Presented to the Cascade board of directors on January 26, 2011

Cascade Water Connections Working Group

Summary Report

December 2010

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INTRODUCTION

Cascade completed its initial Transmission and Supply Plan (TSP) in 2004, outlining a program for Cascade to meet the future water supply needs of its members. As the name of the TSP implies, the plan includes an analysis of current and future water supply sources as well as the means for delivering those supplies. Over the course of five years, even though required by law, the need for an update of the TSP became increasingly apparent, as many factors evolved over that time. The desire for and benefits of greater regional collaboration also emerged. In that context, an updated TSP was initiated in 2009, along with the creation of a Working Group composed of regional stakeholders. The efforts of the group, named the Cascade Water Connections Working Group, are summarized in this report.

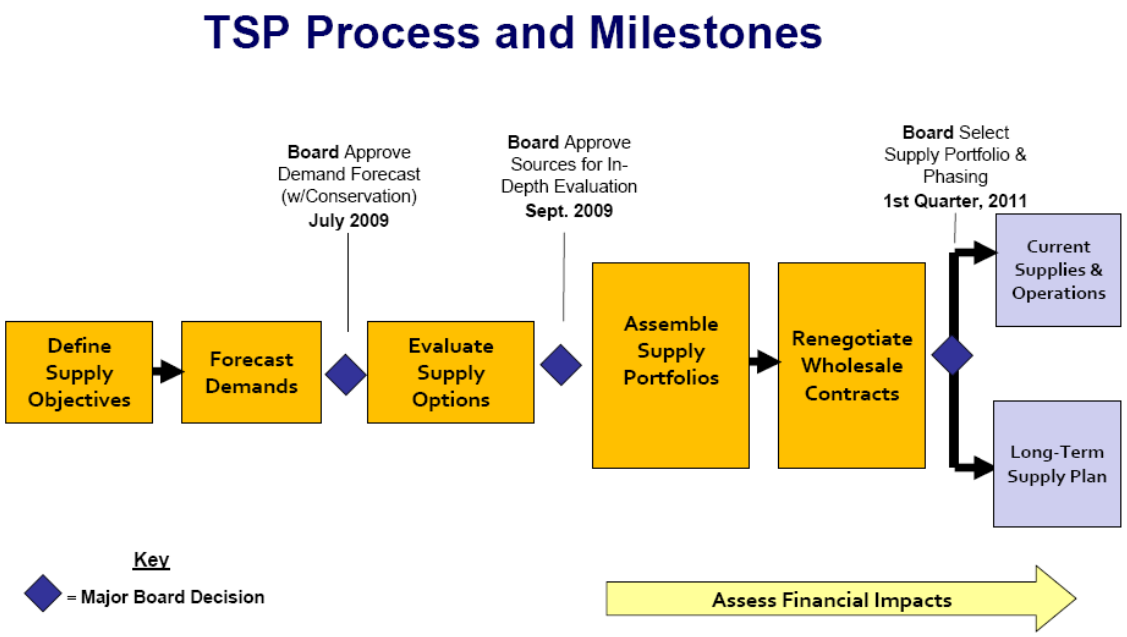
BACKGROUND

Development of Transmission and Supply Plan

The 2010 TSP is based on several explicit planning objectives. These objectives state that the 2010 Plan should:

- Consider a broad range of supply alternatives and project partnerships to identify a viable portfolio of water sources that can provide Cascade members with secure and reliable supplies through at least 2050
- Consider how investments in supply and infrastructure could serve other regional needs or improve the reliability of supply in the region
- Enable rates to be managed at acceptable levels over the short and long terms
- Provide flexibility to adjust to changing circumstances or new opportunities
- Recognize the declining nature of existing wholesale supply contracts
- Apply clear criteria and rationale for recommended actions and provide a sound basis for communication with all stakeholders in the region

A key feature of the TSP development process was a clearly stated set of milestones, with specific opportunities provided for the Working Group to provide its input at key decision points. A figure describing this approach appears below.



Water Demand Projections

A big part of developing a Transmission and Supply Plan is determining how much water demand one is trying to satisfy, and with what assurances, in the face of long-term planning uncertainties. In turn, a significant factor in projecting water demand is determining how much water can be conserved, now and in the future, in order to reduce demand. Other obvious factors include population growth, income growth, plumbing and development codes, the size and type of new dwellings being built in the region (e.g., single family versus multi family) and the rate of formation of new households.

Throughout the development of the TSP, new data continued to suggest that many of these factors were pointing towards both a temporary and permanent softening of water demand. At the same time, conservation goals were being achieved ahead of planned schedules. As a result, the water demand curve remained a dynamic target up until the final adoption of the TSP. Connections Working Group members were kept apprised of these factors throughout their meetings and presented with updated demand curves as they were developed.

Given the Connections Working Group's regional diversity, the group was helpful in reviewing and providing feedback on the appropriateness of reduced demand curves as well as strategies for meeting that demand. Key issues considered by the group included the timing of development of Lake Tapps as a resource, the ramifications of building transmission lines that would interconnect water resources and utilities in the region, and the relative contribution to the supply portfolio of smaller alternative water sources that have yet to be developed.

Another dynamic element were ongoing negotiations between Cascade and the water utilities owned by Seattle and Tacoma related to Cascade purchasing temporary and permanent water supplies from those utilities. Generally, the softening of water demand for those utilities meant more water was potentially available in the near term for sale to Cascade.

Taken together, all of these interrelated and dynamic factors presented a challenging environment in which the TSP was developed and the Connections Working Group was called upon to provide its insights and feedback. Fortunately, the design of the Working Group had three features that served Cascade and the Connections Working Group well throughout the process. The first feature was that meetings were scheduled as needed, based on the milestones in the TSP development process. Instead of meeting at regular but arbitrary intervals, the group met whenever there was sufficient progress in the developmental steps of the TSP's preparation to present new information and issues for the Working Group's consideration and input. The second feature, and a hallmark noted by all of the group's members, was the exceptional degree of transparency and disclosure by Cascade and its technical team throughout the process. There were no "off-limit" questions, and any backup data or documents that members of the group thought were relevant were promptly made available. Thus, whatever information or issues that the group wanted to "drill down" into was accommodated and incorporated into the group's

agenda. The third feature was Cascade's decision to use a neutral facilitator to conduct the meetings, develop agendas, prepare meeting summaries and generally administer the Working Group throughout the process. By using an independent facilitator, Cascade was able to demonstrate its commitment to the transparency of the process, the independence of the Working Group and its trust in the collective wisdom offered by the group. Because of the unique vantage point of the neutral facilitator, Appendix A contains a brief set of observations by the facilitator about the Working Group process.

FORMATION OF WORKING GROUP

Purpose and Objectives

The Cascade Water Connections Working Group was convened to assist the Cascade Water Alliance in evaluating the Transmission and Supply Plan (TSP) to ensure that community, stakeholder and purveyor values and input were included in the supply and demand planning process. The Cascade Water Alliance sought the valuable participation and feedback of the members of the Connections Working Group in this planning effort. Members of the Connections Working Group were asked to provide input to Cascade staff at various milestones in the TSP supply and demand planning process. Specifically, the working group members were requested to review the draft list of water supply and transmission projects developed by the consultant team and suggest modifications if appropriate; provide feedback on the consultant team's evaluation of water demands and supply options; and summarize discussions at the conclusion of the process in the form of a comprehensive, written report to be presented to the Cascade Board of Directors.

The Mission Statement and Principles of Participation that follow are the ones that were presented to the Connections Working Group at its formation. Where the process ultimately did not strictly follow this plan, it has been modified as noted.

Mission Statement

The mission of the Cascade Water Connections Working Group is to assist the Cascade Water Alliance staff in evaluating the Transmission and Supply Plan (TSP) and to ensure that community, stakeholder and purveyor values and input are included in the planning process.

Principles of Participation

Role of Committee Members
The Cascade Water Alliance (Cascade) is asking participants of the Cascade Water Connections to assist Cascade and its planning consultants to review components of the TSP during its development. Working group members are being asked to:

- Become knowledgeable about regional water issues, including water supply resources, transmission facilities and regional water needs.
- Become familiar with Cascade and its role in regional water planning and water supply.
- Become familiar with Cascade's member agencies and water districts and the services they provide.
- Provide input to Cascade staff at various milestones in the TSP supply and demand planning process. Specifically, it is requested that working group members:
    - Provide feedback to the consultant team's evaluation of water demands and supply options.

- Review the draft list of water supply and transmission projects developed by the consultant team and suggest modifications if appropriate.
- Finalize feedback and forward in a comprehensive report to the Cascade Board of Directors.

Representation
Participants are being sought based upon several qualities:

- Willingness to work cooperatively with other working group members.
- Commitment to consistently attend the working group meetings.
- Ability to present the perspective of an organization or constituency.

Working group members are encouraged to report back to his or her respective constituency, when appropriate, to inform them about the working group's discussions and the progress of the TSP development. Meeting minutes will be prepared to facilitate this effort. Cascade staff and consultants will be available to assist in this communication process, if desired.

Discussion Process
Working group members agree to abide by the following discussion process:

- All perspectives are valued.
- One person speaks at a time.
- The preferred deliberation process is collaborative problem solving.
- In cases of non-consensus, alternative perspectives will be documented.
- Working group members treat each other with respect.
- A neutral third-party of Katz & Associates, Inc. will facilitate the meetings.

Meeting Attendance
For the process to work effectively, full participation of members will be essential. Working group members are asked to commit to attend meetings consistently. If a working group member becomes unavailable to attend a meeting, he or she may send an alternate to monitor that meeting. The alternate should be briefed by the working group member regarding the status of prior discussions and decisions, and should be able to faithfully represent the perspectives of the member for which they are serving as an alternate**.** Active participation by the alternate is permissible if the alternate does not impede the progress of the working group.

Support
A neutral third-party facilitator of Katz & Associates, Inc. will conduct all working group meetings. The role of the facilitator is to ensure all perspectives are heard through a collaborative discussion process. Cascade staff and consultants will provide technical and logistical support, including making presentations, answering questions, coordinating meetings and documenting meeting content. Meeting discussions may be audio taped to aid in the preparation of meeting summaries.

Meeting Agendas
Working group participation in establishment of agendas and matters of discussion will be encouraged. Cascade staff and the facilitator will be responsible for preparing the agendas in collaboration with working group members. At the conclusion of each meeting, staff and working group members will recommend items for inclusion in the next agenda and any action items requiring additional research. Agendas will be distributed by e-mail in advance of each meeting.

Timeline
The draft TSP will need to be completed by September 2010, and finalized by December 2010 [The draft TSP is actually being completed in 2011]. The working group will meet to review information, provide input and suggested modifications, if any, prior to key milestone points in the TSP process. To ensure consistency during this schedule, it will be important for the working group to address items presented at each meeting as fully as possible. Lengthy discussions on items for which a majority consensus cannot be reached should be limited.

