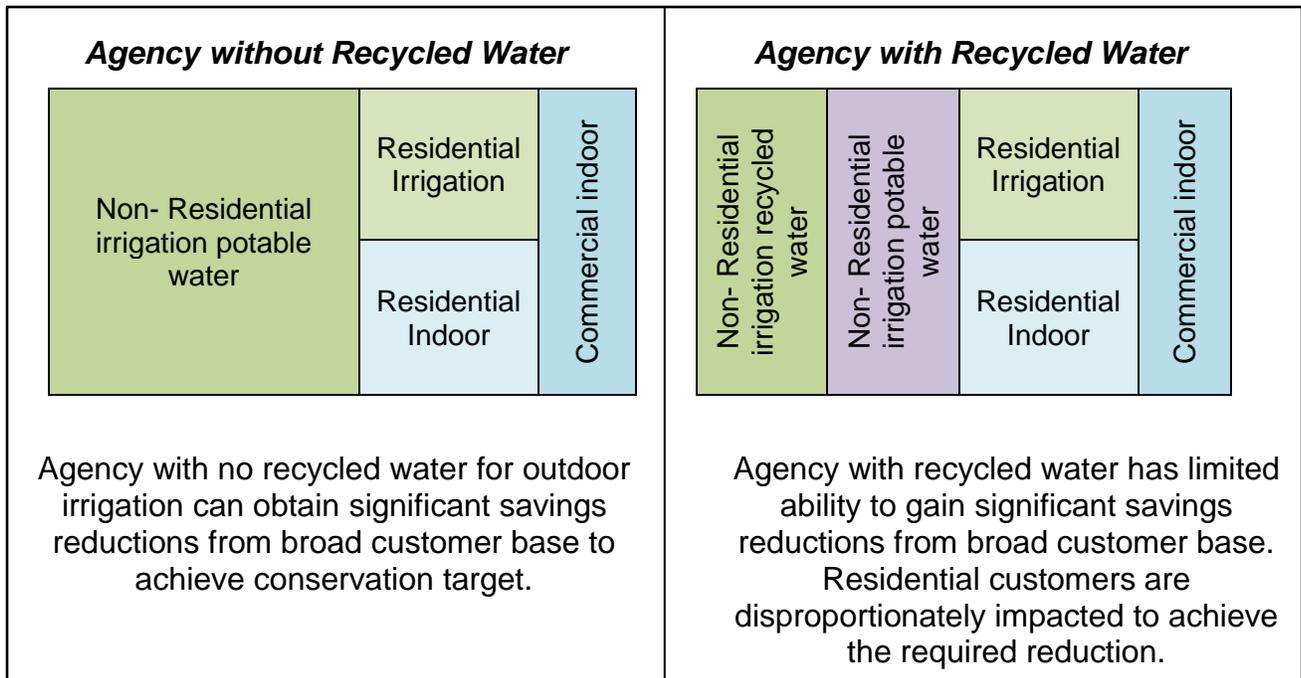
The impact of this equity adjustment should be that no agency should have targets adjusted upward to offset equity adjustments and the use of the adjustment would be at the discretion of the water supplier. It is also important to note that the impact would be minimal. As a proxy to estimate the impact of the economic growth adjustment to statewide water savings, statewide population data shows average growth of 1.8% since 2013.

The benefit of the adjustment is that it maintains equity where the effective Conservation Standard for each agency is maintained. In the example the Conservation Standard is at 28%; even though Agency B has experienced increased demands from growth. It also reshapes the Emergency Regulation so it does not inhibit the State's ongoing economic recovery and growth.

Recycled Water Equity Adjustment:

The use of recycled water in lieu of potable water to meet irrigation is a highly effective means of reducing the demand on local and imported water supplies. Many water agencies have been expanding the use of recycled water within their service areas, which involve the significant capital investments for distribution infrastructure. While this is a positive step forward for the state, the reality is that the use of recycled water for irrigation limits the ability for an agency to reduce potable landscape irrigation.

The current regulation excludes recycled water use from reported production. This provides some benefit to agencies that have invested in recycled water facilities. We recommend that any extended regulations continue to exclude recycled water from reported water production and also adjust for the impact recycled water has on potable irrigation customers.



To avoid disproportionately penalizing an agency’s potable water customers when that agency has invested in and implemented recycled water programs, an equity adjustment is proposed.

The adjustment calculation is as follows:

$$\text{Total Monthly Recycled Water Use} \times \text{Ratio of Monthly Recycled to Potable Use} \times \text{Conservation Standard} = \text{Recycled Water Adjustment}$$

The Recycled Water Adjustment would be subtracted from the monthly production for the agency and the adjusted number reported.

