

# Cascade Water Alliance Shortage Management Plan

Resolution 2016-18

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# Table of Contents

1.0	Introduction and Purpose	3
2.0	Related Agreements and Water Rights	3
2.1	Cascade Joint Municipal Utilities Authority Agreement	3
2.2	Seattle Block Contract	5
2.3	Tacoma Public Utilities Water Supply Agreement	5
2.4	White River-Lake Tapps Water Rights	6
2.5	Member Water Audit Agreements	6
3.0	Plan Activation and Applicability to Cascade Members	6
3.1	Activation of SMP	6
3.2	Water Shortage Management Committee	7
3.3	Coordination with SPU and Members	7
3.4	Applicability to Cascade Members	8
3.5	Member Shortage Plans	8
3.6	Communications During Water Shortages	8
3.7	Relief of Conflicting Obligations During Water Shortages	8
4.0	Stages of Water Curtailment	9
4.1	Advisory Stage	10
4.2	Voluntary Stage	11
4.3	Mandatory Stage	13
4.4	Emergency Stage	15

## Tables

Table 1: Triggers for Plan Activation and of Curtailment Stages	17
Table 2: Four Stages of Curtailment	18

## List of Appendices

Appendix A: Actions that Can Reduce Water Usage by Distribution Systems and Customers

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## 1.0 Introduction and Purpose

Municipal water suppliers must be prepared for water shortages in order to minimize effects on the communities they serve. This Shortage Management Plan (“SMP”) outlines how Cascade Water Alliance (“Cascade”) will respond to a water supply shortage affecting its regional water supply.

At the present time, Cascade purchases all of its water from Seattle Public Utilities (“SPU” or “Seattle”). Various events could cause a shortage in the SPU water supply system. These include reduced snowpack in the Cascade Range due to a dry winter or early spring melt; an earthquake or other event that damages reservoirs, treatment facilities or transmission lines; water quality problems; or intentional destructive acts. These different kinds of events may cause shortages with different characteristics in terms of advance warning, severity and duration. The SMP offers flexibility for a range of appropriate responses.

As required under Washington State Department of Health (“DOH”) regulations, SPU and each Member of Cascade has its own shortage management plan to guide water system operations and interaction with end-use customers in each community during a water shortage. Cascade’s SMP complements the SPU and Member SMPs.

Cascade’s primary role in the event of a water shortage is to coordinate responses among the Cascade Member water systems that receive water from the regional supply and SPU, as the source of the regional supply. Therefore, this SMP focuses on the communication and coordination activities to be carried out by Cascade staff during a water shortage.

## 2.0 Related Agreements and Water Rights

### 2.1 Cascade Joint Municipal Utilities Authority Agreement

*The Cascade Water Alliance Joint Municipal Utilities Authority Agreement (“Joint Agreement”, 2012)* established Cascade as a municipal corporation and provides the agreement of the Cascade Members on operations. Section 7.3 of the Joint Agreement provides (emphasis added):

#### **7.3 Shortages and emergency.**

A. Shortages. Members must respond to water shortages in a collective, shared fashion under a Cascade Shortage Management Plan adopted by the Board. Resources must be shared in a manner that reduces the risk of severe shortages to each Member. **Cascade’s Shortage Management Plan may include without limitation, a definition and classification of shortages, a shortage contingency**

**plan including mandatory programmatic actions among all Members in the event of shortages, allocation of authority for determining and responding to shortages, and a communications and outreach program for the public.** Members shall not be required to implement Cascade's Shortage Management Plan in areas not served by the Supply System.

In the event of shortages, Cascade shall reduce or halt Interruptible Supply before invoking the Shortage Management Plan with respect to all Members with a Full Supply Commitment. However, the Board may, by 65% Dual Majority Vote, continue service in the amounts it deems appropriate to one or more Members receiving Interruptible Supply.

**The Board may require that Members failing to comply with mandatory shortage management programs implemented under Cascade's Shortage Management Plan assume a disproportionate reduction in supply or pay penalty charges, or both.**

In the event of a Cascade-wide water shortage, Members with Independent Supply may, without penalty, decline to participate in the shortage management program for that shortage by foregoing all supply from Cascade for the duration of the emergency or shortage.

To avoid shortages resulting from emergencies or the inability to develop sufficient supplies, **the Board may, by 65% Dual Majority Vote, establish moratoria on connections or additional commitments for future water services by the Members.** A moratorium may be discontinued by a Dual Majority Vote of the Board.

B. Emergency. The Board shall include in Cascade's Shortage Management Plan policies and procedures for addressing short-term disruptions of water supply.

