REPORT OF THE
PURE WATER WORKING GROUP

November 2014

City of San Diego
PUBLIC UTILITIES
Water & Wastewater

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ACKNOWLEDGEMENTS

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With the Consulting Support of:
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1.0 EXECUTIVE SUMMARY

Background

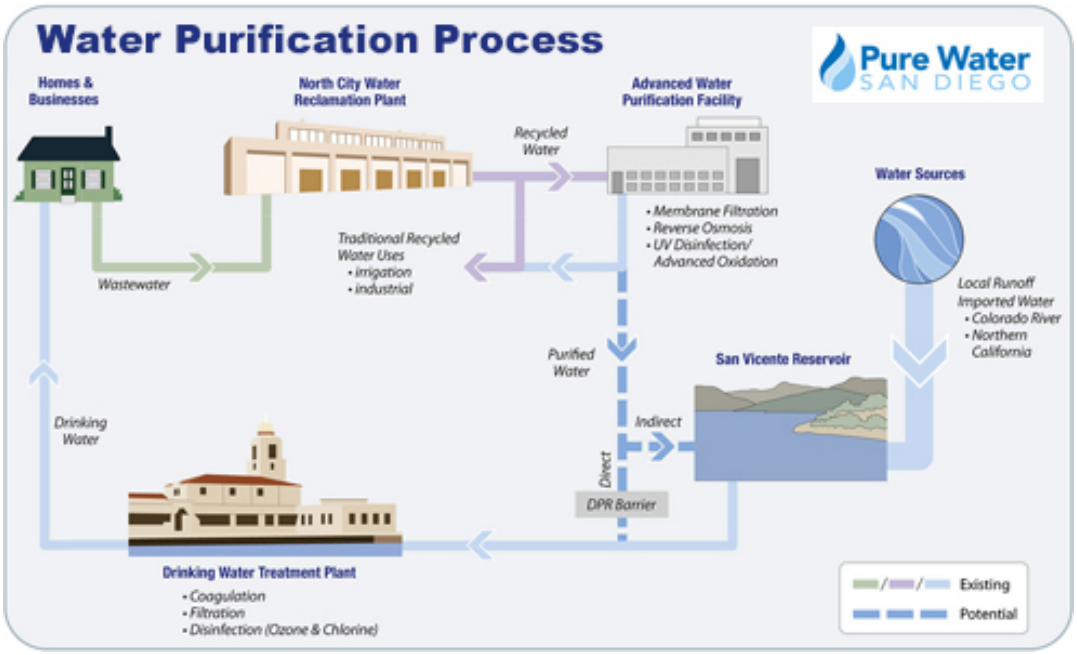
Pure Water San Diego ("Pure Water") is the City's 20-year program to provide a safe, reliable and cost-effective drinking water supply for San Diego. Proven technology will be used to purify recycled water ensuring San Diego is more water independent and more resilient against drought, climate impacts and natural disasters. The City's Public Utilities Department is implementing the program.

Components of the Pure Water program include the construction of water purification facilities, continued operation of the test Advanced Water Purification Facility, research, regulatory and legislative activity, and a comprehensive and broad outreach program to engage the community.

An initial 15-million gallon per day water purification facility is planned to be in operation by 2023. The City's long-term goal, producing 83 million gallons of purified water per day (i.e., one-third of San Diego's future drinking water supply), is planned to be reached by 2035.

The Pure Water water purification process is shown below in Figure1.

Figure 1: Pure Water San Diego water purification process.



The City has completed three major studies that explored the feasibility and opportunities associated with potable reuse. These were the 2006 Water Reuse Study, the 2012 Water Recycling Study and the 2013 Water Purification Demonstration Project. City Council unanimously accepted the 2006 and 21012 reports and directed staff to execute critical next steps towards defining a potable reuse implementation strategy.

Mayor Kevin Faulconer established the Pure Water Working Group ("Working Group") in April, 2014. The Working Group members, representing a broad base of organizations throughout the City, were asked to provide input to advance a well-rounded, comprehensive potable reuse plan. The Working Group completed their charge over eight meetings, which included tours of Alvarado Water Treatment Plant, the Point Loma Wastewater Treatment Plant (the "Point Loma Plant") and the Orange County Water District ("OCWD") Groundwater Replenishment System from May to November, 2014.

The Working Group included the following representatives of the organizations or City Council Districts set forth opposite their names:

- Eric Armstrong - Building Industry Association
- Michael Baker - Council District 4
- Donna Bartlett-May - League of Women Voters
- Meagan Beale - University Community Planning Group
- Anthony Bernal - Council District 3
- Leah Browder - Metro Wastewater JPA
- Julia Chunn-Heer - San Diego Surfrider
- Dr. Rick Gersberg - San Diego State University
- Marco Gonzalez - Coastal Environmental Rights Foundation
- Kea Hagan - Urban League of San Diego County
- Chanelle Hawken - San Diego Regional Chamber of Commerce
- Sean Karafin - San Diego County Taxpayers Association
- David Kodama - Asian Business Association
- Joe LaCava - Community Planners Committee
- Cary Lowe – Water Reliability Coalition
- Mike McSweeney - Council District 7
- Melanie Nally - Biocom
- Lucas O'Connor - Council District 8
- Matt O'Malley - San Diego Coastkeeper
- Jim Peugh – Audubon Society
- Keith Solar - Council District 1
- Tim Taylor – Council District 9
- Gail Welch – Qualcomm*
- Meena Westford – Council District 6
- Kenneth Williams – City 10

*Some individuals endorsing this document were, due to time constraints, unable to gain the official approval of their organizations and have signed representing their own viewpoint.

Working Group Input

After extensive presentations by City Staff and consultants and discussion among the Working Group, the Working Group provides following input to the City Council:

1. Pure Water will benefit all San Diegans.

2. San Diego needs a reliable and sustainable source of water to support our economy and quality of life.

3. San Diego imports 85% of its water from distant sources. These sources are impacted by increasing demands of other users, recurring drought, supply interruptions, changing climate, environmental constraints and judicial decisions that restrict the amount of water that can be delivered to San Diego.

4. Pure Water provides San Diegans with a reliable and locally controlled supply of water that will comprise over one-third of the City's future drinking water supply.

5. For each gallon of water delivered, the indirect potable reuse component of the Pure Water program uses slightly more energy than imported water and less energy than desalination to produce, and helps further the goals of the City's draft Climate Action Plan.

6. Our region's wastewater treatment system dumps millions of gallons of water into the ocean every day. The Pure Water program will recover much of this water for San Diegans' beneficial use.

7. There is significant risk that the City will not be able to continue obtaining a five-year wastewater discharge permit at the Point Loma Plant without an estimated $1.8 billion in upgrades to the plant. Pure Water resolves the permit issues and redirects those dollars to produce a high quality water supply for San Diego.

8. Pure Water will reduce discharges from the Point Loma Plant to the ocean to meet secondary equivalency treatment standards. It is a sustainable and cost-effective way to meet USEPA requirements for ocean discharge from the Point Loma Plant when secondary equivalency is included.

9. The Pure Water program uses a purification process similar to what OCWD uses for its potable reuse project. OCWD's project has operated successfully for six years delivering over 425 billion gallons of high quality drinking water, which is enough water to meet the needs of nearly 600,000 residents in north and central Orange

County, California, and supplies about 20% of Orange County's total water needs. The OCWD project produces water that meets or exceeds all state and federal drinking water standards and has enjoyed such broad community support it is being expanded.

10. Purified water is safe to drink. The City conducted an extensive, independent expert-reviewed, Water Purification Demonstration Project. The demonstration project again confirmed the effectiveness and safety of the technology planned for Pure Water. When blended with current supplies, the water that the Pure Water program will produce will improve the overall quality of the City's water.

11. San Diego remains vulnerable to rising imported water costs and other cost increases beyond its control. The investment required for Pure Water helps protect ratepayers.

Working Group Recommendations

1. San Diego residents and businesses must continue to increase conservation and water use efficiency. Water is a limited resource.

2. The City must secure federal approval to resolve the Point Loma Plant permitting issues using the Pure Water program.

3. Public outreach that encourages residents and businesses in all San Diego communities to learn more about Pure Water must continue.

4. The City must proceed urgently on this important program.

The Pure Water Working Group members have agreed to continue meeting periodically to provide input into the City's development of the Pure Water program.

2.0 PREAMBLE - FORMATION OF THE PURE WATER WORKING GROUP

2.1 Formation of the Pure Water Working Group

Mayor's Request

On April 14, 2014, Mayor Kevin Faulconer invited key stakeholders and community opinion leaders to participate in a series of meetings for information sharing and to provide input to the City on the Pure Water program. The invitation letter is included as Appendix A.

Charge to the Committee

The Mission Statement for the Working Group was to provide diverse viewpoints and input on the City of San Diego's Pure Water program to help ensure a successful water future for San Diego. The following objectives were established for the group members:

1. Provide feedback on Pure Water Program elements and strategy.

2. Become knowledgeable about the Point Loma Plant permit history and process. Provide input on legislative approach to accomplish secondary equivalency for San Diego.

3. Review consultant findings associated with Pure Water costs and associated impacts on rates.

4. Provide input to City of San Diego, IROC and other regional interests, as appropriate.

The Working Group was envisioned to consist of approximately 25 individuals representative of the diverse perspectives across the City.

2.2 Members of the Pure Water Working Group

Membership Roster

- Eric Armstrong - Building Industry Association
- Michael Baker - Council District 4
- Donna Bartlett-May - League of Women Voters
- Meagan Beale - University Community Planning Group

- Anthony Bernal - Council District 3
- Leah Browder - Metro Wastewater JPA
- Julia Chunn-Heer - San Diego Surfrider
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- Keith Solar - Council District 1
- Tim Taylor – Council District 9
- Gail Welch – Qualcomm
- Meena Westford – Council District 6
- Kenneth Williams – City 10

Alternates also participated from time to time on behalf of the above representatives.

2.3 Acknowledgements

Pure Water Working Group City of San Diego Public Utilities Department Staff

The following San Diego Public Utilities Department staff provided support to the Working Group:

Halla Razak, Director of Public Utilities
Ann Sasaki, Assistant Director of Public Utilities

Brent Eidson, Deputy Director of External Affairs
Marsi Steirer, Deputy Director, Long-Range Planning and Water Resources Division
Alma Rife, Senior Public Information Officer
John Gavares, Organization Effectiveness Supervisor

Pure Water Working Group Consultant Support

Ed Means, President, Means Consulting LLC
Sara Katz, Chief Executive Officer, Katz and Associates
Patricia Tennyson, Executive Vice President, Katz and Associates
Megan Drummy, Community Outreach Specialist, Katz and Associates
Sarah Mojarro, Community Outreach Specialist, Katz and Associates

Special thanks is extended to the OCWD Staff, including General Manager Michael Markus, PE and Director of Public Affairs Eleanor Torres, for hosting a tour of the Working Group to the Groundwater Replenishment System in Fountain Valley, California on July 18, 2014.

Pure Water Working Group Workshop Presenters

Meeting 1, May 14

- John Gavares, Facilitator
- Halla Razak, Director, Public Utilities Department
- Marsi Steirer, Deputy Director, Long-Range Planning and Water Resources Division

Meeting 2, May 28

- Patricia Tennyson - Facilitator
- Halla Razak
- Mike Williams – Water Production Superintendent

Meeting 3, June 18

- John Gavares
- Cheryl Lester – Deputy Director – Wastewater Treatment & Disposal Division
- Alan Langworthy - Deputy Director, Point Loma Permit
- Brent Eidson
- Katherine Shankles - Wastewater Treatment Superintendant - Point Loma

Meeting 4, July 18

- John Gavares
- Marsi Steirer
- Mike Markus, General Manager, Orange County Water District
- Rich Nagel, Chairman of the WateReuse Research Foundation Board

Meeting 5, August 20

- Patricia Tennyson
- Ann Sasaki
- Marsi Steirer
- Keith Solar – Working Group member; member SB 918 Direct Potable Reuse Advisory Committee
- Jeffrey Pasek, Watershed Manager

Meeting 6, September 17

- John Gavares
- Lee Ann Jones-Santos, Deputy Director, Finance and Information Technology Division
- Brent Eidson
- Sara Katz
- Ed Means

Meeting 7, October 15

- John Gavares
- Ed Means
- Sara Katz

Meeting 8, November 13

- John Gavares
- Ed Means

3.0 INTRODUCTION

3.1 Background of Pure Water San Diego

Pure Water Program

Pure Water is the City's 20-year program to provide a safe, reliable and cost-effective drinking water supply for San Diego. Proven technology will be used to purify recycled water making San Diego more water independent and more resilient against drought, climate change and natural disasters.

The program components include the construction of water purification facilities, continued operation of the Advanced Water Purification Facility, research, regulatory and legislative activity, and a broad outreach program to engage the community.

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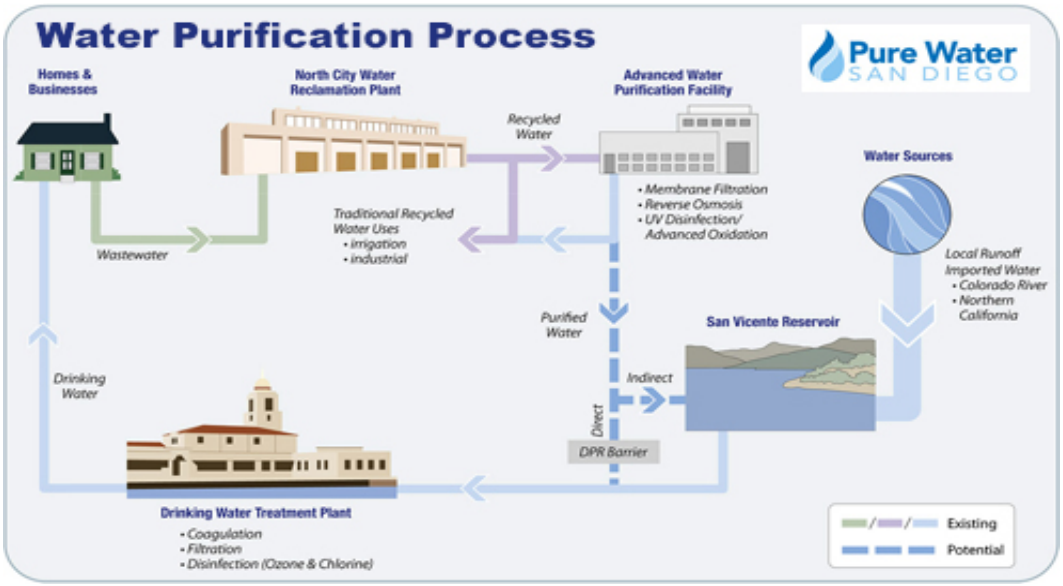
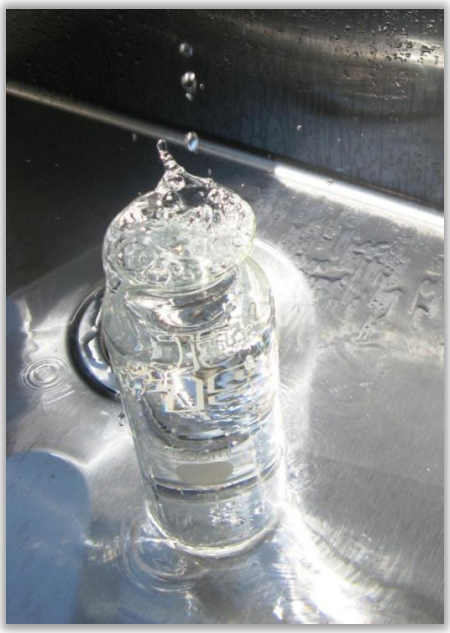


Previous Studies

The City has completed three major studies that explored the feasibility and opportunities associated with potable reuse. These were the 2006 Recycled Water Study and the 2013 Water Purification Demonstration Project.