Example of How the Recycled Adjustment Would Work

Impact of the Emergency Regulation without the Recycled Water Adjustment

	Agency A	Agency B
Total Water Use	125,000	125,000
Indoor Water Use – Potable	45,000	45,000
Outdoor Water Use –Potable	80,000	45,000
Outdoor Water Use –Recycled Water Use	0	35,000
Conservation Standard -28%	35,000	25,200
Indoor Reduction	2,250	2,250
Outdoor Reduction	32,750	22,950
Percent Outdoor Reduction from Potable Water Customers Required Before an Adjustment is Applied	41%	51%

The adjustment for Agency B would be:

$$35,000 \text{ AF} \times 35,000 \text{ AF} / 90,000 \text{ AF} \times 28\% = 3,811$$

Impact of the Recycled Water Adjustment

	Agency A	Agency B
Outdoor Irrigation Demand Reduction Required Before Adjustment, AF	32,750	22,950
Recycled Water Adjustment, AF		3,811
Outdoor Irrigation Demand Reduction Required After Adjustment, AF		19,139
Potable Irrigation Demand, AF	80,000	45,000
Recycled Irrigation Demand, AF		35,000
Percent Outdoor Reduction from Potable Water Customers Required After an Adjustment is Applied	41%	43%

In the example, the adjustment reduces the amount of outdoor potable irrigation an agency is required to save from 51 percent to 43 percent. Even with the adjustment the reduction is still greater than the reduction required by the comparison agency. The impact of such an adjustment is improved equity for potable water customers and encouraging the use of recycled water in lieu of potable water to meet irrigation demand.

These three adjustments to the Emergency Regulation will address key equity concerns while still maintaining conservation and demand reductions necessitated by the drought.

What additional data, if any, should the State Board be collecting through the Emergency Regulation and how would it be best used?

Monthly reporting to the State Board should be simple and limited. Any data collected should have a clear purpose and need. We are recommending the collection of only the additional data needed to support the implementation of the proposed adjustments. Only agencies requesting the adjustment will be required to provide the data. This includes:

- A one-time reporting of Evapotranspiration and supporting data for each agency for July through September of 2014.
- Monthly connection data for 2013 and the reporting month.

This information will be used to calculate the proposed adjustments.

How should the State Board account for precipitation after January 2016 in its implementation of any extension of the Emergency Regulation?

As we enter water year 2016, forecasters are providing positive news of potential above-average precipitation for California due to strong El Niño conditions this winter. Uncertainties still remain regarding the levels of precipitation statewide, whether it will

fall primarily as rain or snow and ultimately how the conditions will influence California's current drought. In addition, it is unknown whether after one wet-year, the State could head into another drought. There may also be variation in local water supply conditions across the State. Based on these uncertainties, we understand the need for continued diligence in our extraordinary conservation efforts, but if the Emergency Regulation is extended beyond February 2016, there must be a nexus between mandated reduction levels and current supply conditions, taking into account potential winter storms and storage levels.

We request State Board members take into account any changes in supply conditions due to winter storms when considering an extension of Emergency Regulation in January or February 2016. In addition, unlike the situation at the adoption of the original Emergency Regulation in May 2015, State Board members will not know the resulting 2016 water year supply conditions prior to taking action to potentially extend the Emergency Regulation. At a minimum, it will be important to include in the Emergency Regulation specific dates or trigger points where the State Board will be required to evaluate supply conditions to ensure there is a nexus between the reduction mandate and supply availability.

We propose that an evaluation occur on a monthly basis following the adoption of any extended regulation. Key factors in the evaluation could include the State Water Project Table A Allocation, the 8-station precipitation index, snowpack, major reservoir storage and regional water supply conditions. Local conditions may also warrant consideration as agencies respond to local supply conditions as prescribed in their Water Shortage Contingency Plans. We recommend the State Board evaluation of supply conditions include input from the Department of Water Resources. This would allow current supply conditions to be communicated to the public on a regular basis as we move through the winter.

As supplies are replenished at a rate greater than projected saving targets set by the Emergency Regulation, an adjustment to the Emergency Regulation may be appropriate. There may also be the need to revise the Emergency Regulation to account for water supply conditions regionally. Next spring when conditions are clearer and the certainty about reservoir levels and storage increases, the regulations can be adjusted appropriately. Any adjustment to the Emergency Regulation should be part of an open process with input from stakeholders across the State.

In summary we propose three specific adjustments to address key equity concerns while still maintaining conservation and demand reductions necessitated by the drought. We acknowledge that other adjustments are required to address equity and water supply conditions. These factors should be considered and may be addressed through separate proposals to the State Board. We believe any new data reporting requirements should have a clear purpose and need. We also recommend that the State Board publicly address water supply conditions on a monthly bases and adjust the Emergency Regulation appropriately as supplies are replenished.

We thank you for your consideration of our recommendation and look forward to working with you to develop more equitable Emergency Regulation moving forward.

Sincerely,



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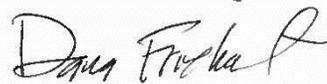
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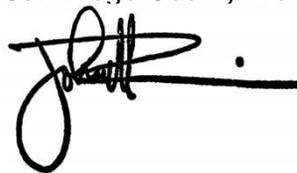
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