The Joint Agreement also provides Cascade with the authority to impose minimum demand charges on Members (which Cascade has implemented in certain instances) as follows:

A Member shall be assigned a Demand Share based on the Board's best estimate of capacity to be used by that Member. The Demand Share shall be established based on an audit of that Member's past three (3) years of water use. After three (3) years as a Member, the baseline demand and capacity obligation for that Member shall be fixed based on actual experience as a Member. **A specific Demand Share may be set by the Board to account for circumstances, such as (by way of example and not by limitation) costs of extending the Supply System to a Member, or when Independent Supplies affect regional demand patterns.**

Section 7.5 (in part and emphasis added).

## 2.2 Seattle Block Contract

*The 2013 2nd Amended and Restated Declining Block Water Supply Agreement Between the City of Seattle and Cascade Water Alliance* (“Block Contract”) provides for shortage management. Section 7.2 provides:

Cascade and Seattle shall coordinate the development, adoption and implementation of their respective Water Shortage Management Plans. Before invoking its Water Shortage Management Plan, the Parties shall communicate with each other concerning current and projected water supply conditions.

Section 12.1 of the Block Contract recognizes that unilateral actions by Seattle may be needed at times due to unforeseen and unavoidable events, including water shortages. It provides (emphasis added):

The Parties recognize that unforeseen and unavoidable events may occur which would require Seattle to act unilaterally for what it deems to be in the best interest of the general public served by the Seattle Water System; including water shortages resulting from drought circumstances and temporary reduction in water supply associated with turbidity events. **Upon the occurrence of an unforeseen or unavoidable event, Seattle shall, to the extent practicable, treat its wholesale and retail customers equally and any curtailment of supply shall be imposed proportionately among these customers.** This authority to act unilaterally carries with it a unilateral responsibility of Seattle to restore, expeditiously, the Seattle Water System to its pre-emergency capability to supply the region.

As a separate matter, Section 7.3 of the Block Contract provides that if water use restrictions are imposed on SPU by the terms of its agreements with Federal and State agencies and Tribes, such restrictions will be borne proportionally by SPU and its other wholesale customers, and Cascade with respect only to the size of the Cascade Block at the time curtailment is required. In this event, Cascade and its Members will need to review the restrictions and determine appropriate short-term or long-term actions.

## 2.3 Tacoma Public Utilities Water Supply Agreement

Cascade entered into an *Agreement for the Sale of Wholesale Water* (2005) with Tacoma Public Utilities (TPU). In 2012, Cascade and TPU amended the *Agreement* to require Cascade to make specified supply capacity reservation payments to TPU, in lieu of the minimum purchase payments provided for in the 2005 agreement. Through 2042, Cascade may request that TPU provide up to 8 MGD wholesale water supply, and TPU has sole discretion to determine the availability, disruption, interruption, suspension and curtailment of such supply. At this time, Cascade is not using this supply source. At such time as Cascade begins receiving regional water supply from Tacoma, the need to incorporate

shortage response actions in coordination with TPU will be reviewed.

## **2.4 White River-Lake Tapps Water Rights**

The Water Right Permit No. S2-29920(A), issued in 2010 to Cascade for the withdrawal or diversion of water from the White River into Lake Tapps for municipal purposes, is subject to conditions including the maintenance of minimum flows in the White River and the maintenance of specified lake levels during a specified recreational period. These conditions are not considered in the SMP at this time for the following reasons: Cascade is not currently using Lake Tapps for municipal supply and Cascade's current planning vision indicates that Cascade's use of Lake Tapps is at least 20 years away. Cascade will update the SMP to include lake level triggers at such time as Lake Tapps is brought on line for municipal supply purposes.

## **2.5 Member Water Audit Agreements**

Each Member has executed a water audit agreement with Cascade. For those Members with independent supply, that agreement defines and quantifies independent supplies, documents member utilization of those supplies, and establishes production requirements imposed on Members as related to those supplies.

## **3.0 Plan Activation and Applicability to Cascade Members**

### **3.1 Activation of SMP**

Cascade may activate its SMP under the following circumstances:

- 1) When SPU activates its Water Shortage Contingency Plan, the Cascade CEO may activate the SMP and determine the appropriate stage of curtailment and, at its next meeting, the Cascade Board will take action to end or continue activation at the appropriate stage of curtailment;
- 2) In the event that a supply shortage or threat of a supply shortage requires immediate action to prevent risks to public health and safety, the Cascade CEO may declare an emergency and activate the SMP and determine the appropriate stage of curtailment and, at its next meeting, the Cascade Board will take action to end or continue activation at the appropriate stage of curtailment; or
- 3) For any other reason through action of the Cascade Board.

Unless otherwise directed by the Cascade Board, the Cascade CEO, in consultation with the Water Shortage Management Committee (Section 3.2 below), may elevate or diminish the stage of curtailment from one stage to another as appropriate.

