December 21, 2015

Proposed Regulatory Framework for Extended Emergency Regulation for Urban Water Conservation

Background:

On April 1, 2015, Governor Brown issued the fourth in a series of executive orders on actions necessary to address California's drought. On May 5, 2015, the State Water Resources Control Board (State Water Board) adopted an Emergency Regulation to address specific provisions of the April 1 Executive Order, including a mandatory 25 percent statewide reduction in potable urban water use between June 2015 and February 2016. To reach the statewide 25 percent reduction mandate, the Emergency Regulation assigns each urban water supplier a conservation tier that ranges between 4 and 36 percent based residential per capita water use for the months of July – September 2014.

At the time the State Water Board adopted the current Emergency Regulation some urban water suppliers had proposed further refinement to the conservation tiers to reflect a range of factors that contribute to water use. State Water Board Resolution No. 2015-0032 directed staff to work with stakeholders to further develop and consider these factors, including but not limited to temperature, growth, use of drought resilient supplies, and others for adjustment to the Emergency Regulation should it need to be extended into 2016.

On November 13, 2015, Governor Brown issued Executive Order B-36-15 (EO B-36-15) calling for an extension of urban water use restrictions until October 31, 2016, should drought conditions persist through January 2016. Between August and November 2015 State Water Board staff convened a small group of individuals representing a variety of water interests to further explore potential modification of the Emergency Regulation. The State Water Board also held a public workshop on December 7, 2015, to solicit input on elements of the existing Emergency Regulation, if any, that should be modified. The stakeholder process and workshop led to development of several proposals for modification of the Emergency Regulation, which are discussed below, along with staff recommendations.

Staff recommendations are based on the criteria that modifications to the Emergency Regulation be transparent, intelligible, equitable, reasonable, provide sufficient water savings statewide, and be feasible to implement and enforce. As directed by the Governor in EO B-36-15, this proposal would extend until October 31, 2016 restrictions to achieve a statewide reduction in urban potable water usage.

Climate adjustment:

Stakeholder Proposal: Water suppliers in warmer climates would be granted a reduced conservation standard based on their service area evapotranspiration (ET) relative to statewide average ET. The adjustments would be calculated by multiplying the deviation from average ET by the water supplier's conservation standard and would range from a 0-15 percentage point decrease to suppliers existing conservation requirement. As proposed, no supplier would have their standard increased.

Staff Recommendation: **Incorporate a climate adjustment in the Emergency Regulation that reduces the conservation requirement by up to 4 percentage points for water suppliers located in**

the warmest regions of the State. The climate adjustment would be based on each urban water supplier's approximate service area ET for the months of July through September as compared to statewide average ET for the same months. The adjustment would range from a 2-4 percentage point decrease in an urban water supplier's conservation requirement depending on service area ET as follows:

Deviation from Average ET	Reduction in Conservation Standard
>20%	4%
10 to 20%	3%
5 to <10%	2%

Default service area ET will be based on the California Irrigation Management Information System (CIMIS) Mapped ET Zone for which the supplier's service area has the greatest overlap. Each Urban Water Supplier will have the opportunity to refine its service area ET using specific data from CIMIS stations within its service area, provided each station used has a continuous period of record of at least 5 years.

Staff estimates that this adjustment will result in 1.4 percentage point reduction in statewide water savings from that currently required.

Example Calculation of Climate Adjustment

Original Conservation Requirement	32%	
Statewide Average ET Jul-Sep	6.13	inches
Service Area Average ET Jul-Sep (Zone 17)	8.4	inches
Service Area % Deviation from Average ET = (8.4-6.13)/6.13	0.37 or 37%	
Climate Adjustment	-4%	
Adjusted Conservation Requirement	**28%**	

Growth adjustment:

Stakeholder Proposal: Each urban water supplier's 2013 baseline water use would be increased to account for growth in new service connections since 2013. The volume of water per connection in 2013 would be calculated (based on total use divided by number of connections) and multiplied by the number of connections added since 2013. This volume of water could be added to the 2013 baseline to account for new growth, resulting in a decrease to the supplier's conservation volume requirement but not its conservation standard.