2006 Water Reuse Study

In January 2004, the San Diego City Council authorized a comprehensive evaluation of all viable options to maximize the usage of recycled water. The study also included analysis and research on the health effects of reuse options and a public participation process. The Reuse Study's stakeholders identified Reservoir Augmentation at the City's San Vicente Reservoir to be their preferred strategy. In October 2007, the San Diego City Council also recognized the North City-3 strategy, also known as San Vicente Indirect Potable Reuse, as its preferred alternative.



2012 Recycled Water Study

The 2012 Recycled Water Study developed and presented integrated water reuse alternatives for public and policy-maker review. The alternatives were evaluated to meet City, Participating Agency, and Project Stakeholder reuse goals through a 2035-planning horizon.

2013 Water Purification Demonstration Project

From 2009 to 2013, the City of San Diego embarked on a demonstration project to determine whether advanced water purification technology could provide a local and safe drinking water supply for San Diego. The Water Purification Demonstration Project ("Demonstration Project") evaluated the feasibility of a full-scale reservoir augmentation project, where purified water could be blended with imported water supplies in the San Vicente Reservoir before being pumped to a standard drinking water plant.

The Demonstration Project's operational testing and monitoring verified the water purification process consistently produces water that meets all state and federal drinking water standards. The purified water is similar in quality to distilled water.

The City convened an Independent Advisory Panel ("IAP") to provide expert peer review of the technical, scientific, and regulatory aspects of the City's water purification concept. The IAP consisted of ten academics and professionals with extensive expertise in the science of water reuse, including chemistry, microbiology, treatment engineering, operations engineering, water reuse regulatory criteria, limnology, research science, toxicology, and public and environmental health. The IAP reviewed work products associated with the Demonstration Project and provided feedback on various aspects of the project.

The City Council unanimously accepted the 2006 and 2012 reports and directed staff to execute critical next steps towards defining a potable reuse implementation strategy.

Mayor Kevin Faulconer established the Working Group in April, 2014 to assist the City of San Diego Public Utilities Department in evaluating an array of implementation possibilities, including technical issues, cost considerations, timing, and coordination with regulatory agencies and legislators. A copy of the Mayor's invitation letter is included as Appendix A. The Working Group participants/organizations were asked to provide input to the City to advance a well-rounded, comprehensive potable reuse plan. The Working Group met from May through November, 2014.

4.0 WORK PLAN

4.1 Meetings/Workshops

The Working Group held a series of facilitated meetings/workshops beginning in May of 2014 and extending into November, 2014 to collect and discuss information related to Pure Water. The participants reviewed agendas in advance of the meetings to ensure that key topics of interest and importance were included for the group to consider. Informational materials were provided to the Working Group members in advance of the workshop. The workshop length ranged from two and one-half to six hours and also included a full tour of OCWD's Groundwater Replenishment System, an internationally-recognized potable reuse project located in Fountain Valley, California. The agendas for the meetings are included as Appendix C.

4.2 Meetings/Workshops

The timing and topics for the meetings of the Working Group were as follows:

May 14 – Working Group Kickoff Meeting

May 28 Meeting – Drinking Water Supply Issues and Alvarado Water Treatment Plant Tour

June 18 Meeting – Wastewater Treatment Background and the Point Loma Wastewater Treatment Plant Permitting Issues / Plant Tour

July 18 Meeting – Tour of Orange County Water District's Groundwater Replenishment System / Review of Direct Potable Reuse

August 20 Meeting - Pure Water Program Implementation and IPR/DPR Regulatory Status

September 17 Meeting - Water and Wastewater Rate Impacts, Outreach and Preliminary Discussion of Observations and Recommendations

October 15 Meeting - Discussion of Working Group Input

November 13 Meeting – Finalization of Working Group Input

5.0 INPUT STATEMENTS

5.1 Water Resources

The Pure Water Working group considered the information and developed the following points of input for the City Council's consideration (statements in italics represent the Working Group consensus; explanatory text is included for some statements where the Working Group felt further elaboration was needed):

Pure Water will benefit all San Diegans.

San Diego needs a reliable and sustainable source of water to support our economy and quality of life.

San Diego imports 85% of its water from distant sources. These sources are impacted by increasing demands of other users, recurring drought, supply interruptions, changing climate, environmental constraints and judicial decisions that restrict the amount of water that can be delivered to San Diego.

Pure Water provides San Diegans with a reliable and locally controlled supply of water that will comprise over one-third of the City's future drinking water supply.

For each gallon of water delivered, the indirect potable reuse component of the Pure Water program uses slightly more energy than imported water (depending on the source) and less energy than desalination to produce, and helps further the goals of the City's draft Climate Action Plan.

San Diego's production of Pure Water is expected to increase the San Diego Public Utilities Department's energy consumption over energy consumed in current operations. However, since San Diego currently imports 85% of its water and since Pure Water would replace purchases of imported water, the Working Group believes it is appropriate to contrast the embedded energy in an acre-foot (AF) of purified water with that of existing imported water supplies. According to the City of San Diego's 2013 Water Purification Demonstration Project Report, purified water produced at the City's North City Reclamation Facility and then pumped up to the San Vicente reservoir would require approximately 2,500 kWh/ AF. By comparison, imported water requires a range of 2,000 kWh/AF to 3,300 kWh/AF of energy, depending on the blend of water from the Colorado River or the Bay-Delta in Northern California. Therefore, the embedded energy of indirect potable reuse is equivalent to that of imported water. Accordingly to the California Energy Commission (California's Water – Energy Relationship, CEC-700-2005-011-SF, November 2005), seawater desalination requires approximately 4,400 kWh/AF of energy, more than Pure Water water will use.

5.2 Clean Water Act Permitting

Our region's wastewater treatment system dumps millions of gallons of water into the ocean every day. The Pure Water program will recover much of this water for San Diegans' beneficial use.

There is significant risk that the City will not be able to continue obtaining a five-year wastewater discharge permit at the Point Loma Plant without an estimated $1.8 billion in upgrades to the plant. Pure Water resolves the permit issues and redirects those dollars to produce a high quality water supply for San Diego.

Pure Water San Diego will reduce discharges from the Point Loma Plant to the ocean to meet secondary equivalency treatment standards. It is a sustainable and cost-effective way to meet USEPA requirements for ocean discharge from the Point Loma Plant when secondary equivalency is included.

The Point Loma Plant is the largest wastewater treatment plant in the region, capable of treating 240 million gallons of wastewater per day. The Federal Clean Water Act requires that all wastewater treatment plants treat to secondary treatment level; however, San Diego has a permit that allows the City to treat to advanced primary level. The permit is due to be renewed in 2015, and the USEPA has indicated it likely will require San Diego to treat to secondary standards, which would require the Point Loma Plant to be upgraded. Upgrading the Point Loma Plant to secondary standards would cost approximately $1.8 billion. Investing approximately the same amount in the Pure Water program and seeking federal regulator approval and/or legislation to allow San Diego to meet modified secondary standards (i.e., secondary equivalency) would eliminate the need for the upgrades to the Point Loma Plant and would generate a reliable supply of high quality water.

5.3 Water Quality / Health and Safety

The Pure Water San Diego program uses a purification process similar to what OCWD uses for its potable reuse project. OCWD's project has operated successfully for six years, delivering over 425 billion gallons of high quality drinking water, which is enough water to meet the needs of nearly 600,000 residents in north and central Orange County, California and supplies about 20% of Orange County's total water needs. The OCWD project produces water that meets or exceeds all state and federal drinking water standards and has enjoyed such broad community support it is being expanded.

Purified water is safe to drink. The City conducted an extensive, independent expert-reviewed, Water Purification Demonstration Project. The Demonstration Project again confirmed the effectiveness and safety of the technology planned for Pure Water. When blended with current supplies, the water that the Pure Water program will produce will improve the overall quality of the City's water.

In 2009, the City of San Diego Public Utilities Department requested the National Water Research Institute of Fountain Valley, California, to form the IAP to provide expert peer review of the technical, scientific, regulatory, and policy aspects of the proposed Indirect Potable Reuse/Reservoir Augmentation Demonstration Project (later renamed the Water Purification Demonstration Project) that the City proposed to develop. Panel members consisted of academics and professionals with a longstanding expertise in the science of water reuse. Panelists are experts in the fields of water and wastewater technology, public health, epidemiology, toxicology, water quality, economics, environmental science, public utilities and industry regulations.

Members included:

- George Tchobanoglous, Ph.D., P.E., Chair of the Independent Advisory Panel, Professor Emeritus, University of California, Davis (Davis, CA)
- Michael A. Anderson, Ph.D., University of California, Riverside

- Richard Bull, Ph.D., Consulting Toxicologist, MoBull Consulting (Richland, WA)
- Joseph A. Cotruvo, Ph.D., Principal, Joseph Cotruvo Associates (Washington, D.C.)
- James Crook, Ph.D., P.E., Water Reuse Consultant (Boston, Massachusetts)
- Richard Gersberg, Ph.D., Vice-Chair of the Independent Advisory Panel, Professor and Head, Division of Occupational and Environmental Health, Director, Coastal and Marine Institute, San Diego State University
- Sunny Jiang, Ph.D., University of California, Irvine
- Audrey D. Levine, Ph.D., P.E., DEE, U.S. Environmental Protection Agency
- David R. Schubert, Ph.D., The Salk Institute for Biological Studies
- Michael P. Wehner, Director of Water Quality and Technology, Orange County Water District (Fountain Valley, CA)

5.4 Schedule

We recommend the City proceed urgently on this important program that will provide a locally controlled source of water.

5.5 Rates

San Diego remains vulnerable to rising imported water costs and other cost increases beyond its control. The investment required for Pure Water San Diego helps protect ratepayers.

Secondary equivalency will require regulatory agency approval and, possibly, legislative action. It is essential to achieve this approval in order for the Pure Water program to be cost-effective.

5.6 Outreach

Citizens are urged to tour the Advanced Water Purification Facility and see the treatment processes that are successfully demonstrated. Tours can be arranged through: https://apps.sandiego.gov/ereg/purewatersd/courses.php?grp=public

The Working Group also observes that the long schedule for implementation of the Pure Water San Diego program will span multiple administrations and turnover on the City Council.

5.7 Recommendations

San Diego residents and businesses must continue to increase conservation and water use efficiency. Water is a limited resource.

The City must secure federal approval to resolve the Point Loma Plant permitting issues using the Pure Water program.

Public outreach that encourages residents and businesses in all San Diego communities to learn more about Pure Water must continue.

The City must proceed urgently on this important program.

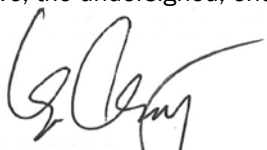
6.0 CONCLUDING COMMENTS

The Working Group believes the opportunity to develop a reliable supply of safe, locally controlled and environmental friendly water is compelling. We urge the City Council to move deliberately to develop this source of supply to help drought-proof our city, stop the waste of water to the ocean, and permanently resolve long-standing permit issues at the Point Loma Plant. A stable long-term policy commitment will be required to implement the program.

We stand ready to provide our continued support to achieving this important program.

7.0 SIGNATURE PAGE

We, the undersigned, endorse the input contained in this document.



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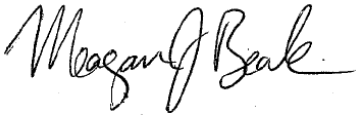

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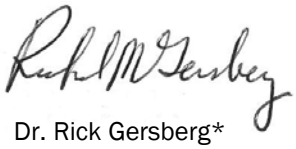

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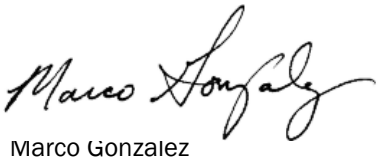

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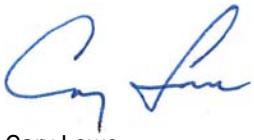

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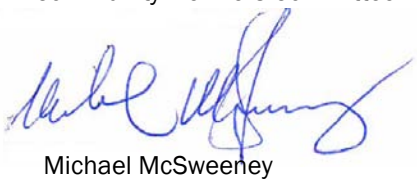

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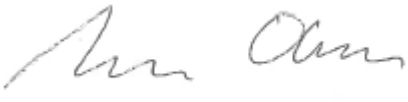

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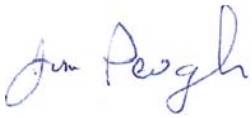

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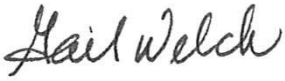

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Kenneth Williams
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**Leah Browder of Metro Wastewater JPA relocated at the conclusion of the project and was unable to sign the document.

8.0 APPENDICES

8.1 Appendix A Mayor's Invitation Letter - City of San Diego's Charge to the Pure Water Working Group

April 14, 2014

Ms. Name, Title
Address

Dear Ms. xxx:

Subject: Participation on City of San Diego, Public Utilities Department
Pure Water Working Group (Working Group)

On behalf of the City of San Diego and our Public Utilities Department (Department), I am pleased to extend an invitation to you to appoint one representative from your organization to serve on the Pure Water Working Group (Working Group). As you may know, the City has completed two major studies that explored the feasibility and opportunities associated with potable reuse. These were the 2012 Recycled Water Study (http://www.sandiego.gov/water/pdf/waterreuse/2012/recycledfinaldraft120510.pdf) and the 2013 Water Purification Demonstration Project (http://www.sandiego.gov/water/waterreuse/demo/projectreports/index.shtml). City Council unanimously accepted both reports and directed staff to execute critical next steps towards defining a potable reuse implementation strategy.

The issue of reliable water for our City is more important than ever, and it is one that I have taken a special interest in during my time on the Council and will continue to do as now that I am Mayor. Our region has a unique opportunity to further examine the role of Pure Water as part of our water resources platform while also working hard to maintain our current permit status of advanced primary treatment at the Point Loma Wastewater Treatment Plant. The Working Group we are forming will assist the Department in evaluating an array of implementation possibilities. Such evaluations will be made from multiple perspectives including, but not limited to, technical, cost, schedule, and regulatory strategy. The valuable input from your organization will enable the City to advance a well-rounded, comprehensive potable reuse implementation plan.