## **3.2 Water Shortage Management Committee**

The Cascade CEO shall designate a Water Shortage Management Committee consisting of Cascade staff and Member staff to advise the Cascade CEO on implementation of the SMP. The Water Shortage Management Committee may be designated at any time, but no later than immediately following SMP activation and shall exist the duration of the water shortage. The existing Member staff committee may be designated as the Water Shortage Management Committee. The Cascade CEO may consult with the Water Shortage Management Committee by any means including in-person, by phone or by email.

## **3.3 Coordination with SPU and Members**

As provided in the Block Contract with SPU, Cascade will coordinate and communicate closely with SPU regarding activation of the SMP and a change in the stage of shortage as indicated in Section 4 below.

Cascade and its Members have a key role in the communications strategy during a regional water shortage. It is anticipated that SPU will communicate with its own retail customers, wholesale customers, large retail customers, regional stakeholders, state/federal resource agencies, and regional media. Cascade encourages its Members to communicate with retail customers, wholesale customers, local stakeholders, and local media. Cascade will help to coordinate and facilitate communications among the Members and between the regional level and the local level.

Cascade will strive to make its public messaging at each stage of curtailment consistent with SPU's messaging during the shortage event.

Cascade will maintain a current copy of SPU's Water Shortage Contingency Plan on file at Cascade offices, and encourages Members that receive water from Cascade's regional water supply system maintain a copy of both the Cascade SMP and SPU Water Shortage Contingency Plan readily available with their own Member SMP.

In addition, the Block Contract with SPU contains provisions related to SPU's supply commitment and Cascade's participation in shortages. These include financial provisions that, in the event of a voluntary or mandatory curtailment, require revision to the cost borne by Cascade. Whenever SPU moves a shortage to the voluntary, mandatory or emergency stage, Cascade will initiate discussion with SPU regarding adjustments to the supply commitment and payments due from Cascade. Cascade will inform the Members of any proposed financial treatment regarding SPU charges occurring as a result of the shortage and these discussions.

### 3.4 Applicability to Cascade Members

Consistent with the Section 7.3 of the Joint Agreement, activation of the SMP applies to Cascade Members as follows:

- **Members receiving all of their water supply from Cascade:** Required to comply with Cascade's SMP.
- **Members receiving partial supply from Cascade:** Required to comply, in portions of their service areas that receive regional supply; *or* to discontinue use of Cascade supply during the water shortage.
- **Members not receiving Cascade supply.** Not required to comply with Cascade's SMP.
- **Members with interruptible supply.** *None at this time.*

### 3.5 Member Shortage Plans

DOH regulations at WAC 246-290-100(4)(f) require water utilities to have their own water shortage response plan. These are typically submitted to DOH every six years with their comprehensive water system plan update. Cascade recommends that Members review and revise their water shortage response plans to ensure the Member plans use similar stages of curtailment as listed in the Cascade SMP, and that provisions in the Member SMPs support effective coordination with SPU and Cascade during a water shortage.

### 3.6 Communications During Water Shortages

In addition to the communication actions listed for each curtailment stage in Section 4, in the event of a water shortage that requires this SMP to be activated, Cascade will coordinate closely with its Members and SPU regarding public communications. It is anticipated that SPU will take the lead on communications involving regional media such as major radio, television and newspaper outlets. Members will have the primary responsibility for communicating directly with their own customers and local communities. Cascade will coordinate communications among Members and SPU and will assist its Members issue consistent and effective communications to the communities that they serve.

### 3.7 Relief of Conflicting Obligations During Water Shortages

When the SMP is activated, and with each stage of curtailment, Cascade will review and adjust production requirements and minimum demand shares to avoid potentially contradictory obligations of members. Since minimum production requirements may be inconsistent with desired or mandated demand reductions, and since minimum demand shares provide financial disincentives to demand reduction, Cascade will determine necessary and appropriate

adjustments to provide for consistent incentives and impacts among members. Specifically:

- The Cascade CEO, in consultation with the Water Shortage Management Committee and each affected Member, will recommend to the Board to amend or suspend production requirements so that demand reduction and supply production objectives are not in conflict, while recognizing that increased reliance on independent supplies is a desirable outcome when addressing a shortage from Cascade's regional sources.
- The Cascade CEO, in consultation with the Water Shortage Management Committee and each affected Member, will recommend to the Board to amend or suspend minimum demand shares in order to encourage reduced demand on impacted regional sources.
- In the event that a shortage is caused by a shortage in independent supply resulting in a shortage that Cascade chooses to share in, the Cascade CEO, in consultation with the Water Shortage Management Committee and each affected Member, will recommend to the Board to make adjustments specific to each Member to reflect the unique circumstance of the shortage.

The recommended adjustments will be taken to the Board for approval or adjustment.

