

Location: Virtual
Address: Zoom Call
Purpose: Bi-Monthly Meeting
Date and Time: February 9, 2021 from 11:30 a.m. – 1:00 p.m.
Distribution: Los Angeles WaterReuse Association Chapter Members and Supporters

Below is a summary of the highlight from the February 2021 bimonthly member meeting of the Los Angeles Chapter of the WaterReuse Association.

The presentations from this meeting can be found at:

<http://www.watereuse.org/sections/california/losangeles/meetings>

1. **Host Presentation: MWD Regional Recycled Water Program** (*Raymond Jay/Metropolitan Water District of Southern California*)

Raymond Jay is a Senior Research Specialist at MWD and has been with MWD for 15 years. MWD is the nation's largest wholesaler of water importing water from the northern Sierra Nevada mountains and the Colorado River while serving 19 million people over 5,200 square miles.

MWD is providing a new regional water source for Southern California via its Regional Recycled Water Program (RRWP) including up to 150 mgd of purified recycled water. The purified recycled water will replenish groundwater basins, be sent to industries and, ultimately, may connect to MWD's water treatment plants. The proposed treatment process is planned to include membrane bioreactors (MBR), reverse osmosis (RO) as well as Ultraviolet/Advanced Oxidation Process (UV/AOP). The benefits of the program include preparedness for earthquakes and droughts, groundwater basin replenishment, helps to meet the growing economy and population at a cost comparable to other local water resources, as well as utilizes treated wastewater that is currently sent to the ocean. The studies and reports that have comprised the RRWP thus far include 2012 Pilot Scale Studies, 2016 Feasibility Study Report, 2019 Conceptual Planning Studies Report, 2019 Demonstration Plant complete with Tertiary and Secondary MBR Testing as well as Proposed DPR Testing, and an Environment Planning Phase that is currently underway.

One of the major partners for the RRWP is the Los Angeles County Sanitation Districts (LACSD) which manages wastewater and solid waste for 24 special districts over an 850-square mile service area serving 5.6 million people within Los Angeles County. LACSD manages the Joint Water Pollution Control Plant (JWPCP) with an average flow of 260 mgd and a permitted capacity of 400 mgd that includes primary and secondary treatment and currently discharges to the ocean.

The RRWP is estimated in 2018 dollars to be \$1,054/AF for the capital unit cost and \$772/AF for the O&M unit cost when considering the full program. The MWD Board is to determine the payment approach involving direct recipients, everyone involved in the RRWP, the area tax base and a hybrid approach to pay for the program which is dependent on the final location of the actual pipeline and who will be served. Agency coordination involves the collaboration of partners, Letters of Intent (LOI), joint technical studies, future purified water purchases and funding partners including the California Water Boards and the Bureau of Reclamation. MWD has received more than \$2 million in grants awarded to date including the USBR Title XVI Reuse Research Grant and the California Water Recycling Funding Program (WRFP) State Prop 1. The potential future grants and loans include USBR Title XVI, the California WRFP state Proposition 1, USEPA Water

Infrastructure Finance and Innovation Act (WIFIA) program, and the California Clean Water State Revolving Fund (CWSRF).

The environmental planning phase includes a Program Environmental Impact Report, engineering and technical support studies for treatment and conveyance and a public outreach support component. In the interest of assuring this important resource can be developed and is operational in a reasonable period of time, the environmental community encouraged MWD to move forward with the RRWP and CEQA review. It is projected that start-up and testing will occur in 2032. For more information on the RRWP and the Regional Recycled Water Advanced Purification Center, visit <http://www.mwdh2o.com/RRWP>.