Work Product
The working group will be asked to summarize its discussions at the conclusion of this process in the form of a written report. The written report will be prepared by the facilitator, in collaboration with working group members. A draft summary report will be presented to the working group for review and comment. It is suggested the report document the following:

- The scope and content of the working group's discussion.
- Feedback to Cascade staff regarding specific input related to supply options and regional water and transmission issues.
- Individual opinions and observations that may not be reflected in the main body of the report.

The working group's feedback will be presented to the Cascade Board at the conclusion of the working group's deliberations. This feedback will be a part of the overall background, research and technical findings that staff provides to the Cascade Board for their consideration and ultimate policy decision.

Roster of Members

Twenty-nine individuals participated in the Working Group as representatives of regional water planners and regulators, government, regulatory agencies, Tribes, the business community, local planning groups/downtown associations, employers, environmental groups, developers, academia, good government interests, and ratepayers. The full roster of Cascade Water Connections Working Group members is presented in Table 1.

Table 1: Connections Working Group Roster of Members

Name	Organization
Walt Canter	East King County Regional Water Association
Andrew Dunn	Washington State Department of Ecology
Ryan Harris	King County - Roads
Steve Hirschey	King County DNRP
Mark Howe	Microsoft
Bob James	Washington State Department of Health
Michael Johnson	Redmond Chamber of Commerce
Joan Kersnar	Seattle Public Utilities
John Kirner	Tacoma Water
Leslie Lloyd	Bellevue Downtown Association
Ralph Mason	Lake Tapps Community Council
Tim McDowd	Kirkland Neighborhood
Linda McCrea	Tacoma Water
Dave Monthie	King County DNRP
Meg Moorehead	Seattle City Council Staff
Beth Mountsier	King County Council's Physical Environment Committee
Bob Pancoast	East King County Regional Water Association
Paul Reitenbach	King County DDES
Lydia Reynolds-Jones	King County - Roads
Anna Rising	Kirkland Neighborhood
Ron Sheadel	Cedar River Water & Sewer District
Denise Smith	League of Women Voters
Sharon Steinbis	Sammamish Community
Sheila Strehle	Seattle Public Utilities
Dr. Leon Stucki	Lake Tapps Community Council
Jeannie Summerhays	Washington State Department of Ecology
Skip Swenson	Cascade Land Conservancy
Sue VanRuff	Maple Valley Chamber of Commerce
Don Wright	South King County Regional Water Association

Schedule of Meetings

As mentioned in the Background section, both the TSP development process and the opportunities for the Working Group to provide its input were based on a step-by-step set of milestones (See Figure 1). Consequently, there were several Working Group meetings in the beginning of the process (latter half of 2009) as several milestones were being achieved in relatively rapid succession. In 2010, the technical effort to develop and refine alternative portfolios of supply options involved an intensive and time-consuming process of analysis and iterative development. This resulted in meetings that were still milestone driven but spaced much farther apart. The resulting schedule of meetings of the Working Group is shown in Table 2.

Table 2: Meeting Schedule

Mtg #	Date and Time	Location	Topic
1	Tuesday, June 30, 2009 8 a.m. to 12 p.m.	Bellevue City Hall, Room 1E-108	Introductions Overview of Cascade and background on regional water resources
2	Thursday, August 13, 2009 9 a.m. to 12 p.m.	Bellevue City Hall, Room 1E-108	Supply alternatives Screening criteria
3	Thursday, September 10, 2009 8 a.m. to 11:30 a.m.	Kirkland City Hall, Peter Kirk Room	Short list of supply alternatives
4	Friday, December 11, 2009 8 a.m. to 11:30 a.m.	Bellevue City Hall, Room 1E-108	Short list of supply alternatives (continued) SEPA process
5	Thursday, April 15, 2010 8 a.m. to 11:30 a.m.	Bellevue City Hall, Room 1E-108	Initial supply portfolio alternatives
6	Friday, November 12, 2010 8 a.m. to 11:30 a.m.	Bellevue City Hall, Room 1E-108	Final water demand projections and supply portfolio alternatives

SUMMARY OF MEETINGS

A total of six meetings of the Connections Working Group was held from June 2009 to November 2010. Figure X, which outlines the steps in the TSP's development, provided the framework for identifying the appropriate points in the process where the Working Group's insights and feedback were needed to evaluate and modify, at Cascade's discretion the work accomplished to that point and review the planning for the next step in the TSP. Below is a brief summary of each meeting's purpose and outcomes.

Meeting 1 – June 30, 2009
The purpose of the first meeting was to clarify the group's mission, present an overview of the Cascade Water Alliance for those who were unfamiliar, and provide background information on regional water resources and the steps that would be followed in preparing a Transmission and Supply Plan, including the initial development of a water demand forecast. The group had many questions about the assumptions used in developing a forecast and requested more details be provided about the demand forecast sensitivities, scope and data sources. Staff agreed to provide this information before the next meeting.

Meeting 2 – August 13, 2009
The second meeting delved more deeply into the methods for developing water demand forecasts, introduced the water supply options that would be evaluated in the TSP, and presented an initial ranking of those options based on evaluation criteria developed by the technical team. Working Group members requested more detailed information on the supply options and discussed the significance and weighting of the evaluation criteria. Following that discussion, the group was asked to participate in an exercise to develop its own weighting of the criteria, similar to the exercise that was used by the Cascade Board and staff to develop theirs. Cascade staff indicated the group's weighting of the criteria would be used to perform an evaluation and ranking of the supply options and then compared to Cascade's rankings at the next meeting.

Meeting 3 – September 10, 2009
The third meeting focused in more detail on how the Cascade water supply option rankings were determined and compared them to the rankings that were produced by applying the criteria weighting developed by the Connections Working Group. The group observed that while some minor shifts in the supply option rankings occurred depending in which weightings were used, the top ranked supply options remained at the top and the bottom ranked options remained at the bottom. The group was also presented with alternative ways of evaluating the supply options in which financial factors were reduced or removed. This analysis produced rankings similar to the other two. The group then considered staff recommendations for eliminating the lowest ranked supply options from further consideration. Since the practical effect of this screening process was only to eliminate from consideration a small number of projects at the very bottom of the list, the group concluded the resulting list of options for inclusion in the next phase of the TSP evaluation was appropriate.

Meeting 4 – December 11, 2009
At the fourth meeting, an updated and refined demand forecast was presented. The primary meeting topic was a presentation of five combinations of different supply options that had been developed as alternative portfolios designed to meet that demand. Each portfolio presented the supply options phased in over the 50-year TSP planning horizon to show how supply would increase over time to meet the upward slope of the demand curve. Variations included how much water might be negotiated in purchase agreements with Seattle and Tacoma, when or if Lake Tapps was brought on line as a resource, and the inclusion or exclusion of additional resources such as reclaimed water. Given that a financial analysis of the portfolios was still under development and no ranking of the portfolios had been performed, the group's discussion centered primarily on clarifying the differences between the portfolios and making suggestions regarding the phasing of supply options.

Meeting 5 – April 15, 2010
The group was provided with an updated status on the securing of water rights for Lake Tapps and the negotiations with Seattle and Tacoma for additional water purchases in the future, both of which figure prominently in the viability and characteristics of the various supply portfolios. The group was then presented with the three portfolio alternatives that had been selected for continued evaluation. All three of those portfolios included Lake Tapps as a source, but varied as to when it was assumed Lake Tapps would begin supplying water, ranging from 2030 to 2060. The portfolios were compared to each other in terms of their relative strengths, looking at their benefits, drawbacks, risks and financial impacts. Risk was evaluated in a number of contexts, including the potential for impacts from seismic events, climate change, construction challenges, and ability to adapt to evolving demands. Key differences among the portfolios in terms of risk were highlighted, along with the potential for mitigating those risks. The Working Group asked a number of questions about how the risks were evaluated and how uncertainty was handled for factors such as cost, competition for resources, climate change and how much water might be available from Tacoma and Seattle in the final analysis. Cascade staff indicated they would come back to the Working Group when factors such as these and the securing of water rights for Lake Tapps were closer to being concluded so that a more definitive analysis of cost and risk could be provided. In the meantime, the general conclusion was that the portfolios that secured more water from Tacoma and Seattle and assumed a later date for Lake Tapps to begin supplying water had the least risk.

Meeting 6 – November 12, 2010
For the final meeting of the Connections Working Group, the Cascade technical team recapped how all of the original TSP planning objectives had been met and presented the adopted demand forecast for the TSP based on the best and latest available data. They also presented their conclusion that not only are all three of the supply portfolios presented at the last meeting viable, but that by sharing regional supplies, risk is reduced and costs are deferred. The remaining steps in finalizing the TSP for adoption by the Cascade Board were outlined, including the Board selecting an approved supply portfolio and receiving a report about the work of the Connections Working Group. To that end, a proposed outline for the report was presented by the group's facilitator and accepted by

the group. The facilitator then prepared a Working Group Report based on that outline, which was reviewed and commented on by the Working Group. In terms of the group's conclusions, members volunteered a number of lessons learned that were particularly focused on the process used to involve them in the development of the TSP. These conclusions are summarized in the next section, along with observations from the neutral facilitator.

CONCLUSIONS

The purpose of the Connections Working Group, as reflected in its mission statement, was primarily to serve as a sounding board for the technical team as it developed the Transmission and Supply Plan. The Working Group's feedback was provided incrementally at each milestone of the Plan's development and helped steer the direction of the TSP as it proceeded. As such, the Working Group did not develop final recommendations per se. However, members vocalized throughout the process and punctuated at the last meeting their belief that the working group had been an effective tool for vetting the Plan's development in the region. Specific observations about the working group approach included the following:

- Useful to do again
- Good model
- Good transparency with presenting research and options
- Graphics in handouts and presentations were strong and informative
- Chuck Clarke and Lloyd Warren did not actively participate; sometimes it was confusing what their involvement was [Response: Mr. Clarke was debriefed after every meeting and was shown everything]
- Milestone based meeting schedule was effective
- Summary report will be helpful in capturing conclusions from group
- Group was used to identify any red flags
- First experience with an "affirmation committee," meaning the group was used to evaluate and provide feedback on the technical work of the team preparing the TSP.
- Cascade responded to a new environment; used regional approach and collaboration to be successful
- It was a useful exploration of a broad regional tool
- It was useful to bring people from diverse backgrounds together and put them in "Cascade's chair;" everyone came together in conclusion
- Excellent process in which all group members were invited to come and give input; good opportunity for the state to observe and participate as well
- Cascade responded well to dynamic shifts in planning context, opportunities and constraints
- Made overall planning process more complete

Appendix A

Personal Statement on the Process from the Facilitator's Perspective

CASCADE WATER ALLIANCE

The following observations about the Working Group process were provided by Lewis Michaelson who served as the neutral facilitator throughout the group's existence.

"Although most of what I would have observed about the process has already been captured by the working group participants themselves in the Conclusions section, a few aspects deserve highlighting.