Working Group members are expected to commit to attend monthly, or as needed, meetings over the next 12 months. If there is need, the Working Group's role may extend beyond the first set of sessions scheduled for 2014 (see enclosed schedule of meetings). We are hoping to start these meetings in May. As such, we are asking you to identify a suitable representative that can commit to the meetings and work with our City staff and consultants during these important months ahead. Each meeting will be scheduled for two to three hours, and there may be some review work necessary before the meetings. Your participation in the Working Group is very important to the City of San Diego and your input will greatly help shape our Department's recommendations that will be forthcoming to the Council for further consideration. While the Working Group will be working with and reporting to our city staff, I want you to know that I appreciate your consideration and future participation.

Please contact Megan Drummy at (619) 533-4249 or mdrummy@sandiego.gov to provide the name and contact information of the individual who will be representing your organizations participation on the Working Group. If you have any questions or need additional information, please contact Ann Sasaki at 858-292-6402. Please respond by May 1, 2014 regarding your organizations participation and provide the contact information for your representative.

Sincerely,

Kevin Faulconer
Mayor

Enclosure Pure Water Working Group Mission Statement and Draft Meeting Schedule

Pure Water Working Group

Mission Statement: Provide diverse viewpoints and input on the City of San Diego's Pure Water Program to help ensure a successful water future for San Diego. Group members will be asked to:

Objectives:

1. Provide feedback on Pure Water Program elements and strategy.

2. Become knowledgeable about the Pt. Loma permit history and process. Provide input on legislative approach to accomplish secondary equivalency for San Diego.

3. Review consultant findings associated with Pure Water costs and associated impacts on rates.

4. Provide input to City of San Diego, IROC and other regional interests, as appropriate.

Participant Groups: The group would consist of approximately 25 individuals representing a diverse representation of the Public Utilities Department's customers; Meetings will be facilitated. Ensuring a diverse cross section of community participants is important to capture respective values and opinions.

Representation:

Working Group members are asked to participate with the following qualities in mind:

- Willingness to work cooperatively with other Working Group members.
- Demonstrated ability to present the perspective of stakeholders concerned with the City of San Diego's future water reliability and possible solutions that may benefit the region.
- Commitment and ability to consistently attend 8-10 meetings in the next 12 months.

While the Working Group is intended to be a forum for gaining feedback and perspectives from citywide stakeholders, it does not purport to be, nor should it be portrayed as a representative voice of the entire city.

Proposed Meeting Schedule: Note – these are suggested times and dates. Based on a variety of factors, these may be modified throughout the calendar year.

Meeting	Date	Time	Place	Objective
#1 - Kickoff & Water Supply overview	14-May	8:30-11:30	North City	Introduce program, establish PWWG role and tour North City and Demo Plant
#2 - Water Portfolio & Introduction to Point Loma Wastewater	28-May	8:30-11:30	Alvarado Plant	Understand and provide input on water imperative, options, and role of potable reuse; tour Alvarado Plant
#3 - Tour of Point Loma/Pure Water Program Overview	18-Jun	8:30-11:30	Point Loma	Demonstrate scope/scale of facilities involved
#4 - Regulatory & Legislative Issues for Pure Water	16-Jul	8:30-10:30	North City	Understand technical basis for secondary equivalency
#5 - Cost / rates to support Pure Water Program	17-Sep	8:30-11:30	North City	Understand and provide input on costs and trade-offs
#6 - Project Update	15-Oct	8:30-10:30	North City	Provide PWWG update on project activities / discussion
#7 - Project Update	19-Nov	8:30-10:30	North City	Provide PWWG update on project activities / discussion/Begin documentation of PWWG observations
#8 - Project Update	17-Dec	8:30-10:30	North City	Document key recommendations/observations of PWWG

8.2 Appendix B – Working Group Meeting Agendas

Kickoff Meeting

May 14, 2014
8:30 a.m. – 12:30 p.m.
North City Water Reclamation Plant
4949 Eastgate Mall, San Diego, CA 92121

Meeting Objective: Convey the purpose of the Working Group, solicit input and set the context for subsequent detailed discussions of the Pure Water San Diego issues.

8:30 – 8:45 **Welcome and Overview of Goals and Agenda – Halla Razak**
Director, Public Utilities Department

- Welcome and introductory remarks
- Overview of session goals and agenda – John Gavares

8:45 – 9:15 **Participant Self-Introductions – John Gavares, Facilitator**

9:15 – 10:00 **Overview of Working Group Mission and Schedule – John Gavares**

Objective: Develop clarity regarding the goals and roles of the Working Group, the meeting schedule and key milestones, and the process to be used.

- Mission, goals and roles
- Schedule of meetings – review anticipated meeting schedule
- Principles of engagement and discussion guidelines
- Q and A

10:00 – 10:15 **Break**

10:15 – 10:55 **What is Pure Water San Diego? – Halla Razak**

10:55 – 11:00 **Next Steps – John Gavares**

Objective: Review next Working Group meeting agenda and solicit input.

11:00 – 12:30 **Tour of the Advanced Water Purification Facility and the North City Water Reclamation Plant – Marsi Steirer, Deputy Director, Long-Range Planning and Water Resources Division**

Objective: Ensure participants have the opportunity to see the engineering and operational sophistication of Pure Water San Diego facilities first-hand; answer any questions.

12:30 **Adjourn**

AGENDA
Pure Water Working Group
Workshop #2: Water Supply
May 28, 2014
8:00 a.m. – 11:30 a.m.
City of San Diego
Employee Training and Development Center
Training Room B
5510 Kiowa Drive, La Mesa, CA 91942

Meeting Objective: Convey the water demand and supply portfolio for the City of San Diego to place the Pure Water San Diego program in perspective as a water resource; Describe the scope and scale of the City of San Diego Drinking Water facilities and practices.

8:00 – 8:40 Pre-briefing for Attendees that Missed Workshop #1 – Patsy Tennyson / Ann Sasaki

- Introduction of new members
- Pure Water San Diego overview presentation

8:40 – 8:55 Welcome and Overview of Goals and Agenda – Patsy Tennyson / Ann Sasaki

- Welcome, introductory remarks and update
- Overview of Workshop series and Workshop #2 goals and agenda
- Introduction of new members and opening activity

8:55 – 9:40 City of San Diego Water Resources Overview – Marsi Steirer

- Role of the City, San Diego County Water Authority (Water Authority), and Metropolitan Water District of Southern California (MWD)
- Water supply planning in San Diego, demand projections, climate change considerations, imported water projected cost increases

Objective: Describe the water needs of the region and explain the current water supply strategy/sources and risks; Highlight the potential role of expanded potable reuse in San Diego

9:40 – 10:00 Discussion / Next Steps – Patsy Tennyson

Objective: Describe Working Group Workshop #3: Point Loma Wastewater Plant meeting agenda; Solicit input

10:00 – 10:15 Break

10:15 – 11:30 Tour of Alvarado Plant

- Drinking water treatment overview
- Water quality monitoring processes

Objective: Ensure participants have the opportunity to see first-hand the engineering and operational sophistication of City of San Diego drinking water facilities and begin to understand the connection with the San Vicente Reservoir operations; answer any questions

11:30 Adjourn

AGENDA
Pure Water Working Group
Workshop #3: Wastewater Management Overview
June 18, 2014

8:30 a.m. – 11:30 a.m.
Pt. Loma Wastewater Treatment Plant
Maintenance Lunchroom

Meeting Objective: Convey the wastewater generation and treatment opportunities facing the City of San Diego to place the Pure Water San Diego program in perspective as a water resource. Describe the scope and scale of the City of San Diego wastewater facilities and practices

8:30 – 8:45 Welcome and Overview of Goals and Agenda – John Gavares

- Welcome, introductory remarks and update
- Overview of Workshop series and Workshop #3 goals and agenda
- Introduction of new members

8:45 – 9:45 City of San Diego Wastewater Generation and Treatment – Cheryl Lester / Alan Langworthy / Brent Eidson

- Wastewater collection, transmission and treatment
- History of the Point Loma Wastewater Treatment Plant
- Source control program overview
- Legislative strategy for secondary equivalency and opportunity to reduce water waste

Objective: Describe how the San Diego area wastewater flows are managed. Describe the physical facilities and processes necessary to manage this resource. Describe secondary equivalency and how the concept can reduce water waste and provide a new water resource for the City

9:45 – 10:10 Discussion – John Gavares

10:10 – 10:15 Next Steps – John Gavares

Objective: Describe Working Group Workshop #4: Potable reuse discussion and GWRS tour. Solicit input

10:15 – 10:30 Break

10:30 – 11:30 Tour of Pt. Loma Wastewater Treatment Plant – Katherine Shankles

- Outline collection/transmission systems

- Tour treatment processes
- Meet professional staff
- Discuss source control programs and water quality monitoring processes

Objective: Ensure participants have the opportunity to see first-hand the engineering and operational sophistication of City of San Diego wastewater treatment facilities. Answer any questions

11:30 Adjourn

AGENDA
Pure Water Working Group
Workshop #4: Indirect Potable Reuse
July 16, 2014
8:30 a.m. – 2:15 p.m.
Orange County Water District's
Groundwater Replenishment System Bus Tour

Meeting Objective: Convey the water purification and public engagement activities of one of the world's leading indirect potable reuse projects.

8:30 – 8:45 **Bus Departs City of San Diego Public Utility Department MOC Headquarters / Continental Breakfast**

8:45 – 9:00 **Welcome and Overview of Goals and Agenda – John Gavares**

- Welcome, introductory remarks and update
- Overview of workshop series and Workshop #4 goals and agenda

9:00 – 10:00 **Indirect Potable Reuse – Marsi Steirer**

- WateReuse video
- North City video
- Application in San Diego
    - History
    - Treatment processes
    - Transmission and distribution of water
    - Monitoring programs that ensure safety
- Share public outreach activities

Objective: Describe how indirect potable reuse is planned to be implemented in San Diego. Describe the physical facilities and processes necessary to manage this resource. Answer any questions.

10:00 – 10:15 **Discussion – John Gavares**

10:15 – 10:30 **Arrive at Orange County Water District (OCWD) / Break**

10:30– 11:30 **Tour Groundwater Replenishment System – Mike Markus, General Manager, Orange County Water District**

Objective: Demonstrate how potable reuse is successfully practiced in Orange County, CA. Ensure participants have the opportunity to see first-hand the engineering and operational sophistication of potable reuse facilities; answer any questions

11:30 – 12:00 OCWD Conference Room Discussion – John Gavares

12:00 – 12:30 Status of Direct Potable Reuse – Rich Nagel, Chairman of the WateReuse Research Foundation Board

Objective: Frame the steps necessary to implement direct potable reuse

12:30 – 12:45 Break / Board Bus

12:45 – 1:15 Bus Departs for Return Trip / Lunch on the Bus

- Huell Howser Video

1:15 – 1:45 Discussion / Questions – John Gavares

2:00 – 2:15 Next Steps – John Gavares

Objective: Describe Working Group Workshop #5: Cost/Rates to Support the Pure Water San Diego program; Solicit input

2:15 Arrive at MOC / Adjourn

AGENDA
Pure Water Working Group
Workshop #5: Pure Water Program Implementation and IPR/DPR Regulatory Status
August 20, 2014
North City Water Reclamation Plant
8:30 a.m. – 12:00 p.m.

Meeting Objectives: Convey the program elements and schedule of Pure Water San Diego. Discuss the state's indirect and direct potable reuse regulatory activities. Solicit feedback.

8:30 – 8:45 Welcome and Overview of Goals and Agenda – Patsy Tennyson

- Welcome, introductory remarks and update
- Debrief/questions from Workshop #4
- Overview of workshop series and Workshop #5 goals and agenda

8:45 – 9:05 Pure Water San Diego Program Components and Schedule – Ann Sasaki

9:05 – 9:30 Discussion – Patsy Tennyson

9:30 – 10:15 IPR/DPR Regulatory Process – Marsi Steirer

- Advisory Panel – Keith Solar
- Reservoir Modeling Work - Jeff Pasek

10:15 – 10:30 Discussion – Patsy Tennyson

10:30 – 10:45 Break

10:45 – 11:50 Key Observations & Recommendations – Patsy Tennyson

11:50 – 12:00 Next Steps / Workshop #6 – Patsy Tennyson

12:00 Adjourn

AGENDA
Pure Water Working Group
Workshop #6: Water and Wastewater Rate Impacts, Outreach and Preliminary Discussion of Observations and Recommendations
September 17, 2014
North City Water Reclamation Plant
8:30 a.m. – 12:00 p.m.

Meeting Objective: Convey the water and wastewater rate implications of Pure Water San Diego and discuss current and planned outreach activities, solicit feedback and continue discussion of Working Group observations and recommendations.

8:30 – 8:45 **Welcome and Overview of Goals and Agenda – John Gavares**

- Welcome, introductory remarks and update
- Debrief/questions from Workshop #5
- Overview of workshop series and Workshop #6 goals and agenda

8:45 – 9:45 **Pure Water San Diego Effect on Rates and Discussion – Lee Ann Jones-Santos**

9:45 – 10:00 **Break**

10:00 – 10:45 **Outreach Activities – Brent Eidson / Sara Katz**

10:45 – 11:45 **Key Observations & Recommendations – John Gavares / Ed Means**

11:45 – 12:00 **Next Steps – John Gavares**

- October Council meeting

12:00 **Adjourn**

AGENDA
Pure Water Working Group
Workshop #7: Discussion of PWWG Input
October 15, 2014
North City Water Reclamation Plant
8:30 a.m. – 12:15 p.m.

Meeting Objective: Develop and agree on key input to be included in draft final report

8:30 – 8:45 Welcome and Overview of Goals and Agenda – John Gavares

- Welcome, introductory remarks
- Debrief/questions from Workshop #6
- Recent developments
  - Technical services support team
  - DC visit
- Overview of Workshop #7 goals and agenda

8:45 – 9:00 Review of Work Product / Revised Preliminary Input

9:00 – 10:30 Breakout Groups on Input (3 groups)

10:30 – 10:45 Break and group photo

10:45 – 11:45 Breakout Group Report-outs and Discussion

11:45 – 12:00 Consensus Approval

12:00 – 12:15 Next steps

- **Council meeting**
- **Draft report**
- **Next meeting**
- **Proposed future role of the Working Group**

12:15 Adjourn

AGENDA
Pure Water Working Group
Workshop #8: Discussion of PWWG Input
November 13, 2014
Location: North City Water Reclamation Plant
8:30 a.m. – 11:00 a.m.