2. Technical Topic: Update on PFAS Occurrence and Treatment Evaluation (*Nicole Blute/Hazen and Sawyer*)

Nicole Blute is a Vice President at Hazen and Sawyer in the Los Angeles office and leading teams that focus on drinking water treatment. She has over 24 years of experience with a focus in distribution systems, water quality, remediation, groundwater treatment, corrosion control and water stabilization, and operational optimization in these systems. Nicole specializes in technology testing for new and emerging contaminants such as PFAS. She is a trustee for AWWA Water Science and Research Division, was a technical editor for Cal-Nevada AWWA Source magazine for five years and currently serves as the associate editor for the AWWA Water Science Journal.

Sources of PFAS include firefighting foams and are present in nonstick cookware like Teflon. PFOA are present in nonstick surfaces. PFOS are in firefighting foam and fabric protection. There are over 4,000 compounds that make up this class of PFAS compounds including polyfluoroalkyl substances as well as perfluoroalkyl substances. The carbon-fluorine (C-F) bond is one of the strongest known covalent bonds and became known as a “forever chemical” with its difficulty in degrading. The multiple C-F bonds in PFAS provide their chemical and thermal stability.

Drinking water notification limits in California are 5.1 nanograms per liter (ng/L) for PFOA and 6.5 ng/L for PFOS, with response levels of 10 ng/L for PFOA and 40 ng/L for PFOS. In addition to state action, there is an indication from the new federal administration that they intend to regulate two PFOA and PFOS compounds. The regulatory path to establishing an MCL for PFAS in California started with USEPA’s health advisory limit of 70 ppt combined for both PFOA and PFOS. The notification levels were set by DDW, relying on analysis by California Office of Environmental Health Hazard Assessment (OEHHA). A Public Health Goal is expected from OEHHA in 2021 which will form the basis for an MCL in late 2023 or 2024. Other compounds that California is considering regulating include PFBS, with a recently posted notification level of 500 ppt, as well as PFHxS, PFNA, PFHxA, PFHpA, PFDA and ADONA. The recently published fifth Unregulated Contaminant Monitoring Rule (UCMR5) had 30 proposed compounds, 29 of which are PFAS compounds (the other compound is lithium). This monitoring is intended to gain an understanding of the national occurrence of these compounds.

In 2019, there have been 2,900 sampling events, where 60% of those samples have PFAS detections and approximately 100 systems with sources above the recommended limits. Using the site linked below, water system wells and wastewater treatment plants can be checked and the Geotracker tool can help sort results graphically for Southern California and PFAS where concentrations above limits are detected:

https://geotracker.waterboards.ca.gov/map/pfas_map

The Water Board issued an order requiring publicly-owned treatment works (POTWs) with dry weather design flows greater than 1 mgd to test for PFAS in influent, effluent, and RO concentrate (if applicable) as wells as biosolids also to be monitored quarterly.

Granular activated carbon (GAC) is proven to remove PFOA and PFOS, can also treat 1,2,3-TCP and VOCs, and is also performs well at disinfection byproduct (DBP) precursor (TOC) reduction. Drawbacks of GAC include longer empty bed contact time (EBCT) creating for a larger footprint required. Short chain PFAS tends to break through GAC sooner, and TOC concentrations strongly effect GAC capacity for PFAS compounds.

Ion-exchange (IX) is another leading treatment option which is used for the drinking water treatment is a proven technology. Ion-exchange can also remove perchlorate and has a shorter EBCT than GAC, (3-4 minutes for ion-exchange vs. 15 minutes for GAC) resulting in a smaller footprint requirements. The drawbacks of IX are that it is more expensive on a cost per cubic foot basis relative to GAC and there are competing anions that may affect ion-exchange capacity for the removal of PFAS.

Nanofiltration or RO can also be effective for the removal of most PFAS compounds. Its drawbacks include water loss, brine management and PFAS destruction in brine, and it is costly when compared to other options.

There are a number of studies looking at comparison of GAC, IX, cyclodextrin-based media and surface-modified bentonite for the removal of PFAS. There are also a number of different approaches including Rapid Small-Scale Column Tests (RSSCTs) that minimize amount of the testing time by crushing the media. Some groups are looking at recirculating isotherms to test the alternative media. Pilot testing can be conducted but can take a considerable amount of time since the resin can last quite a while.