First, as the neutral facilitator, I was given unprecedented autonomy to conduct the meetings and hold the technical team accountable to the working group. Throughout the process, the Cascade team paid great deference to my role as the neutral facilitator and the independence of the working group.

Second, the desire to build trust by maintaining absolute transparency and demonstrating that the plan's development was an "open book" was apparent from my first involvement with Cascade. As it turned out, the working group members were quite eager to dig into the details and requested at virtually every meeting additional details and background documents. Cascade staff and consultants were always happy to provide this information before the next meeting and made a point to review these additional materials and answer any additional questions at the beginning of each meeting.

Third, the willingness to let the working group develop its own weightings for the evaluation criteria, apply them to the supply options and then compare the results with Cascade's own rankings was a strong indication of how much Cascade valued the perspective of other stakeholders in the region provided by the working group members.

Finally, the trust that Cascade placed in the group's members as current and potential regional partners was reflected in the continual updates they provided on potentially sensitive subjects such as the securing of water rights for Lake Tapps and the negotiations on water agreements with Seattle and Tacoma. The two-way street of regional trust building was evident throughout the process and the good faith participation of all parties was critical to the success of the process."

Appendix B
Meeting Agendas and Summaries

CASCADE
WATER ALLIANCE

Cascade Water Connections Working Group

Meeting #1
Tuesday, June 30
8 am – 12 pm
Bellevue City Hall
450 110th Ave. NE Room 1E 108, Bellevue
Light food and refreshments will be available

Time	Item	Presenter
8:00	Welcome Working Group	Lloyd Warren, Board Chair, Cascade Water Alliance Chuck Clarke, CEO, Cascade Water Alliance
8:20	Introductions and Working Group Overview • Mission Statement • Principles of Participation • Binder Materials	Lewis Michaelson, Facilitator, Katz & Associates
8:50	Cascade Water Alliance Overview	Elaine Kraft, Communications Director, Cascade Water Alliance
9:10	Presentation • Cascade Water Alliance 101 • Why Planning Now	Michael Gagliardo, Director of Planning, Cascade Water Alliance
9:45	Break	
10:00	Continue Presentation • Planning Objectives • Demand Forecast • Screening Criteria	Michael Gagliardo
11:30	Next Steps	Lewis Michaelson
11:45	Public Comment	
12:00	Adjourn	

Directions to City of Bellevue: From interstate 405 South or North take NE 4th St Exit toward downtown Bellevue (west). Turn right onto 110th Ave NE. Go ½ block on 110th Ave NE and turn right into the entrance of Bellevue City Hall's visitor parking lot. Parking at City of Bellevue: Upon entering the building stop by the Service First desk to get your parking ticket validated.

Cascade Water Connections Working Group Meeting #1

June 30, 2009, 8 am – 12pm
Bellevue City Hall, Room 1E 108
450 110th Ave. NE, Bellevue

Welcome

The Cascade Water Connections Working Group convened for their first meeting on June 30, 2009. Chuck Clarke, CEO, Cascade Water Alliance (Cascade), welcomed everyone and thanked them for agreeing to participate in the Cascade Water Connections Working Group. The group will give important feedback to the Cascade Board on the options being considered for providing future water to the members of Cascade Water Alliance.

Mission Statement and Principles of Participation

Chuck Clarke introduced Lewis Michaelson, Katz & Associates, as the facilitator of the group. Lewis reviewed the agenda and also the Mission Statement and Principles of Participation for the group.

Mission Statement

The mission of the Cascade Water Connections Working Group is to assist the Cascade Water Alliance staff in evaluating the Transmission and Supply Plan (TSP) and to ensure that community, stakeholder and purveyor values and input are included in the planning process.

The Principles of Participation included details about:

- The role of committee members
- Representation
- Discussion process
- Meeting attendance
- Meeting support
- Meeting agendas
- Timeline
- Work product

The facilitator asked for comments or questions on the mission of the group and the principles of participation.

Q: Will there be meetings in 2010?
A: Cascade Water Alliance is estimating six total meetings, extending into 2010.

Q: Who drafts the Transmission and Supply Plan (TSP)?
A: Consultants do some of the writing but Cascade staff ultimately owns the Plan and submits it to the Cascade Board.

Q: What is Cascade Water Alliance looking for from the group?
A: The Cascade Water Connections Working Group is meant to be a sounding board. It is not a decision making body, but Cascade would like input from a broad array of stakeholders. The group can provide valuable feedback and direction to Cascade staff and ensure that all perspectives are considered.

After discussion, the working group members present adopted the "Mission Statement" and "Principles of Participation" as drafted."

Cascade Water Alliance Overview

Elaine Kraft, Communications Director, Cascade Water Alliance provided a brief overview of Cascade. A short video was shown that describes Cascade as a non-profit corporation comprised of five cities and three water and sewer districts. Cascade's mission is to provide water supply to meet current and future needs of its members.

Elaine Kraft also asked the group to contact her if there were any other groups or individuals that should be invited to join the group.

Presentation

Michael Gagliardo, Director of Planning, Cascade Water Alliance, gave a presentation to the group that covered:

- An overview of Cascade Water Alliance;
- The region's historic water supply;
- An explanation of why Cascade is planning now for future water needs;
- A description of planning objectives;
- An explanation of Cascade's current demand forecasts;
- An introduction of the criteria used to conduct an initial screening of the various transmission and supply options.
- And the proposed criteria and weightings for future stages of screening and analysis.

Questions from the group on the presentation included:

Q: Are there demand forecast figures that break out conservation methods and their predicted effects?
A: Yes, those figures can be provided to the group.

Q: Does the forecast include water reclamation projects planned by individual jurisdictions?
A: Those projects are not represented in the forecast.

Q: Where did Cascade get their population figures?
A: Puget Sound Regional Council (PSRC) provides population projections. The demand forecast will be updated as PSRC releases new figures.

Q: Does the demand forecast look at the whole region or just members of Cascade Water Alliance?
A: The figures shown in the presentation are just for Cascade members for now. Later in the planning process, additional contingencies with regional partners can be built into the model.

Q: How does the forecast account for a new industry or business coming into the area, such as a paper mill, that requires a lot of water?
A: Projected increases in business activity are included in the model at a macro level. Large, new industries typically have a long lead time for planning purposes, so if a project large enough to have an appreciable impact on demand were to be proposed, there would be adequate time to factor it in.

Q: If Seattle's demand is flat why does the forecast for Cascade Water Alliance increase over time?
A: The flat demand line for Seattle is looking backward in time. Looking forward, one big driver that causes the demand for water in Cascade's area to increase is the projection that income will increase. We know that there tends to be a positive correlation between income and water demand.

Q: If Seattle flattened its demand with major maintenance and improvements to the system, won't Cascade projects also be more efficient?
A: Yes, at first, except the model looks fifty years in the future and in that time Cascade's more recent and modern infrastructure will age and presumably become less efficient. Seattle on the other hand had an aging infrastructure and so was in a position to reduce demand through system improvements in the more recent time frame.

Q: How will the energy bill that Congress is considering affect this forecast?
A: The proposed energy bill could affect rates and Cascade can run the model with a variety of rate scenarios.

Q: What supply threshold did Cascade use?
A: Options need to provide at least one million gallons per day.

Q: How do you account for assets shared or related to different options?
A: This is somewhat captured within the criterion, supply reliability and operations. Currently in the descriptions of each project, assets that could be shared or projects that deem other projects useless are noted. Later, once Cascade starts building a portfolio of projects, we will look at exactly how assets are shared and the timing of each project.

Q: How are you looking at sub-regions?
A: Some projects deal with specific regions. The plan will look at options in terms of where they are located and which sub-regions they are able to supply water to.

Q: Does the model used by Cascade put more emphasis on income than the one used by the Central Puget Sound Forum?
A: The econometric model used by Cascade is more refined, but the projection curves turn out to be very similar.

Q: Is there information about the current independent water supplies of individual jurisdictions?
A: Cascade staff can provide that information to the group.

Comment: It would be beneficial to separate out financial considerations during the next screening of options.
Lewis Michaelson suggested a scenario could be run where the financial weighting is set at zero to accomplish this.

Comment: It seems that in this region we usually look or plan for a single big project to meet our needs. We live in a high earthquake zone and it is important for emergency purposes to consider multiple small projects including maintaining groundwater wells and multiple transmission lines. Also, Cascade needs to consider potential terrorist targets when looking at options.
Michael Gagliardo responded that Cascade will definitely look at this once we begin building portfolios of projects. Then we can see how a bundle of smaller projects compares with one major project. One of the reasons for using a threshold of only one million gallons per day, is to consider smaller and medium sized projects.

Lewis Michaelson asked the group, that as they move forward in the meetings, to let Cascade know if they are concerned about options that have dropped off for some reason.

Lewis Michaelson summarized that the group wanted more details about the forecast sensitivities, assumptions and figures. Cascade staff will provide the group with more detailed information prior to the next meeting.

Some of the slides describing the initial projects being considered by Cascade included incorrect or misaligned information. Also, the group requested additional detail about each project. Cascade staff will correct the slides and provide more information to the group, including a narrative of each project and predicted water volumes. Cascade staff also agreed to provide an expanded slide for the screening criteria that includes sub-bullets explaining each criterion.

Because of a number of working group member questions about how the criteria weightings were arrived at and how different weightings could impact the ranking of options and scenarios, Elaine Kraft proposed conducting a "dot exercise" with the Working Group similar to the one used by the Cascade board and staff to identify and compare the screening criteria priorities of the group.

Adjourn and Next Steps

Lewis Michaelson thanked the group for their time and reiterated the items they would receive as follow-up to the meeting. The next meeting is scheduled for August 13, 2009, at Bellevue City Hall, Room 1E-108. The July meeting was canceled as it was deemed unneeded at this point.

Attendees

Working Group Members
Ryan Harris
Mark Howe
Bob James
Michael Johnson
Joan Kersnar
Leslie Lloyd
Ralph Mason
Tim McDowd
Linda McCrea
Dave Monthie
Beth Mountsier
Bob Pancoast
Paul Reitenbach
Lydia Reynolds-Jones
Anna Rising
Dr. Leon Stucki
Skip Swenson

Staff
Chuck Clarke, Cascade Water Alliance
Michael Gagliardo, Cascade Water Alliance
Elaine Kraft, Cascade Water Alliance
Alison Bennett, City of Bellevue
Erin Leonhart, City of Kirkland
Betty Spieth, Langton Spieth

Facilitation Team
Lewis Michaelson, Katz & Associates
Allison Turner, Katz & Associates
Bryan Jarr, Katz & Associates

Cascade Water Connections Working Group

Meeting #2
Thursday, August 13
9 am – 12 pm
Bellevue City Hall
450 110th Ave. NE, Room 1E 108, Bellevue
Light food and refreshments will be available

Time	Item	Presenter
9:00	Welcome	Bellevue Mayor Grant Degginger
9:05	Introductions and Overview of Meeting	Lewis Michaelson, Facilitator, Katz & Associates
9:10	Review and Approve June Meeting Summary	Lewis Michaelson
9:20	Questions Regarding June Meeting Follow-up Materials	Lewis Michaelson
9:30	Supply Alternatives and Screening Criteria	Michael Gagliardo, Director of Planning, Cascade Water Alliance Andrew Graham, Planning Lead, HDR
10:10	Screening Criteria Exercise	Andrew Graham
10:40	Break	
11:00	Initial Cascade Project Ranking	Andrew Graham
11:30	Next Steps	Michael Gagliardo
11:45	Public Comment	
12:00	Adjourn	

Directions to City of Bellevue: From interstate 405 South or North take NE 4th St Exit toward downtown Bellevue (west). Turn right onto 110th Ave NE. Go ½ block on 110th Ave NE and turn right into the entrance of Bellevue City Hall's visitor parking lot. Parking at City of Bellevue: Upon entering the building stop by the Service First desk to get your parking ticket validated.