Meeting Objective: Agree on final report language

8:30 – 8:35 Welcome – Halla Razak

8:35 – 8:40 Overview of Goals and Agenda – John Gavares
- Introductory remarks
- Overview of Workshop #8 objectives and agenda

8:40 – 9:40 Review of Work Product / Revised Workshop #7 Input

9:40 – 9:50 Mayor Faulconer Remarks

9:50 – 10:05 Break

10:05 – 10:45 Cont'd Review of Work Product / Consensus Approval

10:50 – 11:00 Next steps

11:00 Adjourn

8.3 Appendix C – Working Group Meeting Minutes

Meeting Summary: Kickoff Meeting

May 14, 2014

Pure Water Working Group Members Present

Eric Armstrong
Meagan Beale
Anthony Bernal (representing District 3)
Leah Browder
Beryl Flom (representing Donna Bartlett-May)
Justin Garver (representing District 1)
Dr. Rick Gersberg
Sean Karafin
Sara Kent (representing Marco Gonzalez)
Joe LaCava
Jim Peugh
Gail Welch
Kenneth Williams

Observers

Brent Eidson
John Gavares
Sara Katz
Ed Means
Joseph Quicho
Halla Razak
Alma Rife
Ann Sasaki
Marsi Steirer
Patricia Tennyson

Welcome and Introductions

Halla Razak opened the meeting by welcoming the group members and observers to the Pure Water Working Group kickoff meeting session.

Working Group Overview

John Gavares provided an overview of the working group binder and discussed desired results of the kickoff meeting. After reviewing the meeting agenda, the members and observers in attendance introduced themselves and gave some background information. John Gavares set aside time for questions after going over the mission statement and objectives.

- **Jim Peugh** – Questions about the schedule-
    - **John Gavares** – Needs to be discussed; it will be covered.
- **Beryl Flom** – Is it City or County?
    - **Halla Razak** – The project is sponsored by the City but the City works collaboratively with the Joint Powers Authority. Management is City of San Diego. County Water Authority (CWA) is not managing the project; City is coordinating with the CWA and has requested a resolution of support. Participating agencies might be interested in some of the water.
- **Beryl Flom** – Do you have your own source of water?
    - **Halla Razak** – Yes, San Vicente. Pure Water would go to San Vicente Reservoir.

- **Meagan Beale** – Is this about simply cleaning water? What are we really talking about here—is it toilet to tap?
    - **John Gavares** – Halla will go through this in detail. Halla mentioned that her desire is to replace "toilet to tap" with "toilet, treatment, treatment, treatment, reservoir, treatment, treatment, treatment, tap".
- **Joe Le Cava** – Who is the spokesperson?
    - **John Gavares** – Halla Razak.

John Gavares reviewed meeting attendance and alternates and the meeting schedule. The July 16th working group meeting will be a trip/tour of the Orange County Groundwater Replenishment System (GWRS). A bus will be taking the working group from meeting area (still to be determined) to GWRS.

- This was well received.
- Offered alternates to attend (space allowing) GWRS tour; need to consider size of room at Orange County Water District.
- Offered observers to attend (space allowing).
- **Sean Karafin** – Dates have changed from meeting schedule that went out before – August 20th date was added.
- **Jim Peugh** – Are two meetings enough to develop recommendations? Does not seem like enough.
    - **Patricia Tennyson** – As we go along you may have questions where you need more information; we need to make sure you are comfortable with the information. Put these into your calendar but there may end up being more dates.
      Sara Katz – Best case scenario—draft reports prepare themselves along the way. If we need more meetings or more frequent meetings we will do that as your schedules permit.
      Sean Karafin – May be better to have shorter meetings but more of them.

After reviewing the agenda and meeting summaries, a break was taken at 10 a.m.

Overview of the Program

- **Beryl Flom** – Do farmers get 80% of Colorado River Water?
    - **Halla Razak** – Yes.
- **Joe LaCava** – Do numbers include what we already pay for imported water?
    - **Halla Razak** – Yes—does not include any local costs; costs are for untreated water.
- **Beryl Flom** – What about South Bay Treatment Plant?
    - **Halla Razak** – That plant is currently at the Secondary level (it is a City Plant). Joint facility between feds and City of San Diego. Challenge with Point Loma is its location and constraints. The one south treats both water from Mexico and City of San Diego water.
- **Justin Garver** – You talked about reducing the flow out of the Point Loma Treatment Plant – aren't you hyper concentrating the waste? Higher bacteria levels? Will some of it stay on land?
    - Treatment processes will have ways to handle the water quality constituents. Secondary treatment mostly talks about total suspended solids (TSS).

- **Sara Kent** – Is there a potential for dilution?
    - **Ann Sasaki** – Yes, all solids would be treated off-site. All water quality standards would be met. There might be more concentration at the plant but we would still meet all receiving water standards.
- **Jim Peugh** – Is backwash water from the reverse osmosis going to Point Loma?
    - **Ann Sasaki** – We are looking at where that will be sent and is part of the engineering studies. In any event we have to and will meet the receiving water standards.
      Jim Peugh – These are big issues for the environmental community and we will need answers.
- **Joe LaCava** – Does it include construction and finance costs?
    - **Halla Razak** – Yes, it is in dollars per year required to develop the facilities.
- **Kenneth Williams** – You mentioned that legislation is needed to approve second equivalency? Can Environmental Protection Agency (EPA) issue the waiver and then we don't need legislation?
    - **Halla Razak** – We want assurances if we invest that there won't be future EPA action that requires secondary anyway. We need assurances before we invest.
- **Justin Garver** – Are there current estimates of what cost per acre-foot (AF) is? At what point do they intersect with imported water costs? Will it be below the imported water cost $2,350 per AF for desalination/City pays $1,200. $1,700-1,900/AF for Pure Water not taking account of the advantage of not having to do secondary treatment. From the Public Utilities Department's perspective it makes sense to do this.
- **Sara Kent** – Metropolitan Water District has potential local resource program credits that can accrue to local resource production. Current litigation precludes that – might we get the $250/AF in the future?
    - Yes.
      Sean Karafin – You're right – huge ranges on cost; report looked at different phasing. It is cheaper right now. It is not a waiting game.
      Marsi Steirer – What Halla is referencing, the benefits are in one of your back tabs in the background document (excerpt from Recycled Water Study), also available online.
- **Joe LaCava** – Next steps shows November—is our report part of documentation going to council?
    - **Halla Razak** – Yes, that is a good suggestion. Timing is a little too close for comfort; does not give this group much time for deliberation and allow group to help support. As we come closer we will be sure we coordinate to allow enough time.
      Beryl Flom – Problem with November Council meeting—new election.
      Halla Razak – Good point; have to look at dynamics.
      Beryl Flom – Could inform candidates.
      Sara Katz – All the candidates are on board and supportive.
- **Jim Peugh** – Advanced primary, no environmental impacts—hard to know there are no negative impacts. Better to say that "we have not found any negative impacts" rather than there are none; secondary equivalence should do "better" than current versus just equivalence. Should emphasize it is less of an impact (less TSS, less biological oxygen demand (BOD), etc).

- **Sara Kent** – Local San Diego environmental community is very supportive; some groups outside San Diego (Natural Resources Defense Council) have issues. Stating that effluent will be better quality is good thing optics wise.
    - **Jim Peugh** – We want to do better and show some incremental improvement.
      Halla Razak – We will change to "local" environmental group.
- **Eric Armstrong** – If no secondary equivalency we can't do both?
    - **Halla Razak** – Yes, need to emphasize we can't do both; we really need secondary equivalency.

John Gavares – We will record sessions to ensure we are accurate; no attribution of comments though.

Conclusion

John Gavares thanked the group for their participation and the meeting closed at 11:05 a.m. Remaining group members were invited to tour the Advanced Water Purification Facility.

Tour of the Advanced Water Purification Facility

Marsi Steirer provided a pre-briefing for the tour including PowerPoint slides and a video.

- **Beryl Flom** – Why is hydrogen peroxide added?
    - **Marsi Steirer, Ed Means** – When exposed to ultraviolet (UV) create hydroxyl radicals that oxidize constituents in water; produces better oxidation of constituents than UV alone and produces no residuals.
- **Gail Welch** – Elaborate on Colorado River—how many discharges?
    - **Halla Razak** – Hundreds.
      Eric Armstrong – The first slide showing number of discharges is really powerful.
      Marsi Steirer – What we're proposing to do is what is being done in other areas in the world. It is the same water that was here when the dinosaurs were here.
- **Jim Peugh** – Non-point source pollution is a bigger deal than the point source discharges
- **Beryl Flom** – Environmental impact is more than water.

Recommendation from Beryl Flom, Sean Karafin and Jim Peugh – to John Gavares:
Present to the group a document/outline of what a completed document might look like and complete it along the way. If there are things we don't quite agree upon along the way, make sure that we discuss those.

Meeting Summary: Water Supply Overview

May 28, 2014

Pre-briefing for New Pure Water Working Group Members Present

Michael Baker
Chanelle Hawken
David Kodama
Melanie Nally
Lucas O'Connor
Matt O'Malley
Keith Solar
Tim Taylor

Meeting 2: Working Group Members Present

Eric Armstrong
Michael Baker
Meagan Beale
Anthony Bernal
Leah Browder
Beryl Flom (representing Donna Bartlett-May)
Dr. Rick Gersberg
Chanelle Hawken
Sara Kent (representing Marco Gonzalez)
David Kodama
Joe LaCava
Melanie Nally
Lucas O'Connor
Matt O'Malley
Jim Peugh
Keith Solar
Tim Taylor (representing District 9)
Gail Welch
Kenneth Williams

Pure Water Team Members and Public Observers

George Adrian
Seevani Bista
Brent Eidson
Sara Katz
Sammi Lowe
Ed Means
Alma Rife
Chris Robbins
Ann Sasaki
Deanna Spehn
Marsi Steirer
Patricia Tennyson
Anthony Van
Marie Wright-Travis

Pre-Meeting Welcome and Introductions

Patricia Tennyson, meeting facilitator, opened the meeting at 8:05. Ann Sasaki, Assistant Director, welcomed the participants. Self-introductions of participants and Pure Water Team members was followed by a general overview of the mission and objectives of the Working Group. Meeting process issues were reviewed.

Ann Sasaki provided an overview of the Pure Water San Diego program to explain the program to the new Working Group members. Questions included:

- **Tim Taylor** – is there extra room for anyone that isn't part of the Working Group to participate in the Point Loma tour?
    - **Ann Sasaki** – Yes

Meeting 2

Overview of the Program

Patricia Tennyson and Ann Sasaki welcomed the group to meeting 2. Self-introductions were made. Questions included:

- **Beryl Flom** – There was a UT San Diego article that stated some areas in California can use as much water as they want. Why is that?
    - **Ed Means/Deanna Spehn** – Pre-1914 water rights holders do not have to measure all of their water use. There are concerns that there is overuse of water. Today, not all water use is metered, but there is a requirement to change that – metering is being phased in over time as a result of State legislation.

Review of Water Resource Planning and Programs

Marsi Steirer, Deputy Director, provided a detailed presentation on water resource planning and development for the City of San Diego. (The presentation was included in the Working Group binder.) The city's water supply portfolio was described. The importance of continuing to conserve water was outlined, and the importance of developing locally controlled, reliable sources of water to help manage rising water costs was emphasized. Each of the water supply options available to the City of San Diego was discussed and the role and opportunity for expanded use of recycled water described.

Patricia Tennyson led the Working Group in a discussion of the water resource issues. Questions included:

- **Anthony Bernal** – Slide 7 shows dischargers into source waters. How many are there?
    - **Marsi Steirer** – 361
- **Jim Peugh** – Rainwater harvesting vs. local water – what is difference?
    - **Marsi Steirer** – Barrels collect rainwater at homes. Local water is the water captured in local reservoirs.
- **Ken Williams** – Of the 361 wastewater dischargers, how would you describe the quality of that water?
    - **Marsi Steirer** – These wastewater discharges are NPDES permitted and regulated by local agencies (in California they are regulated by Regional Water Quality Control Boards). Dischargers include sewage treatment plants, storm water runoff and runoff from mines, etc.). Some are tertiary treated and disinfected (i.e. filtered) and others are secondary treated and disinfected discharges (activated sludge or trickling filter treatment, but not filtered). Storm water discharges are generally untreated. The wastewater discharges must meet quality requirements, but are not of drinking water quality.

- **Beryl Flom** – Is runoff water diverted to Pt. Loma?
    - **Marsi Steirer** – No, storm runoff goes directly into the storm water system and, ultimately, the ocean.
- **Tim Taylor** – The Long Range Water Resources Plan is only updated every 10 years. What is done in the meantime to make sure it is up to date?
    - **Marsi Steirer** – In the past we have reported back to the City Council on our progress. It is also updated in the context of our Urban Water Management Plan (every 5 years).
- **Gail Welch** – Slide 7: some areas have invested in a pipeline to deliver their own supply. Is that possible here?
    - **Marsi Steirer** – Las Vegas is developing groundwater from the northern part of the state. In the 2002 water resources plan, we considered agricultural water transfers and marine transfers (tankers or water bags). Canada banned such practices as a result. A large obstacle is that water is finite and the amount of money to build a pipeline is large. Local areas are generally very protective of their water rights. Developing transfers has proven difficult.
- **Gail Welch** – Can you use ocean water for industrial cooling purposes?
    - **Marsi Steirer** – There are numerous constraints including the cost of pumping seawater uphill.
    - **Sara Kent**– The State of California has outlawed extraction of ocean water for cooling purposes.
- **Meagan Beale** – Water rights: who grants them and who has them?
    - **Marsi Steirer** – Water rights are complex/arcane and subject to litigation. The Federal and State government and courts administer water rights. (The team will consider including a succinct water rights primer in the binder for those wishing for more information.)
- **Jim Peugh** – Is there a theoretical limit on the amount of recycled water we could develop?
    - **Marsi Steirer** – There could be more developed depending on how treatment technology and circumstances change. We feel comfortable to be able to develop 83 MGD in 20 years.

Conclusion

Patricia Tennyson thanked the group for their participation and the meeting closed at 10:00 a.m. for group members to tour the Alvarado Water Treatment Plant.

Tour of the Alvarado Water Treatment Plant

Mike Williams provided a tour of the Plant from 10:15 – 11:30.

The meeting adjourned at approximately 11:30 a.m.

Meeting Summary: Meeting #3

June 18, 2014

Meeting 3: Working Group Members Present

Eric Armstrong
Anthony Bernal
Julia Chunn-Heer
Beryl Flom
Dr. Rick Gersberg
Chanelle Hawken
Sara Kent
David Kodama
Joe LaCava
Cary Lowe
Melanie Nally
Lucas O'Connor
Matt O'Malley
Jim Peugh
Keith Solar
Tim Taylor
Gail Welch
Meena Westford
Kenneth Williams

Pure Water Team Members and Observers

Brent Eidson
John Gavares
Alan Langworthy
Cheryl Lester
Sammi Lowe
Ed Means
Joseph Quicho
Halla Razak
Alisa Reinhardt
Alma Rife
Patricia Tennyson

Pre-Meeting Welcome and Introductions

John Gavares, meeting facilitator, opened the meeting at 8:50 a.m. Halla Razak welcomed and thanked the participants for their involvement. Self-introductions of new participants were conducted followed by a general overview of the conduct, mission and objectives of the Pure Water Working Group. Meeting process issues were reviewed.