3. **Water Recycling Legislative/Regulatory Updates** (*Raymond Jay/MWD*)

California Legislation

The COVID-19 pandemic has compressed the legislative calendar and limited the legislation from which they have had to prioritize certain measures. Due to the economic outlook, future bonds and funding have been reduced or removed, estimated at a \$54B deficit. Legislation has also largely been focused on economic recovery, wildfires and homelessness.

April 30th is the last day for the policy committees to report fiscal bills.

Recycled water volumetric reporting data is due April 30th every year as required by the updated Recycled Water Policy where approximately 820 wastewater and recycled water facilities are required to report influent, effluent, recycled water use, treatment and discharge type.

Climate Resiliency Bonds

- SB 230 (Portantino): SWRCB: Constituents of Emerging Concern: requires the State Water Resources Control Board to develop and maintain a CEC program for drinking water, establishes a Science Advisory Panel and science-based approach to consistently assess public health and drinking water concerns from CECs.
- SB 996 (Portantino): CECs: Science Advisory Panel and expected reintroduction in 2021 since it was removed from consideration in 2020 due to COVID-19. Currently held by author.

California Water Resilience Portfolio

- AB 1668 (Friedman, 2018) and SB 606 (Hertzberg, 2018): Water Conservation and Drought Planning: Establishes water use efficiency objectives and reporting including initial indoor water use of 55 gallons per person per day decreasing to 50 GPPD by 2030 and potable reuse credit of 10-15% for new or existing facilities
- AB 3030 (Kalra): 30% conservation of all lands, oceans and waters by 2030; held in Senate Appropriations Committee
- SB 1052 (Hertzberg): Stormwater Capture/Reuse: has WRCA support and currently held in Senate Governance and Finance Committee

Federal update

Priorities established by the National Legislative and Regulatory Policy Committee include Water Reuse Infrastructure Financing, WaterSense, Permitting of Potable Reuse and Investment Tax Credit for Industrial Reuse. Policy principles include recognizing the role of onsite decentralized water recycling systems and emerging role of stormwater capture as well as addressing the presence of PFAS contaminants that exist at concentrations that create a risk to the public welfare and the environment.

House and Senate are negotiating a COVID-19 \$1.9T relief bill.

117th Congress sworn in on January 4th, and Biden Administration to review recent regulations.

WRA has sent an Outreach letter to new administration.

FY 2020 Appropriations enacted:

- | | |
|---------------------|--------------------------|
| • CWSRF = \$1.638B | Aquifer Storage = \$10M |
| • DWSRF = \$1.126B | Innovative Water = \$1M |
| • Title XVI = \$63M | Stormwater Reuse = \$25M |
| • WINN = \$20M | Research Program = \$6M |
| • WIFIA = \$60M | Desalination = \$20M |

FY Appropriations enacted where the FY 2021 initial Appropriations request were significantly reduced. Continuing Resolution expires December 11th.

National Water Reuse Action Plan – EPA and stakeholders working on multiple implementation tasks.

4. Regulatory Agency Update

a. Los Angeles Regional Water Quality Control Board (*Steven Webb*)

- Racial equity has been a point of intention for work prioritization

b. LA County Department of Public Health (*Glenn Van Eekhout*)

- Recycled water involved projects including the LAX airport at Terminal 5 and remodel of the Bradley terminal where more dual-plumbed bathrooms would be installed
- Terminal 1.5 is complete
- Terminal 3 is underway and working on the tanks for recycled water inside the structure

- Understaffed and currently working with megapods where staff are working on the weekends at the pods assisting with the vaccine distribution on top of the normal work duties
- Working with City of Downey and other cities to get everything organized despite the loss of Viet Ha and Robert Bueras.

c. State Water Board Division of Drinking Water Programs (*Mir Ali*)