Cascade Water Connections Working Group Meeting #2

August 13, 2009, 9 am – 12pm
Bellevue City Hall, Room 1E 108
450 110th Ave. NE, Bellevue

Welcome

The Cascade Water Connections Working Group convened for its second meeting on August 13, 2009. Bellevue Mayor Grant Degginger welcomed everyone and thanked them for being an integral part of the Cascade Water Alliance's planning process. Mayor Degginger stated that the group will give important feedback to the Cascade Board on the options being considered for providing future water to the members of Cascade Water Alliance.

Review of June Meeting Summary and Follow-Up Materials

Lewis Michaelson, Katz & Associates, asked the group if there were any questions or comments regarding the summary of the first meeting or the follow-up materials that were sent after the meeting.

Comment: A suggestion was made to revise the meeting summary by striking the first sentence of the answer that states Seattle's forecasts look backward in time. Since this is not the case it was agreed to strike this line from the meeting summary.

Comment: Additional information was given that Seattle's consumption of water has also decreased because Seattle is no longer providing water to certain non-revenue areas such as supplying freshwater to Green Lake.

Presentation

Michael Gagliardo, Director of Planning, Cascade Water Alliance, gave a presentation to the group that briefly reviewed the purpose of Cascade Water Alliance and the steps that are used to determine demand forecasts. The demand forecasts are an integral part of developing a long-term water transmission and supply plan.

There was much discussion regarding the slide entitled "Forecast Using Probabilities." Michael explained that the slide shows the risk probabilities of being able to supply water to meet demand over the long term. The less risk you want to take, the higher a demand you want to plan for, and usually the more it will cost to avoid that risk.

Comment: It was suggested to label the slide so that the 50% demand line is the best guess or zero line and then there would be a plus or minus below that line. This would make the figure easier to understand.

Andrew Graham, Planning Lead, HDR Engineering, Inc., continued the presentation by explaining the criteria used for screening individual projects. He explained the process of defining the criteria, then assigning a raw score for each project for each criterion, and then using criteria weights to reflect the emphasis stakeholders place on different criteria. Andrew Graham also provided a detailed explanation of each criterion. The criteria selected by Cascade for source evaluation are:

- Environmental Considerations
- Financial Considerations
- Implementation Considerations
- Operational Considerations
- Regional/Intergovernmental Considerations
- Supply Reliability

A more detailed explanation of each criterion was provided as a handout to the group. The group was also interested in the weights given to the sub-criteria for each criterion. Lewis confirmed that Cascade would send those out to the working group as a follow-up to the meeting.

One working group member was concerned that the way the criteria were developed, the effect of financial considerations were being hidden or masked in the overall ranking results. Michael Gagliardo reminded the group that Cascade has agreed it would run a series of sensitivity analyses including one with financial considerations set at zero so the group can see how the projects rank when cost is not a factor.

Andrew Graham reviewed a series of slides that showed the raw score for each project for each criterion. Then he reviewed how the projects would rank cumulatively if all criteria were weighted equally. Finally, he reviewed the preliminary project rankings based on the weightings developed by the Cascade board and staff

The group wanted more details about what each individual project actually entails. Michael Gagliardo stated that Cascade would provide a spreadsheet that provides more detail on each project.

Questions and comments from the group on the presentation included:

Comment: For projects that have sunk costs, they should not be given a higher score in the financial criterion because of "prior investments." Instead, it is political decision and should be captured within regional/intergovernmental considerations.

Response: The Cascade Board had a similar discussion about whether prior investments should be included. They resolved it by including it, but with a low sub-criterion weight. Nonetheless, your feedback will be communicated to the board.

Q: How does uncertainty in projects weigh in since some are much farther along?
A: Uncertainty does affect the scores since projects that are not far along in the planning and permitting process have greater risks associated with implementation, so the Implementation criterion is primarily where we capture the risk from those uncertainties.

Comment: The Board may want to consider different land-use scenarios since those can greatly affect supply and cost. Projects that appear relatively easy or implementable based on today's land use may not be in the future.

Comment: Supply reliability should also take into account potential acts of terrorism and not just catastrophic acts of nature.

Response: At this stage it is often hard to differentiate between projects based on the threat of terrorism. Projects are basically all equal in this regard. Also, intentional contamination can happen not just at the source but in distribution of water.

Comment: Vulnerability to flooding should also be included within supply reliability.

Q: Where are interactions with the Tribes captured?
A: It is captured both in implementation and regional/intergovernmental considerations. Comment: It seems like you could also go through the projects with a tree analysis where you address the most important criteria first or the ones that are essentially fatal flaws.
Response: You are correct that a criteria weighting approach looks at everything at the same time. Under a criteria weighting approach, the way to address your suggestion is to give more weight to the criteria you feel are most critical in enabling or stopping a project.

Q: How are synergies between projects captured?
A: Synergies are really analyzed once we develop portfolios of projects in the next phase and then sequence those over time to show how they interact with one another. Once portfolios of projects that meet the projected demand are assembled, they too can be ranked using our evaluation criteria.

Screening Criteria Exercise

The Working Group was then asked to participate in the same exercise used by the Cascade board and staff to weight the screening criteria. Each member received twenty stickers. The members were then instructed to distribute the stickers among each criteria based on what they felt was most important. The only rule was that each member had to place at least one sticker on each criterion. The more stickers placed on a criterion meant that greater weight was given to that criterion.

The following table shows the results of both the Connections Working Group and Cascade board and staff.

Criteria	Connections Working Group	Cascade Board and Staff
Environmental	18%	16%
Financial	20%	26%
Implementation	16%	10%
Operational	15%	18%
Regional/Intergovernmental	10%	8%
Supply Reliability	21%	22%

Adjourn and Next Steps

Andrew Graham let the group know that Cascade will share the criteria weights with the Cascade Resource Management Committee. The Working Group weights will also be used as one of the cases when they run sensitivity tests. The next Working Group meeting will be spent reviewing the projects. In late September, Cascade will be making a recommendation of which projects to move forward to start building portfolios.

The next Working Group meeting is scheduled for September 10, 2009, at Kirkland City Hall, Peter Kirk Room. NOTE THIS IS A DIFFERENT LOCATION THAN THE FIRST TWO MEETINGS.

ALSO NOTE THAT, TO KEEP ALIGNED WITH THE CASCADE BOARD DECISION POINTS, THE FOLLOWING MEETING OF THIS GROUP WILL BE DECEMEMBER 11 FROM 8 AM UNTIL NOON AT BELLEVUE CITY HALL. THERE WILL BE NO OCTOBER OR NOVEMBER MEETINGS.

Public Comment

There was no public comment.

Attendees

Working Group Members
Walt Canter
Steve Hirschey
Bob James
Michael Johnson
Joan Kersnar
Leslie Lloyd
Ralph Mason
Linda McCrea
Beth Mountsier
Bob Pancoast
Paul Reitenbach
Lydia Reynolds-Jones
Anna Rising
Denise Smith
Dr. Leon Stucki
Jeannie Summerhays
Skip Swenson
Don Wright

Board and Staff
Bellevue Mayor Grant Degginger, Cascade Water Alliance
Michael Gagliardo, Cascade Water Alliance
Elaine Kraft, Cascade Water Alliance
Andrew Graham, HDR
Gwenn Maxfield, City of Covington
Betty Spieth, Langton Spieth

Facilitation Team
Lewis Michaelson, Katz & Associates
Bryan Jarr, Katz & Associates

Cascade Water Connections Working Group

Meeting #3
Thursday, September 10
8 – 11:30 am
Kirkland City Hall
123 Fifth Ave., Peter Kirk Room, Bellevue
Light food and refreshments will be available

Time	Item	Presenter
8:00	Welcome	Cascade Vice Chair, Mary-Alyce Burleigh, Kirkland City Council
8:05	Introductions and Overview of Meeting	Lewis Michaelson, Facilitator, Katz & Associates
8:15	Review and Approve August Meeting Summary	Lewis Michaelson
8:25	Questions Regarding August Meeting Follow-up Materials	Lewis Michaelson
8:40	Supply Project Scoring Using Cascade Weighted Criteria	Michael Gagliardo, Director of Planning, Cascade Water Alliance
9:10	Supply Project Scoring Sensitivities - Alternative Criteria Weights	Michael Gagliardo
9:40	Break	
10:00	Review/Recommendations of Projects for Inclusion in Portfolio Development	Michael Gagliardo
10:40	Suggestions for Types of Portfolios	Michael Gagliardo
11:10	Next Steps	Lewis Michaelson
11:20	Public Comment	
11:30	Adjourn	

Directions to City of Kirkland: From interstate 405 North or South take Exit 18 (85th St.) west toward Kirkland. Continue on Central Way. Turn right on 1st Street. Then right on 4th Ave. Then left into Kirkland City Hall.

Cascade Water Connections Working Group Meeting #3

September 10, 2009, 8 am – 11:30am
Kirkland City Hall, Peter Kirk Room
123 Fifth Ave., Kirkland

Welcome

The Cascade Water Connections Working Group convened for its third meeting on September 10, 2009. Lewis Michaelson, Katz and Associates welcomed everyone. The group was informed that Cascade Vice Chair, Mary-Alyce Burleigh was not able to make it to the meeting as intended because she was serving jury duty.

Review of August Meeting Summary and Follow-Up Materials

Lewis Michaelson, Katz & Associates, asked the group if there were any questions or comments regarding the summary of the second meeting or the follow-up materials that were sent after the meeting.

Comment: A suggestion was made to revise the wording of the summary to properly reflect why a sensitivity analysis without financial considerations is being done.

Lewis Michaelson informed the group that the meeting schedule is changed. The next meeting will take place on December10 at Bellevue City Hall. There will be no meetings in October or November.

