

**HIGHLINE WATER DISTRICT
KING COUNTY, WASHINGTON**

RESOLUTION 13-9-24A

A RESOLUTION OF THE BOARD OF COMMISSIONERS OF HIGHLINE WATER DISTRICT OF KING COUNTY, WASHINGTON, SUPERSEDING RESOLUTION 08-1-16A AND ADOPTING NEW WATER USE EFFICIENCY GOALS

WHEREAS, in 2003 the Washington State Legislature enacted Engrossed Second Substitute House Bill 1338, known as the Municipal Water Law, to address the increasing demand on the State's water resources; and the Municipal Water Law established that all municipal water suppliers must use water more efficiently and required the Washington State Department of Health (DOH) to adopt a water use efficiency program to promote and require the efficient use of the State's water resources; and

WHEREAS, DOH adopted a Water Use Efficiency Rule (WUER) codified as WAC 246-290-800 et. seq. which was effective January 22, 2007, and WAC 246-290-830 requiring the elected governing board of a municipal water supplier to establish water use efficiency goals to enhance the efficient use of water by the water system and its consumers; and

WHEREAS, Highline Water District ("District") entered into a long-term wholesale water supply contract with the City of Seattle ("Seattle") by the adoption of Resolution No. 01-12-19A on the 19th day of December, 2001 ("Partial Requirements Contract"); and the Partial Requirements Contract required the District to adopt and agree to Seattle's 1% Water Conservation Program through the year 2010; and the Partial Requirements Contract also created an Operating Board comprised of representatives from Seattle and the utilities with water supply contracts with Seattle; and the Operating Board was authorized under the Partial Requirements Contract to adopt additional conservation goals and did so in January, 2006 by the adoption of a regional baseline conservation goal for the period of 2011 through 2030 of fifteen (15) million gallons of water daily ("mgd"); and

WHEREAS, WAC 246 290 830 (4) requires municipal water supplies to establish water conservation goals in a public forum that provides the opportunity for consumers and the public to participate and comment on the proposed water use efficiency goals, and Seattle undertook a public review period of the Six-Year Regional Conservation Goal and conducted, among other things, a public meeting on April 17, 2012 on the draft 2013 Water System Plan, including the Six-Year Regional Conservation Goal, prior to its approval and adoption by ordinance (124071); and the Highline Water District Board of Commissioners, pursuant to a public notice published in the Highline Times on September 6, 2013, held a public hearing on September 24, 2013 at the District office commencing at 9:00 a.m. on the proposed adoption of water use efficiency goals; and having received and considered at the hearing staff report and recommendations and public input regarding the adoption of water use efficiency goals; and

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WHEREAS; the District Board of Commissioners now desires to adopt the Six-Year Regional Conservation Goal established by Seattle in its 2013 Water System Plan as the District's water use efficiency goal and to use the public forum process undertaken by Seattle for public input on the proposed Six-Year Regional Conservation Goal proposed for adoption by the District;

NOW, THEREFORE, BE IT RESOLVED by the Board of Commissioners of Highline Water District of King County, Washington, as follows:

1. Saving Water Partnership's regional 2013-2018 Water Use Efficiency Goal to reduce per capita water use from current levels so that total average annual retail water use of members of the Saving Water Partnership is less than 105 mgd from 2013 through 2018 despite forecasted population growth is hereby approved and adopted as the District's six-year water use efficiency goal for the period from the date of the adoption of this resolution through the year 2018.
2. District staff are hereby authorized and directed to carry out the District's water use efficiency programs to achieve the District's water use efficiency goals.
3. This resolution and the policies set forth herein shall be effective the date set forth below, shall supersede Resolution 08-1-16A, and shall modify and amend all District resolutions, policies and procedures to be consistent with the policies set forth herein.