## 4.0 Stages of Water Use Curtailment

Cascade's SMP has four stages of curtailment that coincide with the stages of curtailment in SPU's Water Shortage Contingency Plan:

- Advisory Stage
- Voluntary Stage
- Mandatory Stage
- Emergency Stage

These four stages are designed for progressive implementation during a drought or other long-range disruption of water supply. However, any of the four stages can be activated from the outset of the event as appropriate and the stage of curtailment maybe elevated or diminished from one stage to another as appropriate.

Sections 4.1 through 4.4 provide details in each of the four stages of curtailment. Table 1 provides a summary of the triggers of each stage. Table 2 provides a summary of actions to be taken in each stage.

## **4.1 Advisory Stage**

This stage is advisory only, and does not require curtailment actions by water users. The public is informed as early as meaningful data are available that a water shortage may occur.

### **4.1.1 Objectives of Advisory Stage**

- Prepare Cascade, its Members and water users for a potential water shortage, thereby allowing for adequate planning and coordination.
- Support distribution system management actions by Cascade Members that can help to forestall or minimize the need for more stringent demand or supply management actions.

### **4.1.2 Triggers of Advisory Stage**

- 1) Upon notice from SPU that it has activated the Advisory Stage of their Water Shortage Contingency Plan, the Cascade CEO may activate the SMP and the Advisory Stage and, at its next meeting, the Cascade Board will take action to end or continue activation; or
- 2) In the event that a supply shortage or threat of a supply shortage requires immediate action to prevent risks to public health and safety, the Cascade CEO may declare an emergency and activate the SMP and the Advisory Stage and, at its next meeting, the Cascade Board will take action to end or continue activation; or
- 3) The Cascade Board may act to authorize activation of Cascade's Advisory Stage.

### **4.1.3 Communication Actions During Advisory Stage**

Once the Advisory Stage has been activated by Cascade, Cascade will:

- Inform Cascade Members that they are required to activate their Advisory Stage (or equivalent actions per each Member's individual SMP). This will not apply to Cascade Members exempted per Section 3.4 of this SMP.
- Establish a regular communication mechanism to keep Cascade Members and the Cascade Board informed regarding stages of curtailment; water supply conditions; actions taken by Cascade Members and others in the region; and information that should be communicated to the public, local parks departments, large customers, landscape industry professionals and others.
- Request Cascade Members carry out supply-side management actions they will take during the Advisory Stage to reduce use of water for local water distribution system operations,

and compile information on the actions taken. For Members that have independent supply, this may include relying more heavily on these supplies where feasible, to reduce pressure on the Cascade regional supply.

- If requested by SPU, participate on SPU's Water Shortage Advisory Group to help develop public information messages and materials and to provide input on Cascade Member actions.
- Assist Cascade Members acquire and distribute public information materials as needed. This may include materials from SPU or other sources, as appropriate. Post information on Cascade's web site regarding the Advisory Stage.

#### **4.1.5 Operating Actions of Advisory Stage**

- Cascade will initiate planning and preparation for actions under an elevated stage of curtailment, including an assessment of potential staffing impacts, training needs and communications strategies.
- Cascade will assist Members plan specific actions under an elevated stage of curtailment, including distribution system actions by the Member and voluntary water use curtailment actions Members can suggest to their end-use customers if the elevated stage of curtailment is activated.

## **4.2 Voluntary Stage**

If supply conditions indicate the need for actions greater than those in the Advisory stage, the plan moves to the Voluntary Stage which relies on voluntary cooperation and support of customers to meet target consumption goals. During this stage, specific voluntary actions are suggested for residential and commercial customers.

### **4.2.1 Objectives of Voluntary Stage**

- Encourage Members to take distribution system management actions to further stretch available supply.
- Encourage customer voluntary actions to maintain or reduce demand to meet target consumption levels.
- Forestall or minimize need for later more stringent demand or supply management actions.
- Maintain drinking water quality at acceptable levels throughout the shortage.

#### **4.2.2 Triggers of Voluntary Stage**

- 1) Upon notice from SPU that it has activated the Voluntary Stage of their Water Shortage Contingency Plan, the Cascade CEO may activate the Voluntary Stage and, at its next meeting, the Cascade Board will take action to end or continue activation; or
- 2) In the event that a supply shortage or threat of a supply shortage requires immediate action to prevent risks to public health and safety, the Cascade CEO may declare an emergency and activate the Voluntary Stage and, at its next meeting, the Cascade Board will take action to end or continue activation; or
- 3) The Cascade Board may authorize activation of Cascade's Voluntary Stage.