Presentation

Michael Gagliardo, Director of Planning, Cascade Water Alliance, gave a presentation to the group that provided detail about how individual projects ranked in different scenarios. The scenarios were based on:

- Cascade Board and Staff criteria weighting
- Cascade Water Connections Working Group criteria weighting
- Financial Criteria Ranking with the elimination of using past investments as a sub-criterion
- Quadrant Analysis that ranks projects without consideration of financial criterion and plots the results against the unit price of each project

Detail about how each project ranks within the different scenarios can be found in the accompanying presentation. The list of projects changed slightly from the previous meeting because the Chambers Creek project is now considered a subset of options that expand the Tacoma system rather than a separate project.

After comparing the different scenarios, the group reached several conclusions. When comparing the project rankings based on Cascade board/staff versus the Connections Working Group, the differences were minimal. The top-ranked projects were still top-ranked, and the bottom-ranked projects were always bottom-ranked. The same held true when past investments was removed as a subcriterion from the financial criteria. Using the quadrant approach, which removed the financial criterion altogether, produced greater variability in the ranking of the top and middle tier projects. However, the projects in the bottom-ranked tier remained the same.

The Cascade Water Connections Working Group agreed that the following projects should be eliminated from evaluation in the next phase:

- Lake Washington
- Direct Potable Reclaimed
- Snohomish River
- Desalination
- Satellite Reclaimed
- Stormwater Capture
- Tacoma Light
- Chambers Creek

The next step is to build portfolios of projects. Portfolios will be combinations of projects that are each designed to meet future water demands, but in different ways. The same criteria will generally be used to rank the portfolios. However, there may be refinements in the weightings of the criteria and the definitions of the sub-criteria. Cascade Water Alliance would like to receive feedback on the types of portfolios the working group wants to see. Possible portfolios could include:

- "Green" (least impact to the environment)
- Contract supply sources only
- Permanent supply sources only

Analysis of the portfolios will also consider rate impacts, both total and the rate of increase, since steep, rapid increases are undesirable.

Elaine Kraft, Communications Director, Cascade Water Alliance also asked what other intangibles should be looked at when considering projects and portfolios. Answers from the group included:

- Public perception
- Regional interests beyond King County
- Emergency response
- Control over sources
- Timing between demand and supply
- Social equity
- Opportunity (coordination with other projects, grants)

A discussion ensued about the challenges of obtaining final approval for Lake Tapps water rights. Cascade Water Alliance is looking at a very long development schedule of potentially 50-100 years for which there is no precedent. Cascade is currently working with the Department of Ecology on formalizing a development schedule that recognizes the unique aspects of this project.

Questions and comments from the group on the presentation included:

Q: Why is TCP Wheeling considered an interim project since the supply is permanent?
A: It is considered interim because it can only supply two specific geographic locations, Tukwila and Skyway.
Comment: From a local government standpoint, contracts are always considered interim supply.

Q: Was a sensitivity analysis done where certain criteria or factors were given additional weight to see how that affected the scoring of the projects?
A: Criteria were very similar in weights so we did not feel it was useful to disregard that and distribute all the weight to one criteria.

Q: What is the projected water demand in the future?
A: In 2060 the projected average day demand is about 65 million gallons per day. With currently available permanent supplies that leaves a shortfall of about 40 million gallons per day. That leads to the next step of putting together portfolios of projects.

Comment: The emotional criterion is not captured in the scoring of Brightwater Reclaimed. It would be hard to sell the public on using reclaimed water.
Response: Brightwater Reclaimed is considered to only supply non-potable (i.e, irrigation) needs, which is more acceptable to the public. Going forward, public acceptance considerations may need to be more explicit when looking at portfolios of projects.

Q: Does the 65 million gallons per day include both potable and irrigation needs?
A: Yes, to the extent these demands are supplied by Cascade members (i.e., a golf course with its own water right is not considered in the demand forecast.)

Q: Why does the Lake Tapps project drop down in rank when financial considerations are removed but come back when unit costs are figured in?
A: Lake Tapps is a big project so the unit costs are very good.

Comment: Anywhere else in the world Lake Washington would be considered a dream water source.
Response: Yes, but historic institutional hurdles and waters rights issues are a huge problem when considering Lake Washington as a source for drinking water.

Comment: It is inherently easy to pick just one or two sources to solve the whole problem, but it might be better to look at multiple smaller sources to achieve the same goal.
Comment: It might be good to develop a portfolio that includes multiple smaller projects from a reliability and redundancy standpoint.

Q: Why do we need to look at portfolios? Is there a need to plan ahead for some sources so that other interests cannot claim the source?
A: It is too costly to pursue every option at once. Portfolios provide a plan that addresses need, timing, staging, and demand management.

Comment: Portfolios also help address seasonal and environmental mitigation considerations.

Comment: Cascade could look at a portfolio based on land-use needs.

Comment: Cascade needs to consider how projects and portfolios reach overarching goals. This could include a component of public education.

Comment: Sometimes you reach a point where science only takes you so far. Then subjective decisions come into play.

Comment: Potable water use for the region is approximately 85% indoor and 15% outdoor. Conservation methods mostly include hard-wired items such as plumbing and building codes. Our conservation programs do not "chase" behavior because that is hard to predict.

Q: How is climate change addressed?
A: Climate change will be included in the sensitivities to demand. Luckily, between work done by the Forum and UMass, there is a lot of information regarding the potential effects of climate change on the region. Specifically, when looking at Lake Tapps we will use the climate change information to help inform contingency planning.

Comment: Make sure to translate and clarify words so that they are understandable.

Adjourn and Next Steps

Michael Gagliardo let the group know that Cascade would work to provide more detail for the remaining projects. Then they will work to develop a mix of portfolios of supply options that meet the projected demand.

The next Working Group meeting is scheduled for December 10, 2009, at Bellevue City Hall.

Public Comment

There was no public comment.

Attendees

Working Group Members
Walt Canter
Steve Hirschey
Bob James
Michael Johnson
Joan Kersnar
Ralph Mason
Tim McDowd
Linda McCrea
Beth Mountsier
Bob Pancoast
Lydia Reynolds-Jones
Anna Rising
Denise Smith
Dr. Leon Stucki

Board and Staff
Michael Gagliardo, Cascade Water Alliance
Elaine Kraft, Cascade Water Alliance
Betty Spieth, Langton Spieth

Facilitation Team
Lewis Michaelson, Katz & Associates
Bryan Jarr, Katz & Associates

Cascade Water Connections Working Group

Meeting #4
Friday, December 11
8 – 11:30 am
Bellevue City Hall
450 110th Ave. NE, Room 1E 108, Bellevue
Light food and refreshments will be available

Time	Item	Presenter
8:00	Welcome	Elaine Kraft, Communications Director, Cascade Water Alliance
8:05	Introductions and Overview of Meeting	Lewis Michaelson, Facilitator, Katz & Associates
8:10	Review and Approve September Meeting Summary	Lewis Michaelson
8:15	Review Demand Forecast Outcomes	Andrew Graham, Planning Lead, HDR
9:00	Review Source Evaluation Process	Andrew Graham
10:00	Break	Lewis Michaelson
10:20	Present Portfolios	Andrew Graham
10:50	Other Planning Updates	Michael Gagliardo, Director of Planning, Cascade Water Alliance
11:05	Questions/Discussion	Lewis Michaelson
11:15	Next Steps	Lewis Michaelson
11:20	Public Comment	
11:30	Adjourn	

Directions to City of Bellevue: From interstate 405 South or North take NE 4th St Exit toward downtown Bellevue (west). Turn right onto 110th Ave NE. Go ½ block on 110th Ave NE and turn right into the entrance of Bellevue City Hall's visitor parking lot. Parking at City of Bellevue: Upon entering the building stop by the Service First desk to get your parking ticket validated.

Cascade Water Connections Working Group Meeting #4

December 11, 2009, 8 am – 11:30am
Bellevue City Hall
450 110th Ave. NE, Room 1E 108, Bellevue

Welcome

The Cascade Water Connections Working Group convened for its fourth meeting on December 11, 2009. Lewis Michaelson, Katz and Associates welcomed everyone.

Review of September Meeting Summary

Lewis asked the group if there were any questions or comments regarding the summary of the third meeting, sent after the meeting.

There were no questions or comments, and the summary was approved as final.

Presentation

Andrew Graham, Planning Lead, HDR, gave a presentation to the group that provided:

- A review of the demand forecast under different scenarios.
- An explanation of the supply options eliminated from further evaluation.
- An explanation of supply options advanced to the next stage of evaluation.
- A look at several different combinations of the remaining supply options, organized into "portfolios" and showing how supplies could be phased over the 50-year planning period.

Detail about each of these sections can be found in the accompanying presentation.

The projects eliminated from further evaluation were:

- Lake Washington
- Direct potable reclaimed water
- Snohomish River
- Desalination
- Satellite reclaimed water
- Stormwater capture
- Tacoma "Light"
- Chambers Creek Wells
- Snoqualmie Aquifer

The sources advanced to the next stage of evaluation are:

- SPU Expanded Block
- TCP with North Segment
- TCP with Wheeling
- TCP Expanded
- Enhanced Conservation
- Brightwater Reclaimed
- OASIS Phase 3
- Lake Tapps
- Deep Resource Aquifer

- Cascade Member ASR

The sources advanced to the next stage of evaluation were then combined in the following initial portfolios of projects to show potential phasing.

- 2009 Baseline
- SPU Expanded
- TPU Expanded
- SPU/TPU Combined
- SPU or TPU with Other Sources

Questions and comments from the group on the presentation included:

Q: Why has present water demand leveled off?
A: Cascade has not analyzed this but Seattle and Tacoma have also experienced this trend. Things such as more efficient watering, faucets and toilets along with smaller lot sizes and denser living have all contributed to lower water use per capita.

Comment: PSRC is in the process of updating their population forecast modeling. It should be ready for beta testing later this year with full-scale implementation by 2012. PSRC in the past has been off in forecasting the distribution of population growth.

Q: How does the aspect of climate change in Scenario B increase projected water use?
A: Statistical analysis of 10 years of water use in Cascade's service area demonstrated that increased temperatures and decreased precipitation correlate with increased water use.
Comment: There also might be an increase in indoor water use during high temperatures in the form of more showers or baths for cooling purposes.

Q: Did Cascade look at the possibility of a jurisdiction, such as Snoqualmie, joining which would bring additional water supply?
A: No, when looking at Scenario C, Cascade only looked at the possibility of an outside jurisdiction joining Cascade Water and needing supply or buying water from Cascade.

Q: Is the Deep Water Aquifer source a replenishing supply?
A: That potential source actually needs much more evaluation. If it was found not to be a replenishing source then it would not be used.
Q: How much water does Cascade currently get from wells?
A: Currently, there are five Cascade members that have their own wells and the daily average is about 12-14 million gallons per day total from those wells. The five members have about 30 wells between them.
Comment: Nearly a third of the water in the King County region comes from wells.

Q: Was the same factor used to convert average annual demand to maximum week for individual sources?
A: No, the maximum week demand was calculated using data from the summer of 2009. The individual sources use the highest production characteristics of each source, and these are then added together. The summer of 2009 was really hot so the maximum week demand forecast is pretty conservative.

