
OFFICE OF THE INDEPENDENT BUDGET ANALYST REPORT

Date Issued: March 23, 2009

IBA Report Number: 09-23

NR&C Committee Date: March 25, 2009

Item Number: 4

Options for Water Use Reduction

OVERVIEW

On November 10, 2008 the City Council adopted revisions to the City's emergency water regulations. Based largely on County Water Authority's Model Drought Response Conservation Ordinance, the revised emergency water regulations define certain water use behavioral restrictions to be imposed under various drought response levels. In addition, the emergency water regulations allow for the establishment of water allocations under certain drought response conditions. Significantly, if water allocations are implemented, the behavioral restrictions established under the drought response levels will not apply.

On March 20, 2008, the Water Department released a report detailing the proposed methodology for implementation of water allocations in response to anticipated water supply reductions. While we believe that the continued development of such methodologies is important, the mandatory behavior restrictions established under the emergency water regulations may also be an effective option to achieve the necessary water use reduction. Both water allocations and behavior restrictions have certain benefits and drawbacks. This report examines some of the key differences between these contrasting approaches, and highlights some of the pros and cons of each option.

FISCAL/POLICY DISCUSSION

The revised emergency water regulations adopted by City Council in November 2008 established four Drought Response Levels, corresponding to required water use reduction of up to 10%, up to 20%, up to 40%, and greater than 40%, based on anticipated supply

shortages. Certain behavioral restrictions on the use of water are defined under each Level in order to meet the demand reduction target. Such behavioral restrictions include limits on the frequency and length of landscape watering, restrictions on vehicle washing, repairing or stopping leaks upon notification, restrictions on the use of ornamental fountains, and limits on the issuing of new water meters. In addition, the regulations establish certain year-round water waste prohibitions, such as the overfilling of swimming pools or excessive irrigation, regardless of drought conditions.

As part of the current emergency water regulations, under Drought Response Levels 2 – 4 (demand reductions of up to 20% to over 40%) the City may establish a water allocation for each customer account. A water allocation is essentially a pre-determined amount of water that may be used by each customer in a given time period. Penalties may be levied for water usage in excess of this allocation. Significantly, language in the regulations specifies that if water allocations are imposed then the behavioral water use restrictions under the respective Drought Response Levels will not apply. As a result, the City’s emergency water regulations essentially present two contrasting options for managing water use reduction: behavioral restrictions, which regulate how water is used but not how much; and water allocations, which regulate how much water is used, but not how it is used.

In response to anticipated water supply reductions due to the ongoing drought in the Colorado River basin and court-ordered pumping restrictions from the San Francisco Bay Delta, the Water Department is currently moving toward the implementation of water allocations. On March 20th, the Department released a report on the proposed water allocation methodology. While we believe that it is important to continue developing such methodologies in case water allocations are implemented, we wish to point out that the behavioral restriction components of the emergency water regulations may also be an effective option for achieving necessary water use reduction.

The Water Allocation Methodology report suggests it is unlikely that behavior restrictions will achieve the 20% reduction in water use that may be necessary, given the lack of success in meeting the 10% reduction targeted as part of the 20 Gallon Challenge. However, the conservation efforts under the 20 Gallon Challenge were voluntary, and may not provide the best barometer of future success. Mandatory behavior restrictions, combined with an enforcement program, may be successful in achieving the desired reduction in water use. If mandatory behavior restrictions are indeed ineffective, then it is unclear why the emergency water regulations were revised to include them.

While water allocations may end up being the appropriate tool for achieving the necessary reduction in water use, we feel that it is important to consider both options, each of which has certain benefits and drawbacks. The following tables highlight some of the pros and cons of both water allocations and mandatory behavior restrictions.