Overview Wastewater Management in San Diego

Cheryl Lester, Deputy Director, Wastewater Treatment & Disposal Division, provided a PowerPoint history of wastewater treatment in San Diego dating from the 1940's to present day. The wastewater collection system, pumping stations, treatment plants and system redundancy features were described. The key role of the Point Loma Wastewater Treatment Plant in the management of wastewater for the City of San Diego was outlined. The treatment processes used in the plant were discussed. There were no questions.

Review of the Modified Permit for Operations of Point Loma WTP

Alan Langworthy, Deputy Director, Pt. Loma Permit, provided a detailed PowerPoint presentation on the history of the current operating permit, the need and difficulty in renewal of the permit and the opportunity to develop reliable water supply and resolve long-term permitting issues through implementation of the Pure Water San Diego program. The current plant is permitted at 240 million gallons per day (MGD) under a "modified permit". Total suspended solids (TSS), pH, and biochemical oxygen demand (BOD) are the three primary measurements monitored to ensure compliance with "secondary treatment" required by the USEPA.

The treatment standard is a technology-based standard and is based upon implementation of activated sludge treatment. The secondary treatment performance measurements were placed in the National Pollutant Discharge Elimination System (NPDES) permit for the Point Loma Wastewater Treatment Plant (WTP). The modified permit (or waiver) is being complied with but requires re-permitting every 5 years. The permit is up for renewal in 2015. To obtain a modified permit, the discharger must demonstrate that alternative standards for TSS and BOD are protective of the ocean resources, environment and human health. The permit application is technically complex and must be submitted by February 1, 2015. Approval criteria are prescriptive. Obtaining future permit modifications is technically complex and not certain. Permitting vulnerabilities include:

- Threats due to differing interpretations of legislation
- Threats due to by changes in regulations
- Lack of certainty for rate payers and planners

A better approach to managing uncertainty is to:

1. Obtain legislation to allow "secondary equivalency" going forward,
2. Achieve equivalent total suspended solids, biochemical oxygen demand and pH requirements,
3. Maintain the enhanced ocean monitoring and industrial source control, and
4. Implement upstream potable reuse facilities to offload flows to the Point Loma WTP and allow Point Loma WTP to reliably achieve permit requirements

Questions included:

- **Eric Armstrong** – Who was the plaintiff in the litigation?
    - **Alan Langworthy** – USEPA. As soon as July 1, 1988 passed, USEPA sued the City of San Diego.
- **Sara Kent** – Where did the 45 MGD capacity come from under OPRA?
    - **Alan Langworthy** – It is the combination of North City and South Bay Reclamation Plant capacities (30 and 15 MGD, respectively).

- **Beryl Flom** – Could you talk about industrial source control? It is not clear if the plant is treating sewage or industrial water or stormwater?
    - **Alan Langworthy** – Stormwater is separate; it does not go into the wastewater system. We issue strict permits to industries to control what substances they can discharge into the system. We want to control what they can put in to 1) protect the workers, 2) avoid upsetting the treatment processes, 3) protect the ocean and 4) ensure compliance with our permits. Industries have worked as partners and have been very helpful in working with us to achieve those goals. It has never been adversarial.

- **Beryl Flom** – How is it collected? Are they discharging?
    - **Alan Langworthy** – We tell industrial dischargers what they can and cannot put into the sewers. They have to pretreat their discharges to prevent discharge of undesirable things into the wastewater system.

- **Cary Lowe** – You have presented alternative pathways. Are you saying it is unlikely we can get a modified permit renewal?
    - **Alan Langworthy** – The 301(h) modified permit process is still available. USEPA has a burden to exam your application. If you meet the standards, they will approve it.

- **Cary Lowe** – From your perspective is seeking a renewal or modified permit an interim measure with the ultimate goal to take pressure off this plant through advanced water purification.
    - **Alan Langworthy** – Prospects for approval of another modified permit are high. However, anytime you can offload flows you can make approval of a permit more likely. Advanced water purification is a highly viable alternative.

- **Joe La Cava** – It sounds like what you are trying to do is avoid having to go back every 5 years; once you lock it in, you don't have to go back every 5 years. The perception is we are under a mandate for secondary treatment.
    - **Alan Langworthy** – We are not under a mandate to go to secondary treatment. But there is great uncertainty in the future about ability to consistently meet permit conditions. Anything that will offload Point Loma WTP flows and improve the effluent quality would make waivers much more viable. It would be the best of all alternatives.
    - **Halla Razak comment** – There is nuance in the questions and understanding. We have been told and believe that getting a waiver will be really difficult unless the application "package" is different. We need to convince the USEPA that we are on the right track. If we do nothing different, USEPA will reject the traditional approach to permit renewal. Packaging this with IPR demonstrates a better approach.

- **Julia Chunn-Heer comment –** USEPA makes a case-by-case decision on permit applications but they have also indicated they will not issue waivers forever. There is some political pressure that others have made the commitment to secondary treatment but not San Diego. We need to make a long-term commitment to something like indirect potable reuse.

- **Chanelle Hawken** – Regarding the timeline, we would apply for a waiver for 5 more years. In the interim we would build indirect potable reuse in that timeframe? What is the timeline after that?
    - **Halla Razak** – The indirect potable reuse plan is a 20-year plan; it takes time to plan, design, build and bring on line. We are moving as fast as we can. The first plant is planned to come on-line in 2023. We are hoping that putting that plan and milestones in front of USEPA and the environmental community will make them comfortable support and re-issue the modified permit. We will also be working with legislators to amend the Clean Water Act to allow "secondary equivalency". Ratepayers will be making substantial investments for indirect potable reuse and we want to make sure that rules don't change down the road and force secondary treatment.

- **Joe La Cava –** What happens if USEPA says no and disallows the waiver? What is Plan B?
    - **Halla Razak** – We do not believe that will be a problem. Informal conversations with USEPA technical staff have been promising. It is beneficial for both drinking water and wastewater systems. If USEPA rejects the approach we will have to rethink our options.

Presentation on Legislative Issues Related to Secondary Equivalency

Brent Eidson reviewed the legislative issues associated with achieving secondary equivalency and the importance of having a broad coalition of supporters in order to be successful. Regulators including the USEPA Region 9 staff, the Coastal Commission and the Regional Water Quality Control Board will need to support the effort.

Conclusion

John Gavares reviewed the potential outline for a final report for the Pure Water Working Group. He also reviewed the Workshop 4 agenda including the tour of the Orange County Water District's Groundwater Replenishment System (GWRS).

- **Beryl Flom comment** – We should learn from GWRS how they convinced the public to support it.
    - **Patsy Tennyson comment** – Orange County Water District is currently expanding the 70 MGD plant

- **Cary Lowe** – Are meetings open to the public or subject to the Brown Act?
    - **John Gavares** – The tour will have limited space and be limited by the size of the bus. Observers are allowed to be present.
    - **Halla Razak** – if someone wants to attend let us know and we will try to provide capacity.

The meeting adjourned at approximately 10:25 a.m. and a tour of the Point Loma WTP was conducted.

Meeting Summary: Meeting #4

July 16, 2014

Meeting 4: Working Group Members Present

Eric Armstrong
Donna Bartlett-May
Meagan Beale
Anthony Bernal
Julia Chunn-Heer
Marco Gonzalez
Chanelle Hawken
Sean Karafin
Joe LaCava
Cary Lowe
Alex Mathers (representing Gail Welch)
Melanie Nally
Lucas O'Connor
Matt O'Malley
Jim Peugh
David Plantz (representing Keith Solar)
Julio Rivera (representing Tim Taylor)
Kenneth Williams

Pure Water Team Members and Public Observers

Megan Drummy
Alex DosSantos
Bryan Evans
John Gavares
Sara Katz
Sara Kent
Ron Lacey
Sammi Lowe
Ed Means
Sarah Mojarro
Alma Rife
Vic Salazar
Marsi Steirer
Patricia Tennyson
Yen Tu
Marie Wright-Travis

Meeting 4

Opening Remarks/Introduction of Orange County Groundwater Replenishment System

Attendees boarded the bus at approximately 8:20 a.m. John Gavares, meeting facilitator, opened the meeting at 8:30 a.m. He welcomed the participants and provided a brief overview of the meeting goals and schedule. Then he introduced Marsi Steirer.

Marsi Steirer provided a short introduction of the Orange County Groundwater Replenishment System. Then attendees watched a video about Huell Howser's 2004 tour of the then-under-construction Groundwater Replenishment System. After the video, participants asked the following questions:

- **Cary Lowe** – Is there a difference between Orange County's water treatment process and San Diego's?
    - **Marsi Steirer** – Yes. Both use the same water treatment process, but the difference is that Orange County uses groundwater basins as its environmental barrier while San Diego would use a reservoir.

- **Cary Lowe** – How come they can drink the water at the GWRS facility in Orange County, but we can't drink it at the Advanced Water Purification Facility in San Diego?
    - **Marsi Steirer** – They were approved by the regulators and we have not been approved yet. The regulators look at each location's treatment process. Orange County has a drinking water station where you can drink the water right after the purification process. Lime is added back since the water is so pure (virtually all minerals have been removed by the treatment process).
- **Sean Karafin** – Does retention time matter? Has Orange County had a need to respond to any issues that have made retention time important?
    - **Marsi Steirer** – That would be a question to ask on the tour, but no they have not had any issues or need to respond. For San Diego, we have received conceptual approval for sending the water to a reservoir, and when the water molecules are mixed together, the dilution ratio would be 100:1 – 100 being the local or imported water supply and 1 being the purified water.

Marsi then discussed items included in the folders, including media articles and white papers. She encouraged everyone to read them if they haven't already done so. She then gave a brief overview of the PowerPoint slides included in the folders.

At 10:00 a.m. the bus arrived at the Orange County Water District.

Overview of Orange County Water District/Groundwater Replenishment System

Mike Markus, General Manager, provided a detailed presentation about the Orange County Water District and the components of the Groundwater Replenishment System. Questions included:

- **John Gavares** – Who makes up the program's speakers bureau?
    - **Mike Markus** – The program was initially spearheaded by Ron Wildermuth, who went out to organizations frequently. Now the program is led by 3-4 staff engineers with a few others that go out and speak to community groups.

Sara Katz commented about the program's outreach activities and how it is important for any program to keep them up continuously, including multicultural outreach, since a program could be derailed at any time.

- **Ken Williams** – If the drought continues, how much pressure would it put on your water supply?
    - **Mike Markus** – We would need to lower the amount of pumping out of the basin. For example, instead of 72% pumping, it would go down to 64%. It depends on the supply conditions in the basin. We could also buy untreated Metropolitan Water District of Southern California (MWD).
- **Ken Williams** – Are you in better shape compared to other water districts?
    - **Mike Markus** – There is too much variability among water districts to compare in that fashion. It is not uncommon for there to be dry periods; we manage the groundwater basin to help during dry periods.

- **Cary Lowe** – Given the ups and downs of supply, do you educate about water conservation? How about purple pipe? Do you have a separate purple pipe system?
    - **Mike Markus** – We don't do messaging for conservation, that messaging comes from MWD through their member agency, the Municipal Water District of Orange County. We do have a 2 million gallon per day purple pipe facility with a 40-mile pipeline. Purple pipe can be more expensive than an IPR project. Unit costs are extremely high.
- **Marco Gonzalez** – In San Diego, we see competition between desalination and IPR. Do you see desalination as a competitor for you? How has desal/potable reuse been politically for you?
    - **Mike Markus** – Our board is considering purchasing water from Poseidon. They will look at the economics—if they don't measure up, then board members would push for more recycling. In Orange County, economics will ultimately prevail.
- **Eric Armstrong** – Poseidon says that their source-to-user cost is comparable to IPR. Is this true?
    - **Mike Markus** - A lot of the risk is absorbed by the purchaser of the water. An agency can run their facility more efficiently.
- **Eric Armstrong** – Without the subsidies, what is the cost per acre foot for GWRS water?
    - **Mike Markus** – The cost is $850 per acre foot after secondary treatment.
- **Joe LaCava** – Before you started doing IPR, did you have to treat the pumped water?
    - **Mike Markus** – No, the water went straight out of the ground into the distribution system. Some of the water utilities add a little chlorine for disinfection in their distribution systems.

Tour of the Orange County Groundwater Replenishment System

Mehul Patel, the GWRS Manager, provided a tour of the Plant from 11:30 – 12:30.

Overview of Direct Potable Reuse (DPR)

Rich Nagel, Chairman of the WateReuse Research Foundation board, provided a presentation that discussed the status of direct potable reuse regulation development and activities of the WateReuse Research Foundation. Mr. Nagel felt that the regulations would provide a legal basis for implementing DPR in 5-10 yrs. The question of public acceptance will still require addressing. Questions included:

- **Cary Lowe** – Is the SB 918 study purely health based?
    - **Rich Nagel** – Yes.
- **Ken Williams** – When the group reports in 2016, what other regulatory hurdles are there?
    - **Rich Nagel** – They can create 90% of the regulations with the information they have now. More redundant systems are needed, along with social science projects and outreach research efforts.

Conclusion

Participants boarded the bus at 1 p.m. John Gavares gave a brief recap of the day, and then turned it over to Marsi Steirer. Marsi responded to the following question:

- **Ken Williams** – Will DPR regulations be developed by 2016 and what can we expect from those regulations?
    - **Marsi Steirer** – The research we are conducting in San Diego will help determine the feasibility of DPR. Because we are involved in the process, we assume that we will have advance notice of the outcomes and will factor that into our future decisions

Marsi introduced and then showed the video about Huell Howser's visit to San Diego County, including the North City Water Reclamation Plant. John Gavares provided a final wrap up and thanked everyone for coming.

The bus arrived back in San Diego and the meeting adjourned at approximately 2:30 p.m.

Meeting Summary: Meeting #5

August 20, 2014

Meeting 5: Working Group Members Present

Eric Armstrong
Donna Bartlett-May
Meagan Beale
Anthony Bernal
Leah Browder
Brian Felten
Dr. Rick Gersberg
Chanelle Hawken
Kea Hagan
Sean Karafin
David Kodama
Joe LaCava
Cary Lowe
Mike McSweeney
Melanie Nally
Lucas O'Connor
Jim Peugh
Keith Solar
Tim Taylor
Meena Westford
Kenneth Williams

Pure Water Team Members and Observers

Sara Katz
Sammi Lowe
Ed Means
Jeff Pasek
Alma Rife
Ann Sasaki
Deanna Spehn
Marsi Steirer
Patricia Tennyson
Halla Razak

Meeting 5

Pre-Meeting Welcome and Introductions

Patricia Tennyson, meeting facilitator, opened the meeting at 8:30 a.m. Halla Razak, Director of the Public Utilities Department, welcomed the participants. Ms. Tennyson provided a general overview of the meeting objectives and agenda.

Question: Eric Armstrong - Will we be talking about cost in the September meeting?
Answer: Patricia Tennyson – yes

Overview of the Pure Water San Diego Program

Ann Sasaki provided an overview of the Pure Water San Diego program and explained the capital facility elements. Handouts of the slide presentation were provided in the Working Group meeting materials. The $2 billion to $2.2 billion program would be implemented over a 20-year period. The North City/Harbor Drive facilities would produce 68 million gallons per day (mgd) of flow. The South

Bay plant would produce 15 mgd. Ms. Sasaki described the multiple treatment processes that would be in place to ensure water safety.