#### **4.2.3 Communication Actions of Voluntary Stage**

Once the Voluntary Stage has been activated by Cascade, Cascade will:

- Inform Cascade Members that they are required to activate their Voluntary Stage (or equivalent actions per each Member's individual SMP). This will not apply to Cascade Members exempted per Section 3.4 of this SMP.
- Request Cascade Members report to Cascade regarding supply-side management actions they will take during the Voluntary Stage. For Members that have independent supply, this may include relying more heavily on these supplies where feasible, to reduce pressure on the Cascade regional supply.
- Request Cascade Members communicate with their largest customers to request percentage reductions.
- Communicate regularly with Cascade Members regarding information that should be communicated to the public, local parks departments, large customers, landscape industry professionals and others. At the Voluntary Stage, this will include specific recommendations on how customers can reduce water consumption, including links to the [savingwater.org](http://savingwater.org) website or equivalent information resources.
- Communicate with the Washington State Department of Health regarding actions being taken by Cascade and its Members.
- If requested by SPU, participate on SPU's Water Shortage Advisory Group to help develop public information messages and materials and to provide input on Cascade Member actions.

- Assist Cascade Members acquire and distribute public information materials as needed. Review information from SPU, including materials in the Water Shortage Contingency Plan, regarding actions customers can take to reduce their water consumption. As appropriate, post information for Cascade Members and their customers on Cascade's web site regarding the Voluntary Stage. Appendix A provides examples of water saving actions customers can take.

#### **4.2.4 Operating Actions in Voluntary Stage**

- Cascade will assess revenue implications and potential remedies and report to the Cascade Board.
- Cascade will initiate planning and preparation for actions under an elevated stage of curtailment, including an assessment of potential staffing impacts, training needs and communications strategies. Assist Cascade Members to identify mandatory restrictions that may apply during the Mandatory Stage, if it is needed.

### **4.3 Mandatory Stage**

If supply conditions indicate a need for actions greater than those in the Voluntary stage, the Mandatory Stage would be implemented. This stage prohibits or limits certain water actions. Cascade will rely on its Members to enforce mandatory actions, using techniques as appropriate to each service area or jurisdiction.

#### **4.3.1 Objectives of Mandatory Stage**

- Achieve targeted goals for reducing consumption, by restricting certain water uses. Goals will be determined in consultation with SPU, based on the characteristics and severity of the water shortage.
- Ensure that adequate water supply will be available for the duration of the supply shortage.
- Minimize the disruption to customers' lives and businesses while meeting target consumption goals.
- Maintain drinking water quality at acceptable levels throughout the shortage.
- Promote equity among Cascade Members in responding to the supply shortage.

#### **4.3.2 Triggers of Mandatory Stage**

- 1) Upon notice from SPU that it has activated the Mandatory Stage of their Water Shortage

Contingency Plan, the Cascade Board will consider activation of the Mandatory Stage; or

- 2) In the event that a supply shortage or threat of a supply shortage requires immediate action to prevent risks to public health and safety, the Cascade CEO may declare an emergency and activate the Mandatory Stage and, at its next meeting, the Cascade Board will take action to end or continue activation; or
- 3) The Cascade Board may authorize activation of Cascade's Mandatory Stage.

#### **4.3.3 Communication Actions of Mandatory Stage**

Once the Mandatory Stage has been activated by Cascade, Cascade will:

- Inform Cascade Members that they are required to activate their Mandatory Stage (or equivalent actions per each Member's individual SMP). This will not apply to Cascade Members exempted per Section 3.4 of this SMP. Enforcement actions may be needed in the Mandatory Stage. Cascade expects each Member to enforce restrictions in a manner suitable to the local service area or to work with other local governments having enforcement powers to do so.
- Gather information from SPU regarding any water quality or water pressure problems, if any, that are identified or that may possibly occur at the mandatory stage, and communicate these to Cascade Members management, operations staff and public affairs staff.
- Continue communication actions from the Voluntary Stage, with modifications as appropriate for the Mandatory Stage (as determined in consultation with SPU and Cascade Members).

#### **4.3.4 Operating Actions of Mandatory Stage**

- Cascade will continue operating actions from the previous stages, and:
- Cascade will initiate planning and preparation for Emergency Stage actions, including an assessment of potential staffing impacts, training needs, communications strategies. Cascade will assist Members to plan specific actions that may be needed if the Emergency Stage is activated.
- If necessary the Board will consider enforcement actions against any Members who do not comply with Mandatory Stage actions, as allowed under the Cascade Joint Agreement.

## **4.4 Emergency Stage**

At this stage Cascade and its Members recognize that a critical water situation exists and that, without additional significant curtailment actions a shortage of water for public health and safety is imminent. This would be used as the last stage of a progressive drought or similar situation, or to address an immediate crisis such as a disruption to water sources, treatment or transmission facilities. This type of situation has never occurred in Cascade or SPU history, but could occur during a very severe drought or under emergency conditions such as a major earthquake that ruptures transmission pipelines.