- Direct potable reuse regulations are expected to be completed by the end of 2023.
- A contract has been processed to initiate the DPR expert panel to include engineers, a public health microbiologist or scientist and a toxicologist, and expected to be formed by mid-2021.
- Latest DPR Framework document and additional information is available here:
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/direct_potable_reuse/dprframeworksecd.pdf
- Cross-Connection Control Handbook will replace Title 17 regulations and the non-potable reuse regulations will also be updated per the Cross-Connection Control Handbook. Final draft of the handbook is expected to be posted on the DDW website for public comments soon.
- Regulations for onsite treatment and reuse for non-potable end uses is being drafted and is to be finalized by the end of 2022 with posting and public hearings expected to begin early 2022. Addition information is available here:
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/onsite_nonpotable_reuse_regulations.html
- On-site reuse regulations for onsite treatment and reuse for non-potable end uses being developed.
- All Title 22 Engineering Reports for recycled water permits issued before January 1, 2001 need to be updated per the new Recycled Water Policy.
- Additional information is available here:
https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2018/121118_7_final_amendment_oal.pdf

5. California State Section Update (*Rafael Villegas*)

- WaterReuse CA (WRCA) Membership Renewals for 2021
 - Membership in the WRCA has declined – The WRCA Board will ask the Chapters to reach out to these former members to encourage renewals
 - 40 Agencies (2 not renewing), 19 companies/consulting firms, 7 affiliated organizations
- Ocean Discharge Legislation
 - There will likely NOT be reintroduction of Zero Discharge legislation this year
- SB-230 (Portantino) – Establish Drinking Water CEC Program
 - Board voted and unanimously approved recommendation to support bill
- SB 45 (Portantino) – Climate Bond Update
 - Currently \$5.5B with \$100M slated for RW

- Legislation-Regulation Committee to determine appropriate amount and request increase
- Statewide RW/Wastewater Survey
 - Agricultural reuse in CA decreased by 35% since 2015
 - WRCA sent letter to Water Board to make changes to definitions for 2021 survey
 - Board voted and unanimously approved formation of WRCA Ag Reuse Standing Committee
- Communications Collaborate Group Update
 - Developing draft signage guidelines to provide uniform message to state
- CUWA Recycled Water White Paper Outreach Effort
 - Published white paper on Facing Challenges with Maximizing Water Reuse
 - <https://www.cuwa.org/pubs/2021-maximizing-reuse>
- CWEA-WRCA DPR Issue
 - December 2020 issue has been published
 - Collaborative issue by CWEA and WRCA
 - <https://www.kelmanonline.com/httpdocs/files/CWEA/cleanwater-issue5-2020/index.html>
- WaterReuse Symposium 2021 – March 15-25 – Be sure to register
 - <https://watereuse.org/news-events/conferences/36th-annual-watereusesymposium/registration/>
- Thank you to our former Chapter Trustee, Evelyn Cortez-Davis!

6. Chapter Updates (*Judi Miller*)

The December 2020 Member Meeting Summary was approved. Announcements from the member committee included:

- *Volunteer Opportunities*
 - *Technical Committee Chair*
 - *Meeting Summary Preparation*
- Young Member Committee Update (*Alex Waite*)
 - *Everyone is welcome to our monthly happy hour sessions!*
 - *Third Thursday of the month at 5:00 pm*
 - *Good luck Nicholas Chow on your PhD at the University of Oxford!*

Membership is at the national level of the WaterReuse Association. While most of our LA Chapter participants are members via their employer, participation in the Chapter is not contingent on WaterReuse membership. However, certain activities (such as voting and holding leadership positions) are restricted to members only.

If you would like further information about your organization becoming a WaterReuse member, please contact Erin DiMenna, Director of Membership at edimenna@watereuse.org or 571.445.5505.

7. Membership Roundtable (*Jared Lee*)

Our condolences to the families, colleagues and friends of Viet Ha and Robert Bueras of LA County Environmental Health.