The alternatives studied in the 2012 Recycled Water Study were described. There are three basic alternatives. The preferred alternative to achieve a total of 83 mgd of purified water is as follows:

- 15 mgd at North City by 2023
- 15 mgd at South Bay by 2027
- 53 mgd at Harbor Drive by 2035

Ms. Sasaki explained the schedule and key milestones including hiring of a program manager.

Questions included:

- **Sean Karafin** – Wouldn't pipelines be a key part of a decision on direct potable reuse (DPR)? Haven't you already begun design of the pipelines?
    - **Ann Sasaki** – Yes, there is a lot of work we can start. The first segment of the pipeline from North City to Alvarado would be the same under the IPR and DPR scenario, and we have begun work on that portion, along with looking at alternatives should we have to go all the way to San Vicente for IPR.
- **Lucas O'Connor** – What is the timing of the Point Loma Wastewater Treatment Plant permit renewal?
    - **Ann Sasaki** – Early 2015
- **Joe La Cava** – Will the EIR encompass information necessary to implement DPR?
    - **Ann Sasaki** – Yes
- **Joe LaCava** – Is this going to City Council in October? Why aren't these synced up with this group's scheduled conclusion?
    - **Halla Razak** – In October the Council will be presented the proposed terms of the permit application for the Point Loma Wastewater Treatment Plant. The City Council process has expedited activities as there are limitations on when we can present to the council; we are not in complete control of that timing. We hope to have preliminary input from the PWWG prior to the public hearing. Individual members will be encouraged to participate at the hearing. Additionally, there will be a role for members of this group that wish to stay engaged as the long-term project moves forward.
- **Cary Lowe** – At what point do you expect to go more public with what you are doing?
    - **Sara Katz / Halla Razak**– We are currently doing presentations to a wide variety of community groups, and also participating in community events. We trained 20 additional staff members yesterday to be part of our Speakers Bureau; there are significant grass roots activities underway.
- **Cary Lowe** - Where is the Harbor Drive site?

    - **Ann Sasaki** – It is located north of Harbor Drive, just west of the San Diego International Airport. The site is currently occupied by the Public Safety Training Institute which includes the San Diego Fire and Police Departments, the Community College District and the San Diego County Sheriff's Department. The site is at the location of the former Naval Training Center.
    - **Sara Katz** - We will send you links of the coverage. There continues to be some public resistance. Information dissemination will continue to be needed. We will be talking about that at the next Working Group meeting.
- **Kenneth Williams** –Is there any concern that we should be moving faster? 2035 is a long way out.
    - **Halla Razak** – Several factors support measured implementation. We do not have the exact regulations for IPR/DPR. We are hoping that the DPR regulations will be available to us going forward. In addition, the impact on the ratepayers needs to be considered and a phased program allows rate impacts to be smoothed out. At our next meeting we will be presenting to you the costs and rate impacts. This program is large and will require time to implement. Pipeline/right of way acquisition can also take significant time.
- **Jim Peugh** – A 3 or 4 page white paper for decision makers would be helpful.
    - **Patricia Tennyson** – Yes, we will prepare something like that. There was general support among the PWWG that something like that would be helpful.
- **Tim Taylor** – Does the Governor's water bond have money for IPR?
    - **Halla Razak** – Yes, and we will pursue obtaining bond money.
- **Deanna Spehn** – Adequate funding for San Diego's Pure Water project was in mind when Speaker Atkins was in negotiations to develop the bond language.
- **Lucas O'Connor** – Does Prop A affect funding?
    - **Halla Razak** – Proposition A prohibits project labor agreements in the City of San Diego. This is in conflict with State bond funding. Discussions are underway on how to reconcile this conflict.
- **Tim Taylor** – Who promulgates the IPR/DPR regulations?
    - **Patricia Tennyson** – This will be discussed in the upcoming presentation.
- **Mike McSweeney** – Who can we contact regarding outreach?
    - **Halla Razak/Sara Katz** – Sara Katz
- **Ken Williams** –Are we concerned that IPR regulations are still not final and DPR regulations are not even developed yet?
    - **Marsi Steirer** – Draft groundwater replenishment regulations have been out for about 20 years. Projects have been permitted under them. They haven't been finalized yet. We worked with the regulators during the Demonstration Project to ensure we could meet the draft IPR regulations and we don't anticipate issues that will be problematic.

- **Mike McSweeney** – I know the intent is to take water from North City to Alvarado. Any chance that legislation for DPR will be available by then? What construction techniques will we use?
    - **Ann Sasaki** – We will closely track the development of DPR regulations and adjust accordingly. We have some flexibility. The construction method is not settled (cut/cover vs. tunneling).
- **Meena Westford** – Outreach to minority groups needs to be emphasized.
    - **Sara Katz** – The water delivery pattern will be very broad, servicing virtually all of San Diego. Minority communities will not be disproportionately served. By 2035 the water will go to every area in the city. There has been inconsistent participation/interest from the minority community. Multi-cultural sub-consultants have been engaged to improve that participation. We appreciate the need to reach out.
- **Ken Williams** – If the water in San Vicente will be available to all of San Diego does outreach need to reach the entire county?
    - **Halla Razak** – Outreach is occurring throughout the county. The Water Authority and several of their member agencies are communicating about potable reuse.
- **Joe LaCava** – There is a need to better explain where the water is coming from – expand graphics on slide 19 to better explain physical facilities.
- **Leah Browder** – I am concerned about the Water Authority's plan for pumped storage at San Vicente Reservoir. It is very sensitive. The pumped storage project seems as if it would completely change how mixing occurs. What will that do to the Pure Water San Diego project?
    - **Halla Razak** – The impact of the pumped storage project will be determined through a detailed study. If there is any negative impact that jeopardizes our Pure Water San Diego project, pumped storage will not occur.

IPR/DPR Regulatory Process

Marsi Steirer provided an overview of the State regulatory activities around IPR/DPR. SB 918 requires that a DPR feasibility study will be available by December 31, 2016.

Keith Solar briefed the PWWG on the activities of the Advisory Committee established through Senate Bill 918. There are 16 members of the Advisory Committee with 4 members from San Diego. In parallel, an expert panel was convened to examine the issues. The Advisory Committee has met twice and generally follows meetings of the Expert Panel. The bulk of the Advisory Committee's work will occur in 2015. The Advisory Committee examined the Expert Panel research agenda in their last meeting. The agenda is substantial and referred to in the slide handouts. There are numerous questions regarding DPR for which the Expert Panel is seeking answers. Community concerns were emphasized regarding public / private operations. The meetings of the Advisory Committee are open

to the public, but Expert Panel meetings are not. Comments from the public included focusing on the Safe Drinking Water Act as it defines safety.

- **Ken Williams** – Who is in charge of the group?
    - **Keith Solar** – Gary Brown (Coastkeeper) is the Chair. Jeff Mosher (National Water Research Institute) is the facilitator.

Reservoir Modeling Work

Jeff Pasek provided a briefing on the reservoir studies and the role of reservoirs in the Pure Water San Diego program. The reservoir provides a similar role as the groundwater basin for Orange County Water District's Groundwater Replenishment System (GWRS). The reservoir provides dilution, time to respond in the unlikely event of a water quality problem, and reduction of any pathogens that may be present from the Advanced Water Purification Facility prior to treatment at a drinking water treatment plant. Mr. Pasek described the physical processes involved in reservoir mixing and temperature stratification. Reservoir stratification is consistent at San Vicente. Key questions are outlined in the meeting handouts/slides. A three dimensional model is being used to assess mixing, detention, and water quality effects in the reservoir. The model predicts 6 physical parameters and 9 water quality components.

At San Vicente Reservoir, the model was set up using real-world data from 2006 and 2007. The model was then validated against data from a 1995 tracer study to ensure the model accurately simulates what is going on in the reservoir. For the Demonstration Project, the reservoir study looked at a purified water inflow rate of 15 mgd, with 4 inlet locations and 3 operating conditions. The San Vicente reservoir studies for the Demonstration Project are complete. Subsequent studies examined two more purified water inflow rates [27 mgd and 68 mgd]. These follow-on studies are very nearly complete. The results indicate that San Vicente provides a significant additional barrier. The minimum dilution of a 24-hr pulse of purified water of 100:1 was met in the most challenging conditions. Purified water will not affect water quality or stratification. Purified water will improve the mineral content of the water.

Similar studies at Otay Reservoir are underway now. A tracer study has been completed. The three dimensional model is being set up and model runs will be started this fall.

There is a four-member limnology subcommittee of the Independent Advisory Panel. It has met seven times (with three more meetings planned) to review the study approach and results. All reservoir study work is being reviewed by the Independent Advisory Panel subcommittee, with ongoing input from the regulators (State Division of Drinking Water and Regional Board).

- **Mike McSweeney** – What is the process for pathogens to be reduced in the reservoir? What is the range in temperature from winter to summer?

    - **Jeff Pasek** – Temperature affects the density of the water and will be talked about later in the presentation; sunlight is the primary way that microbes are inactivated in the reservoir.
- **Cary Lowe** – Can you define 'limnology'?
    - **Jeff Pasek** – It is the study of lakes.
- **Cary Lowe**– For the tracer to be meaningful wouldn't you need thorough distribution of it?
    - **Jeff Pasek** – We add the tracer at the point of input and track it across the reservoir.
- **Eric Armstrong**– When was the data input?
    - **Jeff Pasek** – Once in the winter and once in the summer to validate the model works seasonally.
- **Sean Karafin** – What would you do if there were a problem in the reservoir?
    - **Jeff Pasek** – If there was "off specification" water we would remove San Vicente from service until the water met specifications. The level of treatment in place prior to reaching San Vicente is very robust and state of the art. Such off specification conditions are extremely unlikely.
- **Cary Lowe** – What happens to water in the reservoir – does it drop?
    - **Jeff Pasek** – At some point the whole reservoir will mix due to wind. The purified water is of higher quality than groundwater. The regulators are focusing on whether and what storage time is required in the reservoir in the event off specification water is produced from the AWP Facility treatment processes.
- **Cary Lowe** – Does it matter, for the purpose of the analysis, whether the level in the reservoir is higher or lower in the future?
    - **Jeff Pasek –** Bigger is better: the more volume, the more detention time.
- **Mike McSweeney** – How is higher quality water going to affect the fish?
    - **Jeff Pasek** – Fish and Game owns the fish in the reservoir. We don't anticipate issues.
- **Jim Peugh** - How long can we go without water from the reservoir and what are the natural processes that reduce pathogens? Is there any way we can make the natural processes work better?
    - **Jeff Pasek** – Alvarado has four sources of supply (imported water, Lake Murray, El Capitan and San Vicente). We could go without water from San Vicente a long time – months. The natural processes include UV light, predation, and temperature; to improve removal we could add oxygen and we are examining that.
- **Sean Karafin** – Where did the 100:1 dilution come from?
    - **Jeff Pasek** – It relates to a 99% removal barrier on top of the other barriers in place through the multiple-barrier treatment processes that purify the recycled water.
- **Mike McSweeney** – How much water do we process per day and, once completed, how much of our water need will this program provide?
    - **Jeff Pasek** – Ultimate buildout is 83 mgd; Purified water will represent about one third of the city's water supply.

- **Cary Lowe** – If we go to DPR we have to answer how those regulatory objectives must be met? It is a huge question.
    - **Jeff Pasek** – We are investigating additional processes for the advanced treatment, as well as monitoring and instrumentation to provide comfort that we can manage direct potable reuse if / when that is permitted and publicly supported.
    - **Marsi Steirer** – Our current research at the AWP Facility is examining how to make the water safe and satisfy the regulators should DPR be implemented. We want to identify what additional treatment could replace the environmental barrier – the reservoir – and guarantee quality.
    - **Jeff Pasek** – The key to protecting public health is multiple barriers. If the reservoir isn't there, we want to know what other barriers we can use to account for its absence.
    - **Marsi Steirer** – Questions have been raised about the cost of the pipeline – if we didn't do the pipeline (i.e. we implement DPR) what would be the savings? The Division of Drinking Water will add conditions for DPR which may offset some of the cost savings associated with avoiding a pipeline.

Key Observations & Recommendations

Ms. Tennyson led an exercise soliciting preliminary observations, questions and requests for further information from the Working Group regarding Pure Water San Diego. The categories of comments received included outreach, program delivery, water quality/safety, water resources, DPR, schedule, experts, rates/funding, sustainability and a miscellaneous category. The bulleted items below represent the observations of the Working Group. The need for outreach garnered the most comments from Working Group members. These themes/issues will be reinforced in subsequent workshops and going forward in the program.

<u>Outreach</u>

- There is still a significant PR problem for water reuse (as seen in recent media publications)
- Need more public awareness/education
- Outreach on "true cost" of water, so that water service customers understand the cost of IPR/DPR in context
- Public needs to understand that there is no "silver bullet" to solve San Diego's water.
- Provide an information sheet in PDF that can be distributed through all contact networks, organizations etc. (but it has to be simple, clear and accurate)
- History of previous SD attempts
- Highlight/ emphasis on other city, country's reuse- including military
- Why haven't we done it before?
- Less technical PowerPoint message
- More simplistic messages- hydrologic, SD water supply, examples of where we get water.
- We will not be able to get rid of the phrase "toilet-to-tap"
- Public support is crucial and outreach even beyond SD city will be necessary
- Could even more outreach be done?

- Need a broader survey of acceptance across all customers who would receive this water to help identify potential challenges
- Where is public opinion at this point?
- What's the level of awareness and acceptance?
- What are the barriers?
- Geographic isolation - Central stays central and south stays south
- Need stronger connection between Pure Water and drought prevention
- Public Service Announcements run on all stations
- Missing key sports figure/athlete to promote Pure Water
- Missing Pure Water Comic Con action hero to promote drinking water to tourism business
- In public outreach, emphasize the multiple safety barriers regardless of which process (IPR or DPR) is ultimately used
- Education of the public through stakeholder groups such as this, is an excellent idea
- Providing a synopsis that the attendees can use to go back to their organizations or publish in newsletters was a great idea
- Outreach to a broader, diverse community (South of the 8)
- Outreach to areas south of SR94
- Making the message to the general public simple
- Overcoming the "yuck" factor
- Why is desalination not a total solution for San Diego?
- Drive a stake through the "yuck" factor
- In public outreach, don't oversell the importance of the reservoir. It raises a public expectation that will have to be overcome if we switch to DPR
- Public outreach is necessary to demonstrate absence of public health, scientific and technical barriers and supply issues

Rates / Funding

- Costs will be important
- Bottle water treatment process could be compared as well as oversight
- See this as bigger than Point Loma offloading. Ratepayers may need to get to choose between: water conservation, potable reuse and ocean desalination
- How much money are we willing /able to spend on water supply and where do we want to spend it?
- Most people will ask how this compares to ocean desalination, which sounds more palatable
- Please spend more time comparing the two processes (desalination and potable reuse) on cost, environmental, purity, safety
- Need source (Pt. Loma) to reuse discharge point for IPR and DPR scenarios
- San Diego is positioned perfectly to secure funding and support to drive regulations and deliver this project in light of additional opportunities that will arise if this drought continues or another arises in future

Environmental/ Sustainability

- Pure Water is an important part of sustainability even without periodic threat of drought
- Pure Water sustains our economy

DPR/ IPR

- DPR may not be cheaper
- Investigate opportunities for small scale DPR from the existing demonstration project to jump-start acceptance of potable reuse
- How will DPR provide time to respond in the event treatment does not meet specifications (like IPR does)?