Q: Has there been an assessment of Lake Tapps under climate change conditions?

A: Yes, the University of Washington ran the analysis and this will be discussed in the EIS.

Q: At this level of analysis are you factoring the long-term capital investment strategy associated with these sources or does that come later?
A: Cascade is just beginning that work. Later on there will be a capital and operating cost analysis for each portfolio. The Cascade Board has always had an interest in using current supply before building new supply.
Comment: There are also infrastructure costs with expanding service from Seattle or Tacoma. This could come from capital costs for building transmission lines or higher rates for improved water treatment.
Comment: Cascade should consider the costs of building something now compared with building it in the future. When dealing with highways and roads, it is always more expensive waiting and building later.
Comment: Putting off construction of a pipeline does not necessarily mean putting off acquiring right-of-way or furthering design. The Tacoma-Cascade Pipeline is currently at 90% design and the right-of-way has been identified.

Q: How do you account for conservation?
A: Cascade will continue conservation efforts. By 2060 conservation is forecasted to save about 6 million gallons per day or about 10%. Cascade is also looking at more aggressive conservation as a source. More aggressive conservation involves mandatory requirements such as building and landscape codes. Aggressive conservation would double the savings.

Q: Are there plans of incorporating trails along with pipelines going in?
A: The acquisition of the Burlington Northern right-of-way is an example of this. King County was interested in developing trails, and Cascade was interested in the property to place a pipeline. In that case, Cascade and King County helped each other.

Q: Are most water basins closed to future water rights?
A: Generally speaking, yes. However where new water sources can be shown to avoid impacts to stream flow, or where mitigation is provided for these impacts, water rights can still be granted. This may be possible for some ground water sources.

Comment: It may be beneficial to include land use in the regional/intergovernmental criteria when evaluating the portfolios.

Comment: The hope with land use is that by holding the urban growth boundary in King County, it facilitates utility planning in the future even if the population projections are not known yet.

Comment: It may be worth looking at where growth has gone in the past, not just where it is going in the future. The private holdings upstream from Lake Tapps could affect the reliability of the source.

Comment: At future meetings the map showing the transmission system of the area will be available for viewing.

Q: How are Cascade and the region planning for risks from natural and man-made disasters?
A: That will be a later iteration in planning the projects. Also, after 9/11 many of the individual jurisdictions and utilities have done extensive disaster planning. For understandable reasons, most of it is kept secret.

Adjourn and Next Steps

Regarding Lake Tapps, the purchase from Puget Sound Energy should be complete by the end of 2009. Cascade is preparing an Environmental Impact Statement (EIS) for the project. The draft EIS will be published for comment in late December or early in 2010. Cascade is working with Washington State Department of Ecology (DOE) to prepare the water rights for the project. DOE plans to publish a draft Report of Examination for comment in early 2010. The final water rights should be complete in March or April of 2010.

The next meeting is not scheduled but will probably take place in March.

Public Comment

There was no public comment.

Attendees

Working Group Members
Walt Canter
Bob James
Michael Johnson
Joan Kersnar
Leslie Lloyd
Ralph Mason
Linda McCrea
Paul Reitenbach
Lydia Reynolds-Jones
Anna Rising
Denise Smith
Sharon Steinbis
Dr. Leon Stucki
Skip Swenson
Don Wright

Board and Staff
Michael Gagliardo, Cascade Water Alliance
Elaine Kraft, Cascade Water Alliance
Andrew Graham, HDR

Facilitation Team
Lewis Michaelson, Katz & Associates
Bryan Jarr, Katz & Associates

Cascade Water Connections Working Group

Meeting #5
Thursday, April 15
8 – 11:30 am
Bellevue City Hall
450 110th Ave. NE, Room 1E 108, Bellevue
Light food and refreshments will be available

Time	Item	Presenter
8:00	Welcome and Refreshments	Elaine Kraft, Communications Director, Cascade Water Alliance
8:15	Introductions and Overview of Meeting	Lewis Michaelson, Facilitator, Katz & Associates
8:25	Review and Approve December Meeting Summary	Lewis Michaelson
8:30	Supply Portfolios	Andrew Graham, Planning Lead, HDR
9:00	Portfolio Comparisons	Andrew Graham
10:00	Break	Lewis Michaelson
10:20	Questions/Discussion	Michael Gagliardo, Director of Planning, Cascade Water Alliance
11:00	Next Steps	Lewis Michaelson
11:20	Public Comment	
11:30	Adjourn	

Directions to City of Bellevue: From interstate 405 South or North take NE 4th St Exit toward downtown Bellevue (west). Turn right onto 110th Ave NE. Go ½ block on 110th Ave NE and turn right into the entrance of Bellevue City Hall's visitor parking lot. Parking at City of Bellevue: Upon entering the building stop by the Service First desk to get your parking ticket validated.

Cascade Water Connections Working Group Meeting #5

April 15, 2010, 8 am – 11:30am
Bellevue City Hall
450 110th Ave. NE, Room 1E 108, Bellevue

Welcome

The Cascade Water Connections Working Group convened for its fifth meeting on April 15, 2010. Lewis Michaelson, Katz and Associates welcomed everyone.

Chuck Clarke, CEO, Cascade Water Alliance provided an update to the group regarding Cascade's current planning. Cascade Water Alliance now officially owns Lake Tapps. It does not have the water right yet for Lake Tapps, but it is working on operational refinements to managing the lake. It has been very challenging this year filling Lake Tapps. The White River experienced historic lows in March which delayed reaching recreational lake levels by about 10 days from the April 15 target date.

There are ongoing conversations with Tacoma and Seattle on additional surplus water that might be available and if so, at what price. Water demand continues to soften across the region. The softening of demand is due both to a weakened economy and by changes in customer behavior. Even with the new demand forecast models, Chuck Clarke believes the region has overestimated the demand, but others might believe we have underestimated demand.

Chuck Clarke stated the Water Connections Working Group has been helpful in validating the weighting and ranking criteria. All of the input provided by the Water Connections Working Group will be presented to the Resource Management Committee and the Board.

Questions and comments directed at Chuck Clarke included:

Q: What is the decrease in water demand?

A: Approximately 1-2% gross decrease in water demand annually. Over the past 25 years Seattle water use is down 27%, with a population increase of 25%. That results into a 40-50% decrease in per capita demand.

Q: Are the decreases in water demand sustainable because of plumbing codes and other changes?

A: That becomes an interesting question as you try to forecast. There are definitely passive and active forms of conservation that reduce water demand. In this past legislature there was a bill that included language that would require all new toilets sold to have a maximum of 1.28 gallons per flush. This is an example of passive conservation that does have a real effect on demand. In the current stimulus plans there are lots of rebates for switching to more efficient appliances. The new appliances are much more efficient so this too has a real effect on water. What is challenging is how you forecast out 30 years. Seattle's model assumes no new conservation past 2030 and Cascade's model assumes only a small amount of new conservation past 2030.

When planning far into the future it is important to look at portfolios of projects. Portfolios help you spread risk. Then it becomes a question of how much you want to spend on "insurance" to manage that risk. A portfolio of different resources can buy you time and flexibility when making decisions ten, twenty, thirty, or forty years out. As an example, Seattle last year used about 130 million gallons of water a day. If you went back to forecasts made in the 1960's, estimates for present day use were about 300-450 million gallons of water per day. The same thing could happen if 20 years from now, demand continues to decrease. If that is the case, then Cascade might be able to maximize existing resources and Lake Tapps just becomes an insurance asset for the region against climate change.

Review of December Meeting Summary

Lewis asked the group if there were any questions or comments regarding the summary of the fourth meeting, sent after the meeting.

There were no questions or comments, and the summary was approved as final.

Presentation

Michael Gagliardo, Cascade Water Alliance, began the presentation by providing an update of where Cascade is in assembling and assessing the portfolios of projects.

In February, Cascade signed an agreement with Auburn, Buckley, Bonney Lake and Sumner in relationship to the Lake Tapps project. Cascade agreed to assist those four cities in meeting their future water needs in two ways. 1) Cascade will sell any of those cities a certain amount of water that Cascade currently has contracted from Tacoma. 2) Cascade also will request that up to 7 CFS of White River flow be reserved to potentially mitigate any effect the future development of groundwater rights, by those four cities, has on the White River (this amount is available since Cascade reduced its water right request from m100 cfs to 75 cfs).

The five supply portfolios reviewed in December have been consolidated into three portfolios. Cascade is currently in negotiations with Seattle and Tacoma, and the results of these negotiations will affect what the portfolios ultimately look like.

Andrew Graham, Planning Lead, HDR, continued the presentation with a review of the supply portfolios. For a detailed look at each portfolio including comparisons, risk assessments and financial assessments please refer to the accompanying presentation. Highlights of his presentation include the following.

Cascade has constructed three supply portfolios. None of the dates or quantities, referenced in the presentation graphs, is fixed in stone. The "Small Sources" referenced in the slide include: expanded conservation, reclaimed water, aquifer storage and recovery and development of deep aquifers. Aquifer storage and recovery is storing excess water underground in the winter and then tapping that water, when needed, in the summer. The "Small Sources" will be used to fill in gaps as needed. "Small Sources" may be developed and come online quicker than larger sources such as Lake Tapps so they provide a measure of flexibility. The three supply portfolios vary considerably in terms of when Lake Tapps starts supplying water. The three portfolios are:

- Portfolio 2 – Lake Tapps begins supplying water in 2030
- Portfolio 4 – Lake Tapps begins supplying water in 2045
- Portfolio 5 – Lake Tapps begins supplying water in 2060

All the portfolios are basically the same until the year 2030. The portfolios are numbered 2, 4, and 5 because portfolios 1 and 3 were dropped from further analysis.

Cascade has always envisioned that Lake Tapps would be developed in multiple phases in order to spread costs. In the portfolios Cascade has assumed two phases of development. It could also be done in three phases. However in all portfolios the transmission pipeline for Lake Tapps is built in the first phase.

Portfolios 4 and 5 have excess water supply fifty years into the future. In fifty years, if demand continues to increase, Portfolio 2 does not have excess supply.

The use of reclaimed water from King County is assumed to be a closed system that is used for watering and irrigation. It does not mix with the potable water system.

The discussion about which sources might work and which might not is exactly what the Cascade staff and Board will have to weigh. They must decide how comfortable they are relying on each supply and how much insurance they want and ultimately, what does that cost. What mitigates this risk is that Cascade is planning for 30-50 years into the future so it allows time to be flexible and make changes as needed.

The risk analysis tries to boil the risks down to show the Board the difference between portfolios. To a large extent, however, there is not much difference between the risks of the three portfolios.

In looking at the criteria of control of a supply source, a little more weight was given to supply sources that were owned by Cascade over sources that were contracted from other regional suppliers.

Questions and comments regarding the presentation included:

Q: Why is there an increase shown to the members' supply over time?

A: This is primarily due to an increase usage by Covington Water District of its share of supply from Tacoma.