The Membership Roundtable is an opportunity for agencies to share their accomplishments and challenges with, or seek input from, the LA Chapter WR members.

8. Next Meetings

- April 13, 2021 – Virtual Meeting
- June 8, 2021 – Virtual Meeting

9. Adjournment 1:00 p.m.

Los Angeles Chapter Officers for 2019/2021

Fred Gerring, President	626-319-1107
Jared Lee, Vice President	626-379-8443
Judi Miller, Secretary/Treasurer	213-228-8236
Rafael Villegas, Chapter Trustee	213-367-1014
Raymond Jay, Past-President	213-217-5777

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JLee@burbankca.gov
judi.miller@jacobs.com
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rjay@mwdh2o.com

Meeting Attendees

FIRST NAME	LAST NAME	ORGANIZATION
Harmik	Aghanian	Arcadis
Maria	Alvarez	Atkins
Jenny	Anderson	Santa Clarita Valley Water Agency
Jessica	Arm	Metropolitan Water District of Southern California
Faraz	Asad	SWRCB DDW
Erik	Avila	LADWP
Shadi	Bader	Santa Clarita Valley Water Agency
Berenice	Barajas	LADWP
Matt	Bequette	LASAN
Robert	Bueras	LA County Department of Public Health
Kirstin	Byrne	Brown and Caldwell
Rajat	Chakraborti	Jacobs
Denise	Chow	LASAN
John	Christopher	HDR
Michael	De Ghetto	Glendale Water and Power
Ayush	Dhruv	LA County Department of Public Health
Matt	Elsner	Woodard & Curran
Lito	Garcia	Walnut Valley Water District
Fred	Gerringer	Hazen and Sawyer
Karina	Gonzalez	LASAN
Viet	Ha	LA County Department of Public Health
Josh	Hacker	Muldrow Partners
Tyler	Hunt	MNS Engineers
Raymond	Jay	Metropolitan Water District of Southern California
Darrell	Johnson	Las Virgenes Municipal Water District
Donald	Jones	Central Basin Municipal Water District
Jagjit	Kaur	Jacobs
Madeline	Kelsch	LADWP
Jason	Kung	West Basin Municipal Water District
Sam	Landsman	CDM Smith
Jared	Lee	Burbank Water and Power
John	Lockett	LADWP

FIRST NAME	LAST NAME	ORGANIZATION
Scott	Lynch	West Yost Associates
Tess	Mauw	Utrecht University, the Netherlands
Alvina	Mehinto	SCCWRP
Judi	Miller	Jacobs
Ray	Mokhtari	Metropolitan Water District of Southern California
Sarah	Mouakkad	LADWP
Mariam	Panasyan	LASAN
Nicholas	Panofsky	MNS Engineers
Gilberto	Ramirez	LA County Department of Public Health
Heather	Rhee	Long Beach Water
Julie Ann	Robinson	Glendale Water and Power
Richard	Ruyle	Glendale Water and Power
Camille	Stephens	Katz & Associates
Kevin	Stewart	LADWP
Alton	Ta	LA County Waterworks
Shiela	Taat	LASAN
Belal	Tabunnaj	LA County Waterworks
Dean	Takashima	Santa Clarita Valley Water Agency
Raja	Takidin	Glendale Water and Power
Dian	Tanuwidjaja	Long Beach Water
Kevin	Tirado	Black & Veatch
Yoshiko	Tsunehara	LADWP
Alex	Wait	Brown and Caldwell
Megan	Watt	CDM Smith
Steven	Webb	LA Regional Water Quality Control Board
Eric	Wood	LA County Department of Public Health
Bob	Yamaguchi	Walnut Valley Water District
Jason	Yim	Santa Clarita Valley Water Agency
Christina	Zabalza	LASAN
Alexandro	Zaragoza	Rowland Water District

TOTAL: 62