Schedule

- Do everything possible to speed up the schedule
- 2035 is too far off for most people to relate to
- The effort could have moved faster if we had the ability to be engaged between meetings
- There is a need for a forum or private FB/Linkedin group for discussion
- Move "Pure Water" forward as quickly as practical

Experts

- Being able to question the people actually working on this project and others such as Orange County has been very helpful

Miscellaneous

- Waiver renewal
- Fed legislative changes needed to make this happen
- Matt O'Malley (Coastkeeper) indicated that he will voice any concerns or recommendations during the Technical Advisory Board meetings
- Need concise story or white paper on the avoided need for secondary treatment at Point Loma through the Pure Water program
- We need to make sure that Pure Water does not distract the city from maintaining, updating, and replacing other water infrastructure
- Recycling water is not an option; it is absolutely critical

Water Resources

- Self-sufficient
- Need to maintain a strong emphasis on conservation indoors and outdoors

Program Delivery

- I am very supportive of the project
- The project seems to be extremely well run
- Efficient
- Smart

Water Quality/Safety

- Safe
- San Diego already has a robust process of protections against industrial chemicals and pharmaceuticals (spills) entering wastewater steam and thus affecting Pure Water
- Multiple barriers between the "toilet to tap" (showers to flowers)
- Purified water is better quality than imported water

- Superior
- Can we quantify the risk of NOT stopping a known contaminant before drinking?
- Ground water recharge sounds like it provides more filtration and dilution
- Today's information was helpful to explain how much filtration and further purification occurs in reservoir
- Would like to see an equivalent presentation on safety and barriers for DPR

Questions/comments included:

- **Sean Karafin** – Request to evaluate what the risk of exposure is due to failure of the processes. What are the fail modes?
- **Leah Browder comment** – You need to build in discussion of desalination vs. indirect potable reuse in a future workshop.
- **Joe La Cava** – Emphasize sustainability and de-emphasize drought discussion as this drought will not be resolved with IPR (long schedule).
- **Ken Williams** – Tourists come through San Diego; touch base with Orange County Chamber of Commerce/Disneyland regarding any impacts they have experienced since the GWRS project started.
- **Mike McSweeney** commented on the emotional issues surrounding recycled water/potable reuse
- **Cary Lowe** – Has there been research on how to counter "toilet to tap"?
    - **Ed Means** – We are not aware of specific research but will look at work the WateReuse Research Foundation has done.

Several participants agreed to meet off-line with Sara Katz and the outreach team to provide input on messaging. These included David Kodama, Chanelle Hawken, Cary Lowe, Joe LaCava, and Mike McSweeney.

Next Steps / Workshop #6

Ms. Tennyson reviewed the content of Workshop #6 which will include information on rates and outreach. PWWG members suggested additional comparison information on desalination and potable reuse would be helpful. The draft Speakers Bureau presentation will also be reviewed with the Working Group.

Conclusion

Patricia Tennyson thanked the group for their participation and the meeting closed at 11:30 a.m.

Meeting Summary: Meeting #6

September 17, 2014

Meeting 6: Working Group Members Present

Eric Armstrong
Donna Bartlett-May
Meagan Beale
Leah Browder
Dr. Rick Gersberg
Kea Hagan
Sean Karafin
David Kodama
Joe LaCava
Cary Lowe
Melanie Nally
Lucas O'Connor
Matt O'Malley
Jim Peugh
Keith Solar
Tim Taylor
Gail Welch
Rick Wilson (representing Julia Chunn-Heer)

Pure Water Team Members and Observers

Megan Drummy
Brent Eidson
John Gavares
Lee Ann Jones-Santos
Sara Katz
Ed Means
Sarah Mojarro
Beth Murray
Alma Rife
Ann Sasaki
Deanna Spehn
Patricia Tennyson

Pre-Meeting Welcome and Introductions

John Gavares, meeting facilitator, opened the meeting at 8:35. Mr. Gavares provided a general overview of the meeting objectives and agenda.

Overview of the Pure Water San Diego Program Effects on Rates and Discussion

Ann Sasaki indicated the permit renewal application for the Point Loma Wastewater Treatment Plant must be submitted to U.S. Environmental Protection Agency in January of 2015. The City will apply for another modified permit based upon a goal of implementing 83 million gallons per day (mgd) of Pure Water including 15 mgd by 2023, an additional 15 mgd by 2027 and a final increment of 53 mgd by 2035. These are goals because they fall outside of the term of the USEPA 5-year permit period. The Metro JPA is supportive of these goals as are the environmental stakeholders the City has been working with. The City Council will consider the cooperative agreement with the environmental stakeholders in closed session on October 7, 2014 and in open session on October 28, 2014.

Lee Ann Jones-Santos presented the cost of Pure Water San Diego vs secondary treatment at the Point Loma Wastewater Treatment Plant. The capital cost of PWSD is $1.98 billion compared to $2.1 billion for converting to secondary treatment.

Questions included:

- **Melanie Nally –** Questioned the external funding
    - **Lee Ann Santos Jones –** We assume that we will be pursuing grants and loans to supplement funding. We assumed 20% grant funding and some flexibility is included in the range to allow variations in funding success.
    - **Joe LaCava** – You still have to fund Point Loma otherwise.
- **Melanie Nally –** In 2016 what are ratepayers paying?
    - **Lee Ann Jones-Santos –** We are starting the Cost of Service study now, which will set 2016 rates. With preliminary planning we would include a 1% increase just for Pure Water.
- **Tim Taylor –** Do these cost projections include increases in wholesale cost of water?
    - **Lee Ann Jones-Santos –** No, they do not. We are working on those elements as part of the cost of service study.
- **Melanie Nally –** Does this include grants and loans?
    - **Lee Ann Jones-Santos –** We are trying to be as conservative as possible with regard to grants and loans.
- **Joe LaCava –** What do you include in water vs wastewater costs?
    - **Lee Ann Jones-Santos –** We are being conservative and have some flexibility. The highest potential rate increase is what we are providing in these slides. The specific break between water and wastewater has not been worked out yet. We are working with the Participating Agencies on the proper split. There is a benefit to the wastewater side to not go to secondary treatment.
- **Sean Karafin –** What is the definition of "typical"?
    - **Lee Ann Jones-Santos** – The reason we use "typical user" to characterize cost impacts is two-fold: we looked at customer base and who uses water, which considers the tiered pricing. There is a "bell curve" of users who fall around 12 HCF, which is roughly the median. 71% of our bills are 12 HCF or lower.
- **Jim Peugh –** Can you provide some clarification of the table in Slide 11?
    - **Lee Ann Jones-Santos –** As we looked at the facility plan we added the supporting treatment cost line. In 2050 ,this cost will be approximately $3B (Capital and Supporting Treatment costs). There are cost savings in reducing the amount of imported water the City has to buy. The total capital cost considering imported water purchases is $20.73B vs $23.4B if secondary treatment has to be implemented.
- **Jim Peugh –** Seems like including the treatment costs that would have been included with secondary doesn't seem appropriate.
    - **Ann Sasaki –** The costs are for specific capital costs (not operating costs). "Supporting treatment costs" are non-recurring.
- **Sean Karafin –** Why aren't there operating costs shown?
    - **Lee Ann Jones-Santos** – We are not ready to roll out the operating costs yet. But they are included in the rate percentages shown.

- **Joe LaCava –** Is this table capital and the next graph includes operating costs?
    - **Lee-Ann Jones Santos** – Yes. We are showing apples and apples. We do have some estimates in the rates for continuing operating costs.
- **Eric Armstrong –** When will you populate the rest of the rate components (desalination, imported water, etc.)?
    - **Lee Ann Jones-Santos –** We are starting the cost of service study in September. The Council briefings will start in May. In October 2015 the council will conduct a hearing on rates and any rate increases will go into effect in January 2016. Pure Water costs are estimated at $1,700-$1,900/AF (including subsidies). Desalination is estimated at $2,200/AF.
- **Eric Armstrong -** What does it cost to get water from the Water Authority (Colorado River Water)?
    - **Lee Ann Jones-Santos --** $1,100/AF
- **Eric Armstrong –** So does the cost for Pure Water begin with secondary treatment? Are you including the cost of secondary treatment in the cost of Pure Water?
    - **Ann Sasaki –** We are including costs to treat water after our existing process for wastewater. At North City we already have an existing plant, so it is the additional treatment. At Harbor Drive, it requires a whole new treatment plant.
- **Cary Lowe –** By a year from now when new rates get to City Council, is there any consideration given to changing the way rates are approved in the City (e.g., Shift it to IROC or some other appointed group)?
    - **Lee Ann Jones-Santos –** No changes are anticipated, but we are actively discussing the need for the changes with the council. We will come back to you with the cost without loans as well as the imported water costs in 2035.
- **Gail Welch –** Show chart/narrative with numbers and descriptors that show the costs, and advantages and disadvantages including risks of future supplies. Be able to respond back to constituents.
- **Joe LaCava –** These questions will be typical of what you get. I didn't hear about where the financial risk factors are.
    - **Lee Ann Jones-Santos –** The goal was to be sure there was some flexibility in the rate ranges to accommodate some changes. There were multiple options in the recycled water study. The range of rate increases is to show we were preliminary in our estimates. It would have to be a material change to really affect those ranges. How the cost allocation between the water and wastewater funds plays out will affect the split.

Mr. Gavares posed several questions to the group:

1. What aspects of the presentation did you view as especially positive?
2. Do you have any recommendations to the team regarding how to present this information?
3. What questions/concerns do you still have about what you heard?

- **Jim Peugh –** We learned Pure Water is not free and it is irrational to discharge wastewater into the ocean.
- **Cary Lowe –** I like it in and of itself. Separate issue from Point Loma – best step for the City in securing its water future. Rates seem to be well within any of the increases we anticipated. It is not a rate level that would concern most people.
- **Rick Wilson –** Pure Water San Diego costs seem reasonable.
- **Eric Armstrong –** Good job characterizing secondary treatment issue vs achieving same goal through diverting wastewater and reusing it. Complex issue. I think we have the numbers now and we wanted to get to that. I have been looking for a definitive cost comparison that is supported and am pleased we have that. Would like to see it in some sort of a chart. I previously requested a white paper describing the program.
- **Gail Welch –** Chart on p.11: Provide more clarification what treatment costs were. With Pure Water, every iteration you have less to work with. Are there any volumes that go with this (not just cost)? What is the assumption in acre-feet that we would avoid buying from vs produce from the plant? Show one-time capital cost incurrence.
- **Lucas O'Connor –** On page 14, what is the impact without the program on household monthly cost? Get some resolution on the impact of Proposition A on potential funding.
- **Rick Gersberg –** On desalination comparison, the Water Authority provided $2,200. Is that subsidized?
    - **Keith Solar –** No, it is not subsidized.
- **Rick Gersberg –** Are brine disposal costs included in Pure Water? Where does the brine go?
    - **Ann Sasaki –** Yes, the brine will go back into the sewer system with the North City Plant 15 mgd. With Harbor Drive we will look at other options rather than sending it to Pt. Loma.
- **Joe LaCava –** On the chart, is the volume of water per year, or is it for 25 years?
    - **Lee Ann Jones-Santos –** It is cumulative costs (not by year). We have an escalator in the water purchase assumptions.
- **Joe LaCava –** Breakout between water and wastewater is confusing. On the initial presentation it raises questions that aren't material for some audiences, so you might want to avoid leading with it.
    - **Lee Ann Jones-Santos –** We are very sensitive to keeping the water and wastewater funds separate. We understand that it causes some confusion. Maybe we should lead with slide 11 that shows the total residential cost.
- **Matt O'Malley –** Don't compare to doing nothing. Comparing desalination to potable reuse should be desalination plus secondary. There isn't a "do-nothing" option.
- **Tim Taylor –** What about costs beyond 2020 and not residential costs?
- **Sean Karafin –** City is doing a good job in bringing in stakeholders. The cost compared to desalination seems to get lost. We need to talk about it more. I am getting very frustrated with the order of things: always coming out with preliminary numbers makes it difficult for me to convince my stakeholders. It is difficult to ask my stakeholders for support without all

the information. The cost of service study will give all the details but we have to take your word for it now.

- **Melanie Nalley –** I echo what Sean said and have the same situation. I don't understand why there can't be slides like the residential one developed for businesses. What happens if the water bond doesn't pass? What are alternative funding opportunities? What is reliability of the projection?
    - **Sara Katz –** Other sources of funding include Prop 84 and Prop 50 and State Revolving Fund financing.
    - **Brent Eidson –** On the federal side there is Bureau of Reclamation funding and some funding through the USEPA. Recently, the passage of the Water Infrastructure Finance and Innovation Authority (WIFIA) provides another opportunity for funding. We have discussed funding with legislators and their representatives in Washington DC.
- **Jim Peugh –** The cost of service study will only be for a couple years and Sean Karafin may want something longer. I wonder if the two projections are redundant. The one for dollars suffices for both. You should run them out to 2035.

Ongoing and Planned Outreach Activities

Brent Eidson presented an overview of the objectives of the communication program. Sara Katz presented the current and planned outreach efforts. The details of the presentation are included in the slide handouts. The program is multifaceted and comprehensive, spanning all media and stakeholder groups. Specific near term actions are anticipated while Pure Water San Diego is launching and many will continue for the duration of the program. She said that a sub-group of the Pure Water San Diego Working Group met last week to discuss messaging. The strategic message platform was discussed and includes:

- Pure Water San Diego will provide a safe, reliable and cost-effective drinking water supply for San Diego.
- Pure Water San Diego uses proven advanced purification technology and is environmentally friendly.
- Pure Water San Diego provides a locally controlled, drought-proof water supply.
- Pure Water San Diego eliminates the need for expensive upgrades to the Point Loma Wastewater Treatment Plant. (Select audiences only)

Ms. Katz discussed the following questions in the context of the outreach program:

- How to maintain momentum?
- What is the "ask" of the public?
- Ways to handle "Toilet to Tap"?
- Slogan – "It's all about reliability"?
- Balance between conservation / drought / Pure Water?
- IPR / DPR?

- How investments (aka rates) tie into the story?
- Balance with wastewater benefits and water story?

Patsy Tennyson added she would make the WateReuse Association's Public Education and Outreach Committee's discussion of potable reuse terminology and context available to the group for their information.