Comment: There can be very different financial situations when you wait to build infrastructure such as key transmission pipelines.

Response: This is correct. The financial analysis takes into account what information is already known and then makes assumptions regarding other costs and then assigns a contingency range. The more information known- the less of a contingency range that is needed for forecasting.

Q: When are the negotiations going to be completed with both Seattle and Tacoma?

A: The negotiations are ongoing now and we anticipate they can be concluded in mid – late 2010.

Comment: The development and use of aquifer storage and recovery might work in some areas but will not in others.

Response: This is true. That is why Cascade is considering four "Small Sources" so there can be a combination of sources. It might be that some sources supply more than others. Obtaining water from deep aquifers is probably more uncertain than the other small sources.

Q: How much water is supplied by "Small Sources?"

A: In Portfolio 2 "Small Sources" provides a maximum day quantity of 10 million gallons per day (MGD). In Portfolio 4 "Small Sources" provides a maximum of 14 MGD. In Portfolio 5 "Small Sources" provides a maximum of 20 MGD.

Comment: Other jurisdictions are also looking at tapping some of those "Small Sources" in the future.

Q: If Lake Tapps is used as an emergency supply source for the region, would you need all the transmission built out early?

A: No, if Lake Tapps is used as insurance for the region against climate change, then you could monitor and build out transmission at some time in the future. If you wanted Lake Tapps as emergency supply in case of large scale supply disruption to other sources, then the transmission would need to be built well before the emergency occurs.

Q: What is already in existence in case of sabotage to the current system?

A: Seattle has aquifers and other supplies that can be tapped. Tacoma has lots of excess groundwater and one customer (Simpson) that uses 25% of Tacoma's water, could be shut down during a really bad emergency.

Q: Does the quantity of water shown for supply from Tacoma account for water that Cascade has committed to the "four Cities"?

A: Yes, we have subtracted the four Cities' water out.

Comment: The degree of control over watershed conditions is different for Lake Tapps compared with the Seattle and Tacoma source watersheds. That should be considered.

Response: There is an item in the risk assessment addressing potential degradation of water quality due to watershed conditions, and Lake Tapps was rated higher risk on that item.

Comment: For Portfolio 2, you almost need to add a hypothetical supply source, at the end of the timeline, to meet the demand.

Response: Cascade's financial consultant has made a similar suggestion. We do have sources like the OASIS ASR project, which will be added to Portfolio 2 in order to make the three portfolios consistent in this regard.

Q: Is it proper to score Lake Tapps higher for environmental? Aren't the environmental effects of Lake Tapps already included in the issuance of the water right and will therefore happen no matter what?

A: Lake Tapps received a higher score on the environmental criterion because of the various commitments to flow maintenance and habitat restoration that Cascade has made. However it is true that most of these benefits will occur under current agreements and do not depend on whether the Lake Tapps supply is developed for municipal use. Cascade will take another look at how the environmental effects of Lake Tapps were scored, and will change its score if appropriate.

Adjourn and Next Steps

Cascade will meet with the Working Group at least once, maybe twice more.

Cascade is currently looking at the uncertainty analysis for financials. The biggest adjustment over the next couple of months will come from negotiations with Seattle and Tacoma. The results of these negotiations could have a significant effect on our financial assumptions or the quantity of water we expect to receive. Also, Cascade hopes to finalize the Lake Tapps water right soon, which will affect some of the analysis. The Working Group was the first to see the results of the Criterium Decision Plus model analysis. Cascade will show this analysis to the Board and other committees over the coming month.

Tentatively the next Working Group meeting will take place sometime in July or August.

Final comments included:

Comment: It seems that usually the concept of risk changes over time.

Comment: Thank you for the overall transparency of the process and involving the group.

Public Comment

There was no public comment.

Attendees

<u>Working Group Members</u>
Walt Canter
Bob James
Michael Johnson
Joan Kersnar
Ralph Mason
Linda McCrea

Dave Monthie
Anna Rising
Denise Smith
Sharon Steinbis
Sheila Strehle
Dr. Leon Stucki
Jeannie Summerhayes
Don Wright

Board and Staff
Chuck Clarke, Cascade Water Alliance
Michael Gagliardo, Cascade Water Alliance
Elaine Kraft, Cascade Water Alliance
Andrew Graham, HDR

Facilitation Team
Lewis Michaelson, Katz & Associates
Bryan Jarr, Katz & Associates

Material promised the Group:

- Portfolio Tables
- Risk Assessment

Cascade Water Connections Working Group

Meeting #6
Friday, November 12
8 – 11:30 am
Bellevue City Hall
450 110th Ave. NE, Room 1E 108, Bellevue
Light food and refreshments will be available

Time	Item	Presenter
8:00	Welcome and Refreshments	Elaine Kraft, Communications Director, Cascade Water Alliance
8:15	Introductions and Overview of Meeting	Lewis Michaelson, Facilitator, Katz & Associates
8:25	Review and Approve April 15 Meeting Summary	Lewis Michaelson
8:30	Recap of Project Activities	Andrew Graham, Planning Lead, HDR
9:00	Updated Information Since Last Connections Meeting	Andrew Graham
9:30	Updated Supply Portfolio	Andrew Graham
9:50	Steps to Complete TSP	Andrew Graham
10:00	Break	
10:15	Questions/Discussion	Michael Gagliardo, Director of Planning, Cascade Water Alliance
10:45	Outline of Working Group Report and Next Steps	Lewis Michaelson
11:00	Public Comment	
11:15	Conclusion and Celebration	

Directions to City of Bellevue: From interstate 405 South or North take NE 4th St Exit toward downtown Bellevue (west). Turn right onto 110th Ave NE. Go ½ block on 110th Ave NE and turn right into the entrance of Bellevue City Hall's visitor parking lot. Parking at City of Bellevue: Upon entering the building stop by the Service First desk to get your parking ticket validated.

Cascade Water Connections Working Group Meeting #6

November 12, 2010, 8 to 11:30am
Bellevue City Hall
450 110th Ave. NE, Room 1E 108, Bellevue

Welcome

The Cascade Water Connections Working Group convened for its sixth meeting on November 12, 2010. Lewis Michaelson, Katz and Associates, welcomed everyone and turned over the floor to Lloyd Warren and Chuck Clarke for opening remarks.

Lloyd Warren, Cascade Water Alliance Board Chair, thanked the Water Connections Working Group for its participation and shared some remarks about Cascade Water Alliance and Lake Tapps. Mr. Warren explained that Cascade Water Alliance, as a relatively new organization, is continuing to integrate its endeavors into the existing water supply plans of Tacoma and Seattle, and there is the potential for even more regional cooperation in the future. Mr. Warren noted that since the creation of the Connections Working Group, the whole perspective on Lake Tapps has changed. At the start of the Working Group, the water supply from Lake Tapps was needed in the near future and there was an urgency to develop Lake Tapps to meet the need for water in the area. Now that the Lake Tapps water supply is not immediately needed, Lake Tapps is seen as providing security and certainty for water supply in the future.

Chuck Clarke, CEO, Cascade Water Alliance, provided an update on national trends in water and noted that national trends are consistent with the trends Cascade Water Alliance has been seeing. Mr. Clarke reported the softening of water demand is now being reflected everywhere and the economy is a factor in this decrease in demand. Water conservation has contributed to a significant per capita residential drop in the use of water, and there are challenges associated with keeping rates consistent due to this increase in water conservation. Since there is dropping demand and in many cases no base rate for water, water public utilities have been struggling with how to restructure water charges. A possible solution is basing water charges less on volume and more on an increased base rate. Another national trend is that for business and agriculture, there is more concern about efficiency with water now. Ceres, a group that assigns risk to public utilities and their investors, reported that there is generally more risk from inadequate water supply than there is from inadequate funding capacity. In the Ceres Report, Los Angeles received the highest risk score out of all the water public utilities due to its heavy reliance on a single imported water supply. Mr. Clarke said that since Cascade has an array of water supply options, risk is reduced by the diversification of Cascade's water portfolio. Most waste water systems were built by the federal government, but now treatment plants and other water facilities are being paid for by local taxpayers. Utilities are starting to realize that they need to make good investments because local taxpayers, not the federal government, are paying.

Mr. Clarke also gave an update on work and operational experiments that have been done on Lake Tapps. He said 173,000 cubic centimeters of sediment has been removed and lots of experimenting has been done on Lake Tapps to understand how to maintain water levels. Currently most of the electrical wiring is not up to code, and treatment and transmission structures will need to be built for Lake Tapps when that water supply

is needed, but currently there is no need. Demand has dropped nation-wide and demand continues to drop in the region. He estimates that in 50 years, the region will not be using any more water than it is today.

Cascade is in ongoing talks with Tacoma and Seattle about continuing its contracts to purchase water. Cascade is trying to reach an agreement by the end of February. There are options for maximizing water in the region that did not exist 30 years ago. Cascade is trying to maximize existing water and maximize the use of taxpayers' dollars in its service area.

The Record of Examination was issued one and a half months ago and so far there have been no appeals. Cascade should soon own Lake Tapps and have all four water rights.

Comment: Thank you for the update on national trends.

Response: The Ceres report can be sent to the group if anyone is interested in more information regarding national trends.

Comment: It is great the way Cascade has stepped up and challenged assumptions about how Lake Tapps can be operated.

Response: As an example, PSE said that the tailrace could not be shut off. Engineers did a model for what would happen if all water was shut off and determined it could be done and correctly estimated the amount of water that would remain in the lake.

Review of April Meeting Summary

Lewis asked the group if there were any questions or comments regarding the summary of the fifth meeting, sent after the meeting.

There were no questions or comments, and the summary was approved as final.

Presentation

Andrew Graham, Planning Lead, HDR, explained that the presentation would look at touchstones, refresh everyone's memory since the group last met in April and show the plan for moving forward.

Mr. Graham began by reviewing the TSP process and milestones. There were 20 to 30 supply options that were put through the evaluation scoring procedure. The Board took those options and pulled out the most viable supply sources. Wholesale contracts are still being discussed with Tacoma and Seattle. Next Mr. Graham read through the planning objectives and noted that the planning objectives had remained unchanged during the process. The next slide showed identified and addressed policy issues that the TSP development process was intended to answer.

The current conservation programs built into the demand forecast will continue through 2014 and then must be reassessed. The 2014 water savings goal has already been exceeded so policy options must be discussed to determine if conservation goals should be increased or otherwise adjusted.

Q: How might this affect revenue?
A: The rate structure for water sales to member agencies is a flat rate, so there are not many variable charges. Cascade is beginning a dialogue about a number of issues related to charges and fees.

Mr. Graham continued his presentation by addressing the policy issue of wholesale contracts as a possible long-term water supply. Since Cascade now has Lake Tapps as a backup option, temporary contracts are more acceptable to sellers. There is now more permanent water on the table for discussion.