Staff Recommendation: **Provide a mechanism to adjust urban water supplier conservation standards to account for water efficient growth since 2013.** The adjustment will be equal to the ratio of the additional volume of water used since 2013 to the baseline water use for 2013, multiplied by the water supplier's conservation standard. The volume of water added due to growth will be calculated as the sum of:

1. Number of new residential connections since 2013 multiplied by 165 gallons (55 gallons per person per day multiplied by three people) multiplied by 270 days.
2. Area of new residential landscaped area (square feet) served by connections since 2013 multiplied by 55% of total service area ET (inches) for the months of February through October multiplied by a conversion factor of 0.623 (converting inches to gallons).
3. Number of new commercial, industrial, and intuitional (CII) connections since 2013 multiplied by the average commercial industrial, and institutional water use per connection during February through October 2015.

Staff estimates that this adjustment will result in about a one percentage point reduction in statewide water savings compared to the current requirements, assuming that growth has increased by 4% since 2013 for every urban water supplier.

Example Calculation of Growth Adjustment

# of new residential connections since 2013	4,000	
Residential landscaped area served by connections since 2013	10,000,000	sq. feet
Total ET February through October	44	inches
Volume of water attributable to new residential connections = [4000*165*270] + [10,000,000 * 44 *0.55*0.623]	**328,966,000**	gallons
# of new commercial, industrial, and institutional connections since 2013	700	
Average use per CII connection Feb-Oct 2015	900,000	gallons
Volume of water attributable to new CII connections = 700 * 900,000	**630,000,000**	gallons
Total volume of water attributable to growth since 2013	**958,966,000**	gallons
Baseline 2013 total water production Feb-Oct	**16,000,000,000**	gallons
Gallons of water attributable to growth	**958,966,000**	gallons
Percentage change in potable water production due to growth	**6%**	
Original Conservation Requirement	**36%**	
Adjusted Conservation Requirement = .36 * [1-0.06]	**34%**	

Drought Resilient Sources of Supply Credit:

Stakeholder Proposal Suppliers would receive a credit for desalinated seawater or indirect potable re-use (IPR) water. The credit would come in the form of a one-to-one reduction from the calculated amount of water that needs to be saved under the Emergency Regulation. A supplier could deduct all water derived from desalination or IPR from their total savings requirement. San

Diego County Water Authority proposes a similar credit for Colorado River water received through long-term transfers of conserved water. No supplier would be allowed to have an effective conservation rate below 8%.

Staff Recommendation: **Provide a one-tier (four percentage point) reduction to the conservation standard of urban water suppliers using new drought resilient water supplies**. The credit would apply to urban water suppliers that certify, and provide documentation upon request, that at least 4 percent of its potable supply is comprised of indirect potable reuse of coastal wastewater (the creation and use of which does not injure another legal user of water or the environment) or desalinated seawater developed since 2013. Staff does not recommend extending this credit to Colorado River water received through long-term transfer of conserved water.

Staff estimates that this credit will result in about a 0.6 percentage point decrease in statewide water savings.

Non-potable Recycled Water Use Credit:

Stakeholder Proposal: This proposal would apply to suppliers that meet a large portion of irrigation demand with non-potable recycled water. These suppliers would be able to reduce their 2016 monthly potable water production by the ratio of non-potable recycled water use to total potable water production multiplied by their total water production and their conservation. Reducing 2016 total potable water production would have the effect of reducing the required volume of water saved.

Staff Recommendation: **Staff does not recommend providing additional credit for non-potable recycled water use**. Under the current Emergency Regulation, non-potable recycled water is not counted in total potable water production. Suppliers' conservation standards are based on residential use of potable water, and while suppliers have been generally expected to target outdoor irrigation as a means of achieving savings, high use of recycled water should not, by itself, prevent a supplier from meeting those standards with reductions from residential and non-residential customers. These suppliers have already realized the benefit of providing recycled water by not having that water counted as part of their total production and not having to reduce use of that water. Urban water suppliers that cannot meet their conservation standard due to a disproportionate share of recycled water use may pursue relief through the existing alternate compliance process on case by case basis.