Comments included:

- **Jim Peugh –** What are the specific messages that resonate and respond to "Toilet to Tap"? I am concerned that the treatment angle doesn't resonate. Don't we have the funding to conduct a poll? We need to know exactly how to respond. That is our biggest challenge.
    - **Sara Katz –** No silver bullet; City does not have the funding to do the research on this.
    - **Patsy –** "Toilet to Tap" will be with us forever. Embrace it and move on. The folks at OCWD respond this way: "You can call it whatever you want, but here is what it really is."
    - **Brent Eidson –** Another argument is that we already have dischargers upstream. What do you think currently happens before it gets to us?
    - **Deanna Spehn –** When I have had to respond to this question I ask: Where do you think your water comes from now? Open rivers already have recycled water in them. In fact, there are various sites that have purification systems already in the country. We are late to the game. Most people that call are wondering why the City isn't moving faster. They would also like to see more desalination. They are asking the city to find us a local water source.
    - **Alma Rife –** You can't be defensive when someone says this. Don't embrace the phrase, but use it as a stepping-stone to educate people about what water purification is. Acknowledge it and move to the facts.
    - **Lucas O'Connor –** My comment is about the message point about saving money on the upgrades to Pt. Loma. If I were cynical, my response would be that you want to spend $3B to save $2B. As a standalone message I am wary about throwing out the $3B number. What would the rates look like if you don't go down this road? Would be good to compare and focus on the savings.
        - **Sara Katz –** We wouldn't use the Point Loma message point in general audiences – only with the environmental community.
- **Jim Peugh –** All the presentations are PowerPoint, but can they be handouts? Do hikers use this technology to purify water? It bothers me we are spending all this money and we are not doing any message testing (even though it is being done nationally). I believe we should be doing more testing of messages locally. I would never spend this much money without doing the research.
    - **Rick Gersberg –** An example of a technology people might be familiar with is the "Lifestraw"; it is a membrane.

    - **Jim Peugh –** Put brown dye in water and show what a Lifestraw would remove. Demonstrate it visually.
    - **Rick Gersberg –** Life straw is ultrafiltration.
    - **Patsy Tennyson –** The WateReuse Research Foundation project on DPR acceptance has done a telephone survey in the city of San Diego, so we do have data on messages.
    - **Ed Means –** The Working Group could recommend more local message research in their findings/recommendations.
- **Cary Lowe –** Is it really that necessary to maintain momentum through the entire 7-8 year period? Maybe you should just focus on the key decisions/events and message around those. Unless there is negative controversy, it isn't necessary to maintain positive momentum. Maybe can react as needs arise.
    - **Brent Eidson –** We don't want to backslide, so we need to keep people informed.
- **Melanie Nalley –** It is compelling that it is already happening. You can talk about the fact that until now we have considered water an infinite resource. Now we are seeing it as finite. But I keep having an image of people seeing a glass of sewer water and being concerned about drinking it. It is not a great visual to show people sewage water. I want to see an end product that looks great.
- **Rick Gersberg –** On branding toilet to tap, I have to compliment you and the City for coming up with a simple name: Pure Water. It is effective. Give people a simple way to say it.
- **Eric Armstrong –** Acknowledge Pure Water and move on (As in the Jack Black movie Last Stop at the Oasis: Porcelain Springs – get a laugh and move on). If reverse osmosis could be simply explained it would help; we're taking water mixed with organic material and using 1500 psi of force to press it through a fine membrane and the only thing popping out is molecular water.
- **Keith Solar –** Poseidon had an effective demonstration of reverse osmosis for desalination.
- **Tim Taylor –** People are comfortable with how nature recycles water. Draw the natural comparison to what we are doing.
- **Joe LaCava –** Need to sustain the momentum of conversations: this is coming to your neighborhood.
- **Leah Browder –** The PA's are excited about San Diego leading. You need to partner with Coastkeeper and Surfrider to engage the college community to create a sustainable group of supporters.
- **Cary Lowe –** We talked about maintaining momentum on Pure Water or on "water consciousness" generally. They are different things. Maybe if you feel momentum needs to be maintained, talk about Pure Water in the larger context of reliability/sustainability**.**
- **Jim Peugh –** Talk about water molecules going up to the sky, build a mineral analogy to RO.

Key Observations and Recommendations

Mr. Means and Mr. Gavares facilitated a discussion of potential Working Group findings and recommendations. Draft recommendations (updated to reflect the feedback provided at this meeting) will be sent to the group in advance of the October meeting so that Working Group members can provide additional feedback.

Water Resources statements:

- **Melanie Nally –** Clarify why water use efficiency is a "way of life" and/or say that it needs to be a way of life.
- **Jim Peugh –** It should state that water efficiency must be a way of life.

Water Quality/Health and Safety statements:

- **Rick Gersberg –** More information should be included as "color" commentary: operated for six years, how much the facility produces, etc.
- **Jim Peugh –** Add information about the Demonstration Project and how the technology was proven.
- **Melanie Nally –** More language about drinking water treatment practices: strict adherence, compliance with federal and state regulations, met or exceeded standards.
- **Cary Lowe –** The third bullet raises the alarm rather than helps. Say "ensures water safety" instead.
- **Joe LaCava –** The third bullet is not necessary. Should also remove GWRS from first bullet and use a more general term.

Point Loma statement:

- **Ed Means –** Maybe it could be changed to say "multi-benefit solution to water supply and infrastructure needs".
- **Jim Peugh –** At least need to change the order; the reliance supply part should be the lead
- **Rick Wilson –** This information will need to be presented carefully.
- **Keith Solar –** You could risk people thinking we will spend money to drink toilet water.
- **David Kodama –** The messaging should fit with what other agencies and regulators are saying. We should know what messages are already out there so they don't contradict.
- **Sean Karafin –** Include information about how the program is achieving the same results or building upon secondary equivalency.
- **Rick Wilson –** San Diego is not avoiding spending this money, we are just looking at the best way to spend it.
- **Lucas O'Connor –** These should not be referred to as "strawman statements." It should be called "refuting strawman statements" or "Working Group draft principles/statements."
- **Joe LaCava –** There is a fine path of it not seeming like only the environmental groups are in favor. It shouldn't be framed as purely environmental.
- **Matt O'Malley –** We also discuss the economic benefits.

- **Gail Welch –** If businesses don't have reliable water they may not consider expanding here. Something like "Water reliability that supports local businesses in San Diego" should be included.
- **Joe LaCava –** The program will solve Point Loma issue in a sustainable way.
- **Leah Browder –** Need federal legislation to allow secondary equivalency. Local and State support will be required to influence the federal regulators. There is fear that Point Loma will need to be upgraded anyway. This is also sensitive to the schedule.
- **Joe LaCava –** This is information that will be sent to decision makers, not the general public.

Rates statement:

- **Cary Lowe –** Need to clarify that rates will increase no matter what.
- **David Kodama –** Personalize the information more; it's not just the City's future, it's families, future generations, quality of life.

Outreach statement:

- **Jim Peugh –** Add that the concerns of all different communities are being addressed.

Schedule statement:

- **Lucas O'Connor –** Using "expedite" makes it sounds like the City is cutting corners. Include "due diligence" or "proceed aggressively" or "prudently".
- **Joe LaCava –** That the program uses less energy and could reduce greenhouse gases is a good point for some people.
- **Sean Karafin –** Should emphasize the cost-effectiveness of the approach; greenhouse gases are being lowered in addition to providing new water source.
- **Jim Peugh –** Also need to note that regional leadership is needed.

Distribution statement:

- **Sean Karafin –** This makes it seem like people just have to deal with receiving the water.

Next Steps / Workshop #7

Mr. Gavares reviewed the content of Workshop #7 that will focus on findings and recommendations.

Conclusion

Mr. Gavares thanked the group for their participation and closed the meeting at 12:00 p.m.

Pure Water San Diego Working Group Meeting Summary: Meeting #7

October 15, 2014

Meeting 6: Working Group Members Present

Eric Armstrong
Dr. Rick Gersberg
Sean Karafin
Sara Kent
Joe LaCava
Cary Lowe
Lucas O'Connor
Mike McSweeney
Jim Peugh
Alisa Reinhardt (representing Chanelle Hawken)
Keith Solar
Tim Taylor
Scott Tulloch
Gail Welch
Meena Westford
Ken Williams
Rick Wilson (representing Julia Chunn-Heer)

Pure Water Team Members and Observers

Megan Drummy
Brent Eidson
Alejandra Gavaldón (representing Mayor Faulconer's office)
John Gavares
Sara Katz
Ed Means
Halla Razak
Alma Rife
Ann Sasaki

Pre-Meeting Welcome and Introductions

John Gavares, meeting facilitator, opened the meeting at 8:30. Mr. Gavares provided a general overview of the meeting objectives and agenda. He solicited comments related to the minutes from Meeting 6; there were none. An update was provided on the hiring of the new "Technical Services Support Team" (program manager) and a recent trip to Washington D.C. to meet with U.S. Environmental Protection Agency staff and legislators.

Review of Work Product / Revised Preliminary Report

The PWWG split into three breakout groups to craft their input statements. Each group appointed a spokesperson. The breakout groups deliberated for about 90 minutes. The PWWG reassembled and the spokespersons presented their work product to the PWWG. The PWWG group-edited the statements producing the following set of input statements that will be featured in the draft report. The refined draft statements are italicized and categorized by general topic.

Water Resources

- *San Diego imports 85% of its water from distant sources. These sources are impacted by increasing demands of other users, recurring drought and changing climate, and environmental constraints and judicial decisions that restrict the amount of water that can be pumped.*

- *San Diego needs a reliable and sustainable source of water to support our economy and quality of life.*

- *The City is currently wasting water into the ocean. The Pure Water San Diego program will recover this water.*

- *Pure Water San Diego provides the City with a reliable and locally controlled supply of water.*

- *Water is a limited resource. The City and its citizens and businesses must continue to increase conservation and water use efficiency.*

- The Pure Water San Diego program uses less energy than imported water and desalination, and helps meet the goals of the City's Climate Action Plan. (This will be added to the draft report if fact checking verifies the accuracy of the statement and PWWG agrees).

Water Quality / Health & Safety

- *Orange County's Water District's potable reuse project has successfully operated for 6 years delivering over 425 billion gallons of high quality drinking water. The project produces enough water for nearly 600,000 residents. The purification process uses advanced water treatment purification technology (including reverse osmosis) to produce water that meets or exceeds all state and federal drinking water standards. Its project has enjoyed such broad community support they are expanding it.* This statement has been verified with the Orange County Water District.

- *Purified water is safe to drink. The City of San Diego conducted an extensive, expert-reviewed, water purification demonstration project. The project again confirmed the effectiveness and safety of the technology planned for Pure Water San Diego. When mingled with current supplies, it will improve the overall quality of the City's water resources.*

Clean Water Act Permitting

- *There is significant risk that the City will not be able to continue getting a 5-year wastewater discharge permit at the Point Loma Wastewater Treatment Plant without expensive upgrades. Pure Water San Diego resolves the permit issues and redirects the $1.8 billion that would be required to upgrade Point Loma to Pure Water San Diego, producing a high quality water supply for the City.*

- *Pure Water San Diego will provide the city with a reliable supply of water to support our economy and quality of life. It is a sustainable and cost-effective way to meet EPA requirements for ocean discharge from the Point Loma Wastewater Treatment Plant.*

- *We support the City's efforts to achieve federal support of secondary equivalency.* (Note: secondary equivalency will be further explained in the draft report)

Schedule

- *We recommend the City proceed urgently on this important program that will provide a locally controlled source of water.* (Note: This will be included as part of the lead narrative in the draft report)

- Regional leadership continues to be essential to ensure successful implementation. (Note: This will not be included in the statements but will be included in the draft report)

Rates

- *Water rates will rise and San Diego remains vulnerable to water cost increases beyond our control. The investment required for Pure Water San Diego protects ratepayers.*

- *Secondary equivalency is necessary to make the program cost-effective.* (Note: this will be expanded upon in the draft report including an explanation of water waste at Point Loma, permit requirements and opportunity for San Diego).

Outreach

- *Pure Water will benefit all San Diegans.*

- *We strongly support ongoing public outreach that encourages residents and businesses in all San Diego communities to learn more about Pure Water.* (Note: information about taking a tour of the AWPF will be included in the draft report)

The revised statements will be submitted to the PWWG on Friday, October 17th. The PWWG members in attendance approved the use of the revised input statements as "Draft" input to the City Council at their planned November meeting. Some members indicated they would need to get their respective board's approval prior to formally endorsing the final statements. The PWWG will be notified of the date of the City Council meeting once confirmed. Some members indicated their interest in attending.

The statements will be incorporated in a draft report for review by the PWWG.

Next Steps / November Workshop #8

Mr. Gavares discussed the November Workshop #8. The workshop will focus on the draft PWWG report. The meeting date and location is being coordinated with the Mayor's schedule and confirming information will be sent to the PWWG as soon as it is available.

Conclusion

Mr. Gavares thanked the group for their participation and closed the meeting at 12:30 p.m.

Pure Water San Diego Working Group Meeting Summary: Meeting #8

November 13, 2014

Meeting 8: Working Group Members Present

Eric Armstrong
Donna Bartlett-May
Meagan Beale
Chanelle Hawken
Sean Karafin
Sara Kent (representing Marco Gonzalez)
Joe LaCava
Cary Lowe
Lucas O'Connor
Matt O'Malley
Jim Peugh
Keith Solar
Tim Taylor
Gail Welch
Kenneth Williams
Rick Wilson (representing Julia Chunn-Heer)

Pure Water Team Members and Guests

Megan Drummy
Brent Eidson
Mayor Kevin Faulconer
Alejandra Gavaldon
John Gavares
Sara Katz
Ed Means
Sarah Mojarro
Halla Razak
Alma Rife
Patricia Tennyson

Pre-Meeting Welcome and Introductions

Ms. Razak opened the meeting by thanking the participants for their dedication and work over the last seven months. Mr. Gavares, meeting facilitator, then provided a general overview of the meeting objectives and agenda. An update was provided on the press conference planned by the Mayor and the November 18 City Council hearing on the Point Loma Wastewater Treatment Plant waiver application.

Review of Work Product / Revised Preliminary Report

Mr. Means facilitated the Working Group review of the input statements in the draft report. The language was projected on the screen and the Working Group collectively edited the statements. A consensus set of input statements were agreed to and will be documented in the final report. The PWWG members were invited to sign the signature page of the draft final document.

Mayor Faulconer

The Mayor joined the group at 10:40 to thank them for their hard work and dedication to learning about the program and providing valuable input to staff as the City of San Diego considers Pure Water

San Diego. The group then broke for 45 minutes to participate in the Mayor's press conference at the Advanced Water Purification Facility.

Next Steps

The Working Group's mission has been completed, however members were invited to reconvene periodically for briefings on project activities and to join, as appropriate, in supporting the implementation of the Pure Water San Diego Program. The Final Report of the Working Group will be circulated and remaining endorsement signatures obtained.

Conclusion

Ms. Razak closed the meeting at 12:00 p.m. and again expressed appreciation to the group for their participation.