### **4.4.1 Objectives of Emergency Stage**

- Strive to meet the water use goals established for this stage, recognizing that customers' lives and businesses may be significantly impacted in order to achieve necessary water savings. Goals will be determined in consultation with SPU, based on the characteristics and severity of the water shortage.
- Promote equity among Cascade Members in responding to the supply shortage.

### **4.4.2 Triggers of Emergency Stage**

- 1) Upon notice from SPU that it has activated the Emergency Stage of their Water Shortage Contingency Plan, the Cascade Board will consider activation of the Emergency Stage; or
- 2) In the event that a supply shortage or threat of a supply shortage requires immediate action to prevent risks to public health and safety, the Cascade CEO may declare an emergency and activate the Emergency Stage and, at its next meeting, the Cascade Board will take action to end or continue activation; or
- 3) The Cascade Board may authorize activation of Cascade's Emergency Stage.

If SPU activates its Emergency Stage, Cascade anticipates that Section 12.1 (Emergency Events) of the Block Contract would also be triggered. This section permits SPU to curtail supplies to Cascade, on a proportional basis with its retail customers and other wholesale customers. In the event of significant curtailment, Cascade and its Members would need to activate their SMPs in order to manage the situation effectively.

### **4.4.3 Communication Actions of Emergency Stage**

Once the Emergency Stage has been activated by Cascade, Cascade will:

- Inform Cascade Members that they are required to activate their Emergency Stage (or

equivalent actions per each Member's individual SMP). This will not apply to Cascade Members exempted per Section 3.4 of this SMP. Enforcement actions may be needed in the Emergency Stage. Cascade anticipates each Member will enforce restrictions in a manner suitable to the local service area or will work with other local governments having enforcement powers to do so.

- Continue and intensify communication actions from the previous stages, with modifications as appropriate for the Emergency Stage (as determined in consultation with SPU and Cascade Members). This includes, but is not limited to, Cascade's role in supporting effective communications between individual Cascade Members and SPU.
- For Members that have independent supply, request they rely as much as possible on these supplies, to reduce pressure on the Cascade regional supply.
- Alert Members of particular operational problems that may occur with system-wide reduced water consumption, and communicate these to Cascade Members management, operations staff and public affairs staff and on the Cascade website. These could include, for example, taste and odor problems; and reduced pressures in Member distribution systems.
- Assist Cascade Members to define and communicate exemptions for medical facilities and other facilities having key responsibilities for public health and safety.

#### **4.4.5 Operating Actions of Emergency Stage**

- Cascade will continue to monitor staffing impacts, training needs and communications strategies and make adjustments where feasible to enhance effectiveness of the regional water shortage response.
- If feasible and applicable, Cascade will make staff resources available to Cascade Members to assist them in the water shortage response. This may include temporary reassignment of Cascade staff; and/or outsourcing of specialized functions or additional staffing resources that could provide assistance to Cascade Members.
- If volunteer services are available and deemed valuable to the water shortage response, and if desired by the Members, Cascade will coordinate volunteers on behalf of its Members.
- If necessary the Board will consider enforcement actions against any Members who do not comply with Emergency Stage actions, as allowed under the Cascade Joint Agreement.

**TABLE 1: Triggers for Plan Activation and of Curtailment Stages**

TRIGGERS	CASCADE SMP/Stage	MEMBERS
<p>SPU activation <u>plus</u>                      CEO activation Cascade (Board confirmation); or                      CEO declaration of emergency (Board confirmation at next meeting); or                      Board Action</p>	<p>Activation to any of the 4 Stages</p>	
<p>SPU activates to Advisory Stage <u>plus</u>                      CEO activation (Board confirmation at next meeting); or                      CEO declaration of emergency (Board confirmation at next meeting); or                      Board Action</p>	<p>Advisory Stage</p>	<p>Cascade inform and advise Members</p>
<p>SPU activates to Voluntary Stage <u>plus</u>                      CEO activation (Board confirmation at next meeting); or                      CEO declaration of emergency (Board confirmation at next meeting); or                      Board Action</p>	<p>Voluntary Stage</p>	<p>Member compliance required</p>
<p>SPU activates to Mandatory Stage <u>plus</u>                      Board Action; or                      CEO declaration of emergency (Board confirmation at next meeting). or                      Board Action</p>	<p>Mandatory Stage</p>	<p>Member compliance required</p>
<p>SPU activates to Emergency Stage <u>plus</u>                      Board Action; or                      CEO declaration of emergency (Board confirmation at next meeting); or                      Board Action</p>	<p>Emergency Stage</p>	<p>Member compliance required</p>

