

Location: Las Virgenes Municipal Water District
Address: 4232 Las Virgenes Road
Calabasas, CA 91302
Purpose: Bi-Monthly Meeting
Date and Time: June 13, 2017 from 11:30 a.m. – 1:30 p.m.
Distribution: Los Angeles WaterReuse Association Chapter Members

Lunch: Sponsored by AECOM

Below is a summary of the highlight from the June 2017, 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. **Venue host presentation: Pure Water Project Las Virgenes-Triunfo** (*David Pedersen/Las Virgenes MWD*)

A Joint Powers Authority (JPA) was established as a partnership between Las Virgenes Municipal Water District and the Triunfo Sanitation District to treat wastewater for the bordering service areas that also share the Malibu Creek Watershed. Key facilities include the Tapia Water Reclamation Facility, Rancho Las Virgenes Composting Facility, and Las Virgenes Reservoir. The local groundwater is of poor water quality and yield, thus the stored reservoir water is 100 percent imported water with a storage volume of 10,000 acre-feet.

Historically, groundwater was being used by the local settlements and was depleted to the point that people were running out of water. The Las Virgenes Municipal Water District was originally formed to provide imported water as a member agency of Metropolitan Water District of Southern California. Since there is no local source, the challenge is to improve water supply reliability. In 1972 the Tapia Water Reclamation Facility began supplying recycled water used for irrigation. Currently, recycled water makes up only 20 percent of the supply, and the remaining 80 percent is imported. In the future, potable reuse is expected to provide 15 to 20 percent of the total supply.

The other key challenge is meeting regulatory requirements. There is an enormous focus on the Malibu Surfrider Beach and protecting the receiving waters. As a wastewater agency, all water is treated to recycled water standards which can create nutrient concerns with the discharges that typically only occur in the winter. Currently the NPDES permit has a discharge prohibition in the summer, from April to November. If the natural creek flow falls below a certain threshold, the plant is required to discharge to maintain minimum flows for the endangered fish species in Malibu Creek.

In 2015 there was a stakeholder-driven process to find solutions for how to handle recycled water supply/demand imbalances to make full use of the recycled water. The initial thought was to build a dam in the Santa Monica Mountains which, from the public's perspective, conflicted with a separate project to remove the Rindge Dam.

The stakeholder process led to a roadmap of how to fully utilize the recycled water. The resulting project is potable reuse through reservoir augmentation. A new advanced water treatment (AWT) facility will treat water from the existing reclamation facility and deliver water to the Las Virgenes Reservoir through a new pipeline. The augmented reservoir water will be treated again before distribution. Brine disposal is key challenge as there are no local disposal methods. A second pipeline will be constructed to convey brine to the salinity management pipeline in the Santa Rosa Valley.

The AWT is a multibarrier treatment process including membrane filtration, reverse osmosis (RO), and ultraviolet (UV) disinfection. The facility will have a 6-MGD capacity and will be seasonally operated to treat the excess recycled water in the winter. In the summer months, the recycled water is completely consumed.

The next steps include community involvement and public outreach. So far, the JPA has been pleasantly surprised with the initial outreach efforts which have been more grassroots focused. A key portion of the outreach is the proposed demonstration plant which will be constructed at Las Virgenes MWD's old headquarters building. The demonstration plant provides an opportunity to educate the public about the treatment process as well as provide training for the operators. The demonstration plant will look at different equipment, universal skids, and opportunities for brine minimization, as well as the effects of sunlight on NDMA.

The demonstration plant and Title 16 feasibility study are being funded by two grants from the Bureau of Reclamation. The NPDES permit was adopted by the Regional Board last week and outlines the Pure Water plan as the central element for compliance. Construction for the demonstration plant should begin in 2018 and operation is scheduled for 2019. Design-build options are being evaluated for the full-scale plant design. The cost of the demonstration plan is estimated to be \$2M-\$3M.

2. **Sponsor presentation: How Can We Meet Pathogen Removal Requirements in Potable Reuse Projects if MBR Does Not Get Any Pathogen Credits?** (Zeynep Erdal/AECOM)

In potable reuse, credits for pathogen removal are distributed along a treatment path. Membrane Bioreactor (MBR) technologies have been around for several years but do not get credit for pathogen reduction. The MBR system has benefits including a compact footprint, biological treatment, and physical separation. Without direct integrity testing, there is a roadblock for MBR treatment credits.