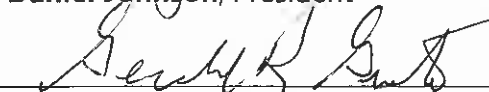
ADOPTED BY THE BOARD OF COMMISSIONERS of Highline Water District, King County, Washington, at an open public meeting held this **24th** day of **September 2013**.



Daniel Johnson, President

BOARD OF COMMISSIONERS

Kathleen Quong-Vermeire, Secretary



Gerald R. Guite, Commissioner

Vince Koester, Commissioner



George Landon, Commissioner

2.4.1 Future Water Demand and Supply

There are uncertainties affecting both future water demand and future water supply. Future water demand is dependent on population growth, income, conservation, climate, weather, and other factors, such as changes in water appliance efficiency standards. Future water supply depends on the condition of water supply infrastructure, new operating constraints, climate, the feasibility of developing new supplies as needed, and other factors, such as legal and regulatory issues. SPU has developed water demand forecasts and analyzed future water supply using frameworks that incorporate these relative uncertainties. The results of SPU's analyses are described in the following sections.

2.4.1.1 Water Use Efficiency Goal and Program 2013-2018

For over twenty years, SPU and its wholesale utility customers have successfully designed and delivered water conservation programs for residents, businesses and institutions throughout the regional service area. Conservation has proven to be an effective and flexible strategy. In the early years, conservation programs helped educate customers about the efficient use of water and successfully built an ethic of stewardship. Having an established program was a key response strategy during droughts when voluntary and mandatory customer water curtailment was needed. Later, conservation programs helped to decrease per capita water use when the need for a new source of supply was forecast.

Experience has demonstrated the value of periodically assessing the reasons for and role of customer-based conservation programs in water system planning -- to ensure that the program emphasis supports utility needs, reflects customer preferences, and recognizes changing regulatory and market factors that affect water use efficiency.

As of January 2012, in the Seattle water system, SPU and 18 of its wholesale utility customers operate regional conservation programs collaboratively as the Saving Water Partnership¹. Utility members set and oversee conservation goals, objectives, and program intensity through the Operating Board. Staff from the utilities comprise the Water Conservation Technical Forum, which is tasked with designing programs within parameters defined by the Operating Board. In SPU's retail area, a customer-based Water

¹ For Saving Water Partnership member listing and website, and regional conservation goals, programs, and accomplishments through 2012, see Sections 2.3.3.1 and 2.3.3.3.

System Advisory Committee provides additional customer input and feedback on conservation goals, objectives, and programs.

To scope and scale regional conservation initiatives for the 6-year planning timeframe required by the Washington State Water Use Efficiency (WUE) Rule, the Saving Water Partnership reviewed the current water demand forecast, which is described in the next section, prior to adopting a Water Use Efficiency Goal and Program. The demand forecast indicates that a new source of supply is not needed before 2060 despite continued growth in regional population. This is, in part, due to increased attribution of passive conservation savings as a factor in reducing per capita demand.

Conservation prepares the region for potential water supply challenges, helps customers use water wisely, and preserves the ethic of stewarding natural resources.

The Saving Water Partnership recognizes that the utilities and their customers benefit from a regional conservation program that ensures staff expertise and strong industry partnerships are available to meet a variety of water system needs. This “conservation infrastructure” prepares the region for potential water supply challenges, helps customers use water wisely, and preserves the ethic of stewarding natural resources.

As a statement of objectives for its regional conservation efforts from 2013-2018, the Saving Water Partnership will:

- Ensure core capacity is available to deliver conservation programs that prepare the utility to be resilient for curtailment events and future supply challenges from climate change, as well as help customers use water wisely;
- Preserve customers’ ethic of conservation as one element of stewarding our water resources and the environment; and
- Meet regulatory and contractual requirements.

The Saving Water Partnership utilities set a regional combined conservation goal that reflects a reduction in per capita water demand – for residents, businesses, and institutions throughout the regional service area – and holds total water use below a specified level despite population growth being forecasted to increase by 3.9 percent over the six-year period. The goal is formally adopted by each utility’s governing body and is reported on annually by each utility. The goal for the Saving Water Partnership service area captures the cumulative effect of all demand-side conservation indicated in the water demand forecast including water savings from utility funded customer-based programs, price-induced

conservation from customer response to water and sewer rate increases, and passive savings.