Next Mr. Graham showed an average day demand graph previously shown at the April meeting. The shaded area on the graph illustrates the utmost maximum and minimum demands. The next graph reflects the decision by the Board that based on continuing softening of demand the range was inflated, so the high demand line was removed. There will be an update every five years to see where demand is and to take into account the possibility of growth. The next slide showed supply portfolios shown at the April meeting and Mr. Graham discussed the use of "small sources" in the portfolio to add flexibility. The small sources are made up of reclaimed water from: King County's Brightwater, member ASR, enhanced water conservation and deep resource aquifer supply. The small sources are more scalable, flexible and available at a lower cost. Mr. Graham showed Portfolio 2, 4 and 5. If a pipeline is built to Tacoma, Green water can be delivered from Tacoma, as well as water from Covington.

Q: What about desalination?
A: It is one of the independent sources we looked at. When options were scored, it did not receive the highest or lowest score. It is always there as an option for the region.

The findings for portfolios presented at the April meeting were that all three portfolios are viable and that sharing regional supplies reduces risks and defers costs. The different ways of packaging and timing the supply options are still being sorted through. The Board is interested in partnerships between Tacoma, Seattle and Cascade.

Michael Gagliardo, Cascade Water Alliance, continued the presentation by providing an update on the wholesale supply negotiations with Seattle and Tacoma. The current contract with Seattle was signed in 2004 and since then there has been one modification. The base block of 30.3 MGD has not been used completely. There will be an additional five MGD from 2017 to 2024. There has been some talk of extending past 2024. For Tacoma, the contract was signed in 2005 with 4 MGD permanent, plus 6 MGD temporary supply. The new contract would convert the temporary supply to permanent and provide a total of 30 MGD in permanent supply, although the number might come down to 25 MGD. The talks with Seattle and Tacoma are ongoing but arrangements should be finalized in February.

Mr. Gagliardo next discussed a slide on the Lake Tapps Water Rights. There are a total of four rights. The comment period for the Environmental Impact Statement kept being extended. The appeal period is 30 days after the individual receives the final decision, but for individuals who are not sent the final decision, the appeal period is a total of 75 days. The final day of appeal is December 1 and no one has appealed so far. There was

some controversy regarding the Hydropower Claim so a change in use claim was submitted to add recreation, fish and wildlife, and water quality.

Regional growth in water demands continues to be flat and there has been a softening in demand. There is not a sharply rising demand curve as had been previously modeled. The economic recession has slowed growth in Cascade Member connections and water demand. There are less new customer connections, since due to the economy, fewer people are getting married, more people are sharing housing and many college graduates are moving back in with their parens. Cascade is careful not to purchase too much water and the demand forecast has been updated to show slower growth in the early years. The updated average day demand now features a new updated curve in blue. It reflects slower, flatter growth through 2020 and then goes back to the original growth rates. The higher mean forecast was used to plan for infrastructure and the lower line was used for financial planning in order to be conservative in planning assumptions. In the next few months, the revised mean will most likely be used to determine a new range.

Mr. Gagliardo showed the portfolio updates as of November 2010. In the new portfolio graphs, the updated demand forecast was used, the wholesale quantities per current discussions with Seattle Public Utilities and Tacoma Public Utilities are shown, and other supplies are adjusted to match the new demand curve. The old Portfolio 4 was the best base to make adjustments to, so the updated portfolio graph is labeled Portfolio 4B. The average day demand was averaged over 365 days and the maximum week demand was averaged over seven summer days. Demand will continue to be monitored to determine demand forecasts and if the timeframe for building a pipeline to Tacoma might need to be moved up. There are 3-5 options to fill gaps in water supply if necessary. Lake Tapps is shown as providing some of the water supply starting in 2045.

Comment: There are challenges associated with using small sources, although small sources would require less work than building a pipeline to Tacoma or using Lake Tapps. How confident are you that you can count on these?

Response: The combined capacity of small sources analyzed was a total of 38 MGD peak supply. There is only 5 to 7 MGD from small sources assumed to be available represented on the graph. Not all small sources would need to be pursued to receive the 5 to 7 MGD estimated on the graph.

The final steps to complete the TSP are to receive final input from the Connections Group and to receive its report; finalize wholesale negotiations with Seattle and Tacoma; receive Board approval of the selected supply portfolio; and complete the draft Transmission and Supply Plan for review and approval. The portfolios continue to evolve and since Cascade is currently still in negotiations with Seattle and Tacoma, the results of these negotiations will affect what the portfolios ultimately look like.

Outline of Working Group Report and Next Steps

Mr. Michaelson went over the proposed summary report table of contents handout and explained that the group had been instrumental as a sounding board, but since there were no formal recommendations, he asked for input regarding what the group would like to see in the summary report. Mr. Michaelson elaborated that the summary report

would provide documentation on the group to refer back to and revisit if needed at a future date what their thinking had been.

Feedback:
Comment: The poster boards that depicted CIP expenditures and cost projections at the last meeting would be helpful to have as a handout for Connections Group members.

Response: Mr. Graham will provide these materials.

Comment: There should be an electronic version of the summary report placed on the Cascade website for everyone in the region to view. Maybe there should be a lessons learned section in the summary report to give feedback on the process.

Lessons Learned/Suggestions:

- Useful to do again
- Good model
- Good transparency with presenting research and options
- Graphics in handouts and presentations were strong and informative
- Chuck Clarke and Lloyd Warren did not actively participate; sometimes it was confusing what their involvement was [Response: Mr. Clarke was debriefed after every meeting and was shown everything]
- Milestone based meeting schedule was effective
- Summary report will be helpful in capturing conclusions from group
- Group was used to identify any red flags
- First experience with an "affirmation committee," meaning the group was used to evaluate and validate the technical work of the team preparing the TSP.
- Cascade responded to a new environment; used regional approach and collaboration to be successful
- It was a useful exploration of a broad regional tool
- It was useful to bring people from diverse backgrounds together and put them in "Cascade's chair;" everyone came together in conclusion
- Excellent process in which all group members were invited to come and give input; good opportunity for the state to observe and participate as well
- Cascade responded well to dynamic shifts in planning context, opportunities and constraints
- Made overall planning process more complete

Mr. Michaelson said he will circulate the draft report to Working Group members in early December.

Public Comment

There was no public comment.

Conclusion

Mr. Gagliardo stated that the Cascade Water Connections Working Group was helpful and the feedback it provided was used to shape final analysis. As an example, the analysis now projects out to 2075 based on suggestions by the group. The Cascade Water Alliance appreciates all the time the group put into the process. Cascade asked

for a volunteer to come talk about the report when it is presented at the Board meeting on December 15, 2010.

Attendees

Working Group Members
Walt Canter
Jane Evancho
Steve Hirschey
Paige Igoe
Bob James
Michael Johnson
Anna Rising
Sheila Strehle
Dr. Leon Stucki
Jeannie Summerhays
Don Wright

Board and Staff
Chuck Clarke, Cascade Water Alliance
Lloyd Warren, Cascade Water Alliance
Michael Gagliardo, Cascade Water Alliance
Elaine Kraft, Cascade Water Alliance
Andrew Graham, HDR

Facilitation Team
Lewis Michaelson, Katz & Associates
Emily Michaelson, Katz & Associates

Material promised the Group:

- Ceres Report
- Access to full portfolio documents

Appendix C
Evaluation Criteria and Weightings

CASCADE
WATER ALLIANCE

Criteria Weights from "Dot Exercise"

Criteria	RMC	Connections Group
Reliability	22%	21%
Financial	26%	20%
Environmental	16%	18%
Implementation	10%	16%
Operational	18%	15%
Regional/Intergovernmental	8%	10%

CASCADE WATER ALLIANCE

Transmission and Supply Plan
Source Evaluation Criteria

August 13, 2009

The criteria listed here are used in the multi-criteria analysis of Cascade's source options. The bulleted sub-topics are performance measures that will be applied to scoring of the water supply alternatives.

Environmental Considerations – To provide water utility services in an environmentally sensitive and sustainable manner. Specifically this criterion will address:

- Potential benefits after mitigation
- Energy use

Financial Considerations – To provide water utility services in a cost-effective manner. Specifically this criterion will address:

- Capital and operational costs (levelized unit cost, expressed as present value in current dollars)
- Degree of uncertainty in capital and operational costs (accounts for how well defined the project is; unknowns in future contract purchases; and reliance on energy costs)
- Utilization of prior Cascade investments in sources and infrastructure

Implementation Considerations – To increase the ease and certainty of project implementation. Specifically this criterion will address:

- Ease of acquiring water rights
- Ease of acquiring other required permits
- Public acceptance
- How well the source either enables or precludes other projects from being developed

Operational Considerations – To maximize operational flexibility in the delivery of water. Specifically this criterion will address:

- Operational complexity
- Water quality compatibility with other supplies
- Vulnerability to Potential source contamination
- Flexibility to adjust yield in response to need

Regional/Intergovernmental Considerations – To account for institutional complexity of delivering supplies. Specifically this criterion will address:

- Level of control of supply (ownership) –
- Regional value of supply source
- Partnerships and governance (complexity of partnerships and governance issues - how many and difficulty in resolving)
- Institutional hurdles (political and institutional barriers)

Supply Reliability – To provide adequate water supplies to meet current and projected demands. Specifically this criterion will address:

- Availability of supply (the degree of certainty that a given source will be available when it is needed, including the effects of climate change)
- Variability of yield (including effects of hydrology and contract provisions)
- Vulnerability to effects of emergency disruptions (e.g. power disruption, earthquake, volcano, or major wildfire in watershed)

Rankings Compared

Supply Projects	Baseline Ranking	Stakeholder Weight Ranking	Changed Financial Criterion Ranking
Permenant Projects			
Enhanced Conservation 1 - P (9 mgd)	1	1	1
Brightwater Reclaimed - P (4 mgd)	2	2	2
OASIS Phase 3 - P (23 mgd)	3	3	3
Lake Tapps - P (75 mgd)	4	5	6
Deep Resource Aquifer - P (10 mgd)	5	4	4
Snoqualmie Aquifer - P (12 mgd)	6	8	5
Enhanced Conservation 2 - P (13 mgd)	7	6	7
Cascade Member ASR - P (11 mgd)	8	7	8
Lake Washington - P (75 mgd)	9	10	9
Direct Potable Reclaimed - P (10 mgd)	10	9	10
Snohomish River - P (36 mgd)	11	12	11
Desalination - P (15 mgd)	12	13	12
Satellite Reclaimed - P (3 mgd)	13	11	13
Stormwater Capture - P (0.5 mgd)	14	14	14
Interim Projects			
TCP with North Segment - I (33 mgd)	1	2	2
SPU Expanded Block - I (28 mgd)	2	1	1
TCP Expanded - I (33 mgd)	3	3	3
Chambers Creek Wells - I (14 mgd)	4	5	5
TCP with Wheeling - I (24 mgd)	5	4	4
Tacoma Light - I (2 mgd)	6	6	6

No change in ranking

Slight change in ranking