**Table 2: Four Stages of Curtailment**

	<b>Advisory</b>	<b>Voluntary</b>	<b>Mandatory</b>	<b>Emergency</b>
<b>Theme of Public Messages from SPU</b>	A shortage may occur soon; get ready.	A shortage has occurred. We are requesting voluntary curtailment to reduce demand by x percent.	A severe shortage has occurred. Mandatory curtailment is necessary and specific uses of water are restricted.	An emergency shortage has occurred. Mandatory curtailment is necessary and public health and safety uses are the priority.
<b>Cascade Communication Actions</b>	<ul style="list-style-type: none"> <li>• Inform Members they are required to activate their Advisory Stage (see exemptions).</li> <li>• Establish a regular communication mechanism with Members.</li> <li>• Request Cascade Members carry out supply-side management actions.</li> <li>• Participate on SPU's Water Shortage Advisory Group.</li> <li>• Assist Members to acquire and distribute public information materials.</li> </ul>	<ul style="list-style-type: none"> <li>• Inform Members they are required to activate their Voluntary Stage.</li> <li>• Request Cascade Members report to Cascade regarding supply-side management actions. For Members that have independent supply, this may include relying more heavily on these supplies.</li> <li>• Request Cascade Members communicate with their largest customers.</li> <li>• Communicate regularly with Cascade Members.</li> <li>• Communicate with the Washington State Department of Health.</li> <li>• Participate on SPU's Water Shortage Advisory Group.</li> <li>• Assist Cascade Members to acquire and distribute public information materials.</li> </ul>	<ul style="list-style-type: none"> <li>• Inform Cascade Members that they are required to activate their Mandatory Stage, including enforcement as appropriate.</li> <li>• Gather information from SPU on water quality or pressure problems, and communicate these to Members.</li> <li>• Continue communication actions from the Voluntary Stage, with modifications as appropriate for the Mandatory Stage.</li> </ul>	<ul style="list-style-type: none"> <li>• Inform Cascade Members that they are required to activate their Emergency Stage, including enforcement as appropriate.</li> <li>• Continue and intensify communication actions from the Mandatory Stage.</li> <li>• For Members that have independent supply, request they rely as much as possible on these supplies.</li> <li>• Alert Members of particular operational problems that may occur with system-wide reduced water consumption.</li> <li>• Assist Cascade Members to define and communicate exemptions for public health and safety.</li> </ul>
<b>Cascade Operating Actions</b>	<ul style="list-style-type: none"> <li>• Initiate preparation for Voluntary Stage.</li> </ul>	<ul style="list-style-type: none"> <li>• Assess revenue implications remedies.</li> <li>• Initiate preparation for Mandatory Stage.</li> </ul>	<ul style="list-style-type: none"> <li>• Continue operating actions from the Voluntary Stage</li> <li>• Initiate preparation for Emergency Stage.</li> <li>• If necessary consider enforcement actions against any non-complying</li> </ul>	<ul style="list-style-type: none"> <li>• Continue operating actions from Mandatory Stage.</li> <li>• Make staff resources available to Cascade Members.</li> <li>• Coordinate volunteers on behalf of Members.</li> </ul>

## APPENDIX A

### POSSIBLE ADVISORY STAGE WATER CONSERVATION TIPS FOR CUSTOMERS (Adapted from SPU 2006 WSCP)

#### ***Conserve Inside***

For most households, the vast majority of water is used indoors. Taking conservation actions and installing efficient fixtures help reduce your water use year-round. There are also ways to conserve water in outdoor uses and at work. Below are suggested actions:

- Fix leaking faucets and toilets.
- Wash only full loads in the dishwasher and clothes washer.
- Minimize faucet use when brushing your teeth, shaving and washing dishes.
- Don't pre-rinse dishes unless you need to. Most new dishwashers don't require pre-rinsing.
- Save lukewarm water for watering plants, etc. while you wait for hot water in kitchens and showers.
- If you are buying a new toilet, look for a WaterSense model.
- If you are buying a new washing machine, purchase a high-efficiency model. WashWise rebates may be available for qualified machines.

#### ***Conserve Outside***

Make the most of the water you will use in the spring and summer:

- Aerate lawns in the spring to better absorb water.
- Mulch planting beds to decrease evaporation.
- Select the right plants for the right place –contact SPU or see our website for information.
- Tune-up and improve your irrigation system-rebates may be available.
- Wash your cars at locations that recycle their water.

Note: For more information on home water conservation tips for inside and out, visit [www.savingwater.org](http://www.savingwater.org) or call 684-7283 (684-SAVE)

#### ***Conserve at Work***

Businesses and institutions can reduce water use and lower utility costs by adopting conservation practices and replacing inefficient equipment or operations.

- Check for leaks.
- Use a broom, instead of a hose, to routinely clean driveways and sidewalks
- Turn off water-using equipment when not in use, including dishwashers, garbage disposals, and food troughs.
- Upgrade equipment efficiency -rebates may be available.
- Increase employee awareness of water conservation.