The Saving Water Partnership's regional 2013-2018 Water Use Efficiency Goal is to:

Reduce per capita water use from current levels so that total average annual retail water use of members of the Saving Water Partnership is less than 105 mgd from 2013 through 2018 despite forecasted population growth.

The metric for determining success of the Water Use Efficiency Program measures reductions in metered retail water consumption in the Saving Water Partnership members' service areas, regardless of whether the water is supplied by SPU or a member's own source of supply.

The Saving Water Partnership defined the regional utility-funded customer-based program in its 2013-2018 Water Use Efficiency Program to support its objectives and 6-year goal. The customer-based conservation program is one component of demand management included in the regional 2013-2018 Water Use Efficiency Goal. Selection of measures for the customer-based conservation program is based on an understanding of national appliance and fixture codes, estimates of sales in the market that exceed code, reviews of regional conservation potential analysis and Saving Water Partnership program impact evaluations, market research with utility customers to assess program acceptance and effectiveness, and opportunities for partnerships to leverage water utility funds. Considerations also include ensuring balanced service across customer classes, providing conservation services across utility member service areas, and opportunities to reach traditionally under-served populations. Because the current demand forecast does not indicate that a new source of water supply is needed until sometime after 2060, a set level of avoided water supply cost with which to compare conservation measures is not available.

The 2013-2018 Water Use Efficiency Program renews emphasis on consumer and youth education along with a priority to benchmark customer attitudes about water conservation. It also includes educational campaigns for leak prevention and water use in the landscape. Additionally, the program continues to share costs with customers who retrofit old water-using equipment with new equipment that is more efficient than national and State

appliance and fixture codes. Conservation measures for the 2013-2018 Water Use Efficiency Program are summarized in Table 2-6.

Table 2-6. Summary of Saving Water Partnership 2013-2018 Water Use Efficiency Program

General Activities	Specific Measures
CUSTOMER BEHAVIOR CHANGE	
<ul style="list-style-type: none"> • Community events, schools support, customer education 	<ul style="list-style-type: none"> • Schools outreach • Festivals, shows and fairs • Customer technical assistance • Regional phone hotline: 684-SAVE • Tips on Tap articles for utility newsletters • Media promotion and advertising • Customer mailings • Regional web site: www.savingwater.org • Partnerships with vendors, trade groups, agencies and energy utilities • Awards and recognition • Education on water pricing and conservation rates • Equitable customer access to conservation messages and services
<ul style="list-style-type: none"> • Leaks and indoor water use education 	<ul style="list-style-type: none"> • Find and fix leaks instructional videos and information on web and in print • Leak detection dye strips distributed via direct mailings
<ul style="list-style-type: none"> • Landscape water use education 	<ul style="list-style-type: none"> • Landscape classes for residential gardeners • Irrigation scheduling and maintenance • Expert one-on-one advice through the Garden Hotline • Natural Lawn & Garden Guides (how-to materials) and other brochures • Online weather data, watering index, water budgeting and irrigation scheduling tools • Irrigation training in multiple languages for professionals • Smart Water Application Technologies testing
<ul style="list-style-type: none"> • Benchmarking customer behavior 	<ul style="list-style-type: none"> • Customer research including identification of traditionally underserved populations and program design options to meet their needs • Technical studies and end-use metering • Conservation measure evaluation
WATER EFFICIENT EQUIPMENT UPGRADES	
<ul style="list-style-type: none"> • Residential indoor water use 	<ul style="list-style-type: none"> • Single-family toilet rebates • Multi-family toilet rebates
<ul style="list-style-type: none"> • Residential and Commercial irrigation systems 	<ul style="list-style-type: none"> • Weather-based Irrigation controllers • Pressure regulating and efficient spray heads • Drip irrigation and micro sprays • Seasonal adjust (percentage) controllers • Irrigation system leak monitoring alarms
<ul style="list-style-type: none"> • Businesses and institutions 	<ul style="list-style-type: none"> • Technical assessments and outreach • End use metering and monitoring • Plumbing fixture rebates for toilets, urinals, showerheads, aerators, etc. • Cooling and process water rebates • Food service equipment rebates • Medical and lab equipment rebates • Laundry equipment rebates • Steam condensate equipment rebates • Partnerships with energy utilities • Evaluation of reclaimed water opportunities