Groundwater Credits:

Stakeholder Proposal: This set of proposals would provide credit for "sustainable" groundwater management and groundwater augmentation. Suppliers would provide verification that the groundwater supply is formally certified to meet certain eligibility requirements and then would be eligible to deduct certain groundwater use from their total potable production. In effect, the use of eligible groundwater would be counted the same as conserved water. There are four proposed credit scenarios: 1) Groundwater Banking; (2) Conjunctive Use; (3) "Sustainable" Groundwater Management; and (4) Adjudicated Basins. The proposals include requirements that would govern the use of the credits under each scenario.

Staff Recommendation**: Staff does not recommend providing credits for groundwater use or management since the effect of such credits are not well-defined and are generally inconsistent with goal of conserving the state's remaining surface and groundwater supplies during the drought**. While groundwater augmentation with surface water is a critical element of drought resilience, it is materially different than creation of new drought-resilient sources of supply, such as through indirect potable reuse of wastewater or seawater desalination. Using seawater and wastewater that, for example, would otherwise have been discharged to the ocean to create supply adds to existing surface and groundwater supplies, whereas groundwater augmentation uses water that was already part of existing freshwater resources. Moreover, the proposed groundwater management credits do not adequately demonstrate how other users of a groundwater basin, whether adjudicated or not, would be impacted from pumping by the supplier receiving a credit. Suppliers whose basins are replenished with imported water would place additional strain on those supplies by using more water under a credit system. Suppliers whose basins fill without imports may impact others by increasing pumping under a credit system. Even self-sufficient, adjudicated basins are not guaranteed to maintain all uses during an extended severe drought, where the next opportunity for recharge is unknown. Additionally, there is no credible estimate of how much credit would accrue for groundwater management and how that credit would impact statewide savings. Credit for sustainable groundwater management may be appropriate for a permanent regulation, and certainly will be addressed by the Sustainable Groundwater Management Act as that legislation is implemented, but it is not adequately transparent, intelligible, implementable, or reasonable for an Emergency Regulation of limited duration, the chief aim of which is to preserve existing surface and groundwater supplies through conservation while extreme drought conditions persist.

Regional Compliance Approach:

Stakeholder Proposal: This proposal would allow suppliers to jointly comply with their aggregated conservation standards as a single entity. Regions would be allowed to form, on a voluntary basis, based on the criteria for forming a SBx7-7 regional alliance, per Water Code Section 10608.28. A lead agency for the region would report the Regional Conservation Standard monthly to the State Water Board on behalf of the region. Each urban retail water supplier would also continue to report their individual monthly water use data. If a group as whole did not meet its regional conservation target, the suppliers would revert back to their individual requirements.

Staff Recommendation: **Staff does not recommend providing an option for regional compliance because it will impede timely compliance and enforcement action by the Board and has the potential to reduce individual water supplier accountability**. While a regional approach could help water suppliers provide a consistent message about a regional target to their customers, residents and businesses need to conserve differing amounts to achieve a supplier's reduction target, so the benefits of this approach are not well substantiated. There is no reason that suppliers (and their regional or wholesale partners) cannot develop consistent messaging under the current Emergency Regulation, such as limits on outdoor watering, nor does the current emergency regulation inhibit regionally-grouped suppliers or wholesalers from working together on messaging to encourage conservation. In addition, there are multiple drawbacks to the proposed regional approach. First, it would impede the Board's enforcement and compliance efforts, by disallowing the Board from using its enforcement tools to timely address the shortcomings of an individual supplier if that supplier's region was meeting its target. In the case where a region dropped out of compliance late

in the 270 day life of the regulation, the Board would have little time to institute corrective actions for the individual suppliers. Second, it could encourage regional agencies to focus efforts on additional conservation savings in high-performing communities rather than on steps to change the conservation behaviors of poorer performing communities in order to meet the regional target. Finally, the regional approach would undermine the direct accountability for water supply managers established through the existing regulation. Staff encourages suppliers to work together on messaging and outreach, but believes the drawbacks of a regional approach outweigh any potential benefits.