WATER ALLOCATIONS	
PRO	CON
<p>More effective at achieving demand reduction targets. Water allocations are determined based on the total anticipated water supplies. Significant penalties levied if allocations are exceeded.</p>	<p>Difficult to establish equitable allocations. Methods of determining baseline water usage and reduction targets do not uniformly impact the City’s diverse customer base. Any method employed will likely be viewed as unfair by certain customers.</p>
<p>Allows flexibility in how and when water is used. Per the emergency water regulations, behavioral restrictions under to the various Drought Response Levels would not be in effect if water allocations are imposed.</p>	<p>Limited ability to give credit for past conservation efforts. Under current methodology for establishing baseline usage, no credit is given for conservation efforts undertaken more than three years ago.</p>
<p>Enforcement can be done through a billing mechanism. Compliance with water allocations is determined through regular meter checking. Penalties for overuse can be levied on water bills. No need for additional code compliance staff.</p>	<p>Difficult to adjust for changes in household size and characteristics. Mechanism must be developed to adjust water allocations based on changes in household size and characteristics so that customers are not unfairly burdened.</p>
<p>Penalties levied in proportion to cost. Penalties that are charged to the City by CWA can be passed through pro rata to customers who exceed their allocations.</p>	<p>Does not prohibit uses of water that may be considered discretionary or wasteful. Water use such as daily landscape irrigation or vehicle washing, would not be prohibited.</p>

BEHAVIOR RESTRICTIONS	
PRO	CON
Provides clear guidelines as to how and when water may be used. Prohibited uses of water are clearly spelled out in the Municipal Code. Easier for customers to understand what is and is not allowed.	No assurance that demand reduction targets will be achieved. Behavior restrictions only target how and when water is used, not how much. No guarantee that restrictions will result in desired water use reduction.
Less impacted by changes in household size and characteristics. Each water user must adhere to restrictions regardless of household size or characteristics.	Difficult and expensive to enforce. Significant code compliance monitoring and enforcement is necessary to ensure compliance with behavior restrictions. Would require additional staffing and support.
Consistent with prior conservation efforts. Customers that have previously adopted conservation practices may be less impacted by behavioral restrictions. Uniform restrictions bring each water use to the “same	Limits flexibility in how and when water can be used. Some water customers may have difficulty in adhering to certain water use restrictions. Some form of variance allowance may need to be implemented.
Restricts water use that may be viewed as more discretionary or wasteful. Since focus is on behavior modification, the more discretionary or wasteful uses of water may be specifically prohibited.	Fines and penalties more arbitrary. Fines and penalties levied for water use violations would not be directly related to the fines potentially charged to the City by CWA.

As these tables show, there are significant differences between the two options for water use reduction, both positive and negative. As previously mentioned, the main contrast between the two options is that behavior modification targets *how* water is used, while water allocations *how much* water is used.

Another option that has been discussed to achieve water use reduction is a more aggressively tiered pricing structure. Currently, the City levies a three-tiered commodity rate on single-family resident customers only. More aggressive tiers, and tiered rates for multi-family and commercial customers, could be effective in creating a financial incentive for water conservation. While tiered pricing should be considered to encourage the efficient use of water year round, it is not currently a drought response strategy under the City’s emergency water regulations.

As discussed in the Water Allocation Methodology report, establishing a more aggressive tiered pricing rate structure would require a cost of service study to ensure compliance with Proposition 218. In addition, there is concern that an overly-aggressive tiered pricing structure may price some customers out of the water market. In addition, many of

the challenges related to water allocations also confront tiered pricing, such as how to adjust for different household sizes and characteristics. As such, tiered pricing may not be the best option to achieve water use reduction on a temporary or emergency basis.

Regardless of the approach that is used, whether it is water allocations, behavior restrictions or tiered pricing, success in achieving water use reduction ultimately comes down to behavior modification. Put simply, many water customers will have to change the way that they use water in order to meet the demand reduction targets. We encourage the Council to consider the pros and cons of each option in determining the most effective and appropriate means of achieving such changes in water use behavior.

CONCLUSION

The City of San Diego's emergency water regulations, as revised in November 2008, provide two contrasting options for water use reduction under various drought response levels: mandatory behavioral restrictions and water allocations. The key difference between the two approaches is that mandatory behavior restrictions focus on *how* and *when* water is used, while water allocations focus on *how much* water can be used.

On March 20, 2008, the Water Department released a report detailing the proposed methodology for implementation of water allocations in response to anticipated water supply reductions. While we believe that the continued development of such methodologies is important, the mandatory behavior restrictions established under the emergency water regulations may also be an effective option to achieve the necessary water use reduction. Another option that has been discussed is tiered pricing, which may be more suitable for year round conservation than for temporary or emergency reductions. Regardless of the approach that is employed, reduction in water use will ultimately require behavior modification by many City water customers.

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Tom Haynes
Fiscal & Policy Analyst

[SIGNED]

APPROVED: Andrea Tevlin
Independent Budget Analyst