The Saving Water Partnership estimates the average savings from the 2013-2018 Water Use Efficiency Program will be 0.3 to 0.4 mgd of annual savings at an estimated annual utility cost of \$2,150,000 (2011 dollars). The estimated annual mgd savings from the Water Use Efficiency Program are one component of the 6-year regional Water Use Efficiency Goal, which captures all sources of demand reductions.

2.4.1.2 Water Demand Forecast

The new water demand forecast includes passive conservation savings and is lower than the last forecast – and still indicates that no new supply needed before 2060.

Long-term water demand forecasting is critical for water system planning. SPU has updated and improved the Demand Forecast Model developed for the *2007 Water System Plan*. This new model incorporates the best features of various model types found in applicable literature. Like simple “fixed flow factor” models, the new SPU model is easy to understand and has relatively modest data requirements. However, like more complex econometric models, the model reflects the impacts of variables such as price, income, and conservation on water use factors over time. This approach takes advantage of past econometric analysis to provide estimates of how price and income can affect demand. The model incorporates estimates of the impacts of passive savings on the water use factors over time, as described below. More information on the model, data sources and assumptions are provided in an appendix.

SPU’s official water demand forecast is presented in Figure 2-4, and the various components that add up to the total demand forecast are shown in Figure 2-5. The demand forecast is considerably lower than the *2007 Water System Plan* forecast, particularly in the outer years, and remains considerably below SPU’s current firm yield of 172 mgd until well after 2060. Total demand is forecast to remain relatively flat through 2023, at which point the Cascade block begins to step down. Over the two decades that follow, water demand is forecast to decline as the periodic reductions in Cascade’s block more than offset what would otherwise be a modest amount of growth in demand. Once the Cascade block has been reduced to its minimum level in 2045, water demand is forecast to begin rising again, finally reaching 132 mgd – back to current levels – by 2060. Peak demands are also forecasted to remain below historic high levels. Given the current firm yield estimate for SPU’s existing supply resources, this forecast indicates that no new source of supply is needed before 2060.



Agenda Item No.: 5.1

Agenda Date: 9/24/13

Reviewed By: M.S.

Subject: Resolution to adopt the Six-Year Regional Conservation Goal established by Seattle Public Utilities in its 2013 Water System Plan as the District's 2013-2018 Water Use Efficiency Goal (WUE)

CATEGORY	
<i>Executive</i>	<input type="checkbox"/>
<i>Administrative</i>	<input type="checkbox"/>
<i>Engineering/Operations</i>	<input checked="" type="checkbox"/>

FINANCIAL			
<i>Expenditures?</i>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
<i>Budgeted?</i>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
<i>Amount: \$</i>			<i>Not-to Exceed</i>

- Attachments:**
1. Resolution 13-9-24A
 2. Exhibit A – Water Use Efficiency Goal and Program 2013-2018

Comments:

WAC 246 290 830 (4) requires municipal water supplies to establish water conservation goals in a public forum that provides the opportunity for consumers and the public to participate and comment on the proposed water use efficiency goals, and Seattle undertook a public review period of the Six-Year Regional Conservation Goal and conducted, among other things, a public meeting on April 17, 2012 on the draft 2013 Water System Plan, including the Six-Year Regional Conservation Goal, prior to its approval and adoption by ordinance (124071).

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