Elimination of Commercial Agriculture Exclusion:

Stakeholder Proposal: The current Emergency Regulation allows water supplied for commercial agricultural use to be excluded from total potable production, if certain conditions are met. The proposal is to eliminate the exclusion or to change the definition of what constitutes commercial agricultural use to prevent exclusion of water attributable to noncommercial agricultural use or non-agricultural use that may be excluded improperly.

Staff Recommendation: **Staff recommends modifying the Commercial Agriculture Exclusion to require certification that customers whose water use is subtracted under the exclusion produce a minimum of $1,000 per year in revenue from agricultural sales and are not subtracting water used on ornamental landscapes.** This change would limit use of the exclusion for properties with minimal agricultural sales or mixed commercial agricultural and ornamental landscape use. The $1,000 threshold is consistent with the US Department of Agriculture's definition of a farm.[1]

Staff estimates the existing agricultural exclusion has resulted in about an 11,000 acre feet reduction in conserved water since June 2015. Modifying the commercial agriculture exclusion as proposed could result in a slight increase of conserved water.

Exemption for regions without drought conditions and no exports/imports:

Stakeholder Proposal: This proposal would allow isolated hydrogeological regions that do not have drought conditions and do not import or export water to be excluded from the conservation standard element of the Emergency Regulation. Suppliers would apply to the State Water Board for an exemption from the conservation standard and provide verification that water resources in these regions are not available to benefit other regions.

Staff Recommendation: **Staff does not recommend exempting or relaxing conservation requirements for isolated hydrogeologic regions**. The current Emergency Regulation contains a reserved four percent tier for suppliers that can demonstrate multiple years of supply and no use of imported water and groundwater. Staff continues to believe the four percent tier is adequate and appropriate for an extended Emergency Regulation given the uncertainty of the state's surface and groundwater suppliers during the drought.

Revisions for suppliers with significant seasonal or transient populations:

[1] See http://www.ers.usda.gov/topics/farm-economy/farm-household-well-being/glossary.aspx, accessed December 11, 2015.

Stakeholder Proposal: The Emergency Regulation assigned conservation tiers based on R-GPCD during the months of July, August, and September 2014. The proposal is to re-assign tiers based on 12 months of R-GPCD data, because some areas, mainly the desert regions, have the highest population during the winter months.

Staff Recommendation: **Staff does not recommend changing the process for assigning conservation tiers to account for year round residential per capita water use because it would reduce the regulation's current emphasis on saving water where outdoor use is highest**. In addition, this proposal would in effect provide allowances for properties that are unoccupied for part of the year but irrigated year-round. However, staff proposes to update each water suppliers R-GPCD values using the most up to date July-September 2014 data that had been provided as of January 1, 2016. Water suppliers have also been encouraged and allowed to correct any inaccurate data and provide modified population information to account for monthly changes in population.

A Cap on Credits and Adjustments:

Staff recommends that all credits and adjustments be capped to allow up to a maximum of a four percentage point decrease to any individual water supplier's conservation standard (tier).

Staff Recommendations on Other Elements of an Extended Emergency Regulation:

Staff recommends maintaining other elements of the current Emergency Regulation in the extended Emergency Regulation. These elements include the alternate compliance approach, the statewide prohibited end-uses, the monthly reporting requirements for urban water suppliers, and the conservation and reporting requirements for small suppliers. Staff proposes that small suppliers again be required to report after six months of conservation under a readopted emergency regulation.

Staff also recommends, based on feedback from both suppliers and the general public, adding a prohibition against homeowners' associations interfering with certain conservation actions of their association members in violation of existing law.

Next Steps:

- Comments are due on this proposed regulatory framework by January 6, 2016
- A draft Emergency Regulation will be released for public comment in mid-January 2016
- State Water Board consideration of an extended emergency regulation is anticipated in early February 2016.

Input Requested: The State Water Board is interested in receiving feedback on this proposed regulatory framework. Please submit comments with the subject line: "Comments on Proposed Regulatory Framework" by email to: Kathy Frevert at Kathy.Frevert@waterboards.ca.gov **by January 6, 2016.**