**POSSIBLE VOLUNTARY STAGE CUSTOMER WATER  
SAVING ACTIONS  
(Adapted from SPU 2006 WSCP)**

The following voluntary actions are being requested of all customers:

**SET A GOAL: Such as use 10% less water**

Most customers can easily save 10% by choosing several items from the menu of water saving actions below. If you routinely do outdoor watering, select those actions first. Set a goal to reduce your water use by 10% from the amount you used during the same billing period last year. Most utility bills contain your water consumption for each billing period. Much of the 10% can probably be achieved through conservation actions that are wise to do all the time. If that is not sufficient, then the special curtailment actions listed here can be implemented during the duration of the supply problem.

**REDUCE OUTDOOR WATER USE**

Conservation Actions:

- **Avoid watering** between 10 AM and 7 PM to reduce evaporation.
- **Stop obvious water waste** such as gutter flooding, sidewalk and street watering, and fix leaks.
- **Never leave a hose running**, always use a shut-off nozzle.
- **Use a broom** rather than a hose or pressure washer to clean sidewalks and driveways.

Curtailment Actions:

- **Reduce lawn watering** (twice a week or less if possible).
- **Let your lawn go dormant.** Customers who choose to not water their lawns should water deeply once each rainless month to keep grass roots alive. To avoid runoff when you water, if the water puddles, cycle your sprinkler on and off until water is absorbed.
- **Refrain from filling** empty pools and hot tubs.
- **Turn off water features** and fountains.
- **Wash vehicles only at car washes that recycle their water.**

**REDUCE INDOOR WATER USE**

Conservation Actions:

- **Install a water efficient WaterSense toilet.** These toilets have proven to perform well and give long-term water savings. Replacing a frequently used old toilet with a new efficient toilet can save most households in utility bills. Check [www.savingwater.org](http://www.savingwater.org) for WaterSense toilet models.
- **Install a high-efficiency clothes washer.** New washers are typically one-third more water efficient than old washers.
- **Wash only full loads in the clothes washer and dishwasher,** or choose an appropriate load-size setting for the number of items in the washer.
- **Turn off the tap** while brushing your teeth, hand-washing dishes or shaving.
- **Fix leaky faucets and toilets.** Put several drops of food coloring in your toilet tank. After 20 minutes, if you have color in the bowl, you have a slow leak that over time can amount to a lot of water.
- **Install an efficient showerhead.** New showerheads work well and use much less water than old high-flow models.
- **Install an efficient faucet aerator.** Replace your older bathroom faucet nozzle (aerator) with one that uses one gallon per minute or less.

Curtailment Actions:

- **Spend one minute less in the shower.** Try to limit showers to five minutes or less.
- **Flush your toilet less often.** Toilet flushing is the largest water use inside the home. As the saying goes, "If it's yellow, let it mellow."

## **REDUCE WATER USE AT WORK**

There are a wide variety of opportunities for businesses and agencies to reduce their water use and operating expenses.

### Conservation Actions:

- **Check cooling towers.** Cooling towers - and the ways that they regulate water use – represent real opportunities for improving water efficiency.
- **Check for and fix leaks.** Toilet and urinal leaks are very common. Investigate obvious or suspected leaks.
- **Use a broom,** instead of a hose or pressure washer, to routinely clean driveways and sidewalks.
- Turn off water-using equipment when not in use, including open hoses, dishwashers, garbage disposals, and food troughs.
- **Check air conditioners, refrigerators, and ice machines.** If your company's air conditioners or refrigerators use water-cooled condensers, investigate air-cooled equipment for possible efficiencies. Rebates are available. Visit [www.savingwater.org](http://www.savingwater.org).
- **Install water-efficient toilets, urinals and faucets** in public and employee restrooms. Replacing old toilets, urinals, and faucet aerators with efficient ones can produce substantial savings. Rebates are available. Visit [www.savingwater.org](http://www.savingwater.org).
- **Reuse process water.** Water used in industrial and manufacturing processes should be reused as often as possible. Rebates are available. Visit [www.savingwater.org](http://www.savingwater.org).
- Hospitality businesses can offer guests the option of clean linens each day.
- **Increase employee awareness of water conservation** through management memos or newsletter messages. Install signs that encourage water conservation in restrooms or work areas where water is used. For additional work-related conservation tips, call (206) 343-8505.

### Curtailment Actions:

- **Reduce outdoor watering** (twice a week or less if possible). Rebates are available for smart irrigation technologies. Visit [www.savingwater.org](http://www.savingwater.org).
- **Minimize vehicle washing,** defer or use a water recycling car wash.
- **Turn off** decorative water fountains.
- **Serve water only on request** at restaurants. Avoid thawing with running water.

**For home water conservation tips, visit [www.savingwater.org](http://www.savingwater.org) or call (206) 684-7283 (684-SAVE)**