Conventional activated sludge (CAF) does not receive credits for *Cryptosporidium* or *Giardia* removal. However, with microfiltration (MF), RO, and UV advanced oxidation processes (UVAOP), log removal credits of 11-12 *Crypto/Giardia* and 14-19 for virus. Whereas MBR, combined with RO and UVAOP, only receives 7-8 *crypto/giardia* credits and 13-14 virus credits. This makes CAF a more favorable option.

There have been studies to monitor and test MBR systems which is the short-term approach for having MBR in an indirect potable reuse (IPR) train. This idea is based on groundwater recharge regulations which allow for 6-log reduction in series. The technology for monitoring and validation is in place and there is data and knowledge available. The Orange County Water District Groundwater Water Replenishment System was designed to meet 2-log NDMA removal. Demonstration plants have shown a single reactor can achieve 4.4-log which is where virus activation can also be achieved. Disinfection processes in series each may get up to 6-log pathogen credit (up to 12-log total).

3. **Technical Topic: Pure Water Project Las Virgenes-Triunfo: Seasonal Imbalance, Demand Forecasting, and AWT Sizing** (Oliver Slosser/MWH now part of Stantec)

MWD, now part of Stantec, delivered a series of design reports to help the Las Virgenes - Triunfo Joint Powers Authority (JPA) address goals of beneficially using imported water resources, eliminating discharges to Malibu Creek, and address seasonal imbalances. The recycled water production is relatively constant but there is a shortage of recycled water in the summer and excess available in the winter.

The initial thought was to store the excess water in a new reservoir at Title 22 quality, but the surplus of recycled water in the winter is greater than the demand in the summer which would require new customers to be identified. An alternative option was identified to store advanced treated water in the Las Virgenes Reservoir for IPR. While the IPR alternative requires more facilities, there is a greater flexibility.

In addition to sizing pipes and pump stations, the available storage in the Las Virgenes Reservoir was evaluated. The reservoir needed to be adequate to address the seasonal imbalance, meet detention times, and capture 95 percent of the flow days. Surplus flows from 1997 to 2014 shows 1400 acre-feet per year to 3100 acre-feet per year which could be accommodated within the available reservoir capacity. Historical recycled water flows showed 95 percent of the flow days could be captured with a 6-MGD AWT. The remaining 5 percent of flows could be addressed using other operational strategies. The JPA also has the ability to discharge to the sewer and loop the water.

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

California Legislation

- AB 574: Potable Reuse is sponsored by WaterReuse and Coast Keeper. This bill deletes the references to Direct and Indirect Potable Reuse and specifies four different types of potable reuse including groundwater augmentation, reservoir augmentation, raw water augmentation, and treated water augmentation. It recommends the SWRCB establish a framework for regulating potable reuse by 6/1/18 and requires SWRCB to adopt uniform water recycling criteria for raw water augmentation by 12/31/21. The bill is proposed to be adopted under emergency regulations to help it move through the administrative process but will still have a formal public comment period. There is no formal opposition and has broad support.

MWD has submitted an amendment to clarify the definition of reservoir augmentation to include a constructed system conveying water to the reservoir. There was a discharge to one of the aqueducts that was regulated not as recycled water but as a wastewater discharge which caused some concern. MWD wants to broaden the category to include infrastructure leading to the reservoir.

- SB 740: Onsite Treated Water is sponsored by SFPUC to allow for cities and municipalities to capture and reuse local water onsite. There was a bill several years ago that WaterReuse had objected to because of a misunderstanding of what onsite treated water is versus recycled water. This bill requires SWRCB to adopt a framework for oversight and management of Onsite Treated Water before 12/1/18. This bill does not

address gray water systems which are already allowed for local irrigation. The bill was held up in committee.

- AB 869: Sustainable Water Use – Recycled Water aims to make sure that recycled water is not impacted by conservation goals and how they are calculated. Recycled water should be a credit and not part of the per capita water use.
- SB 5: California Drought, Water, Parks, Climate, Coastal Protection, and Outdoor Access for All Act of 2018 – New \$3.5M bond with \$500M for drinking water programs and \$125M for recycled water.
- AB 554: Desalination Statewide Goal - trying to decide goal for desalination. Did not make it out of committee.
- AB 967 Human Remains Disposal allows for a new type of cremation service done through dissolving the body that allows it to be discharged to a wastewater treatment plant. WaterReuse has not taken a position but was concerned when a similar bill was introduced several years ago. The bill has not received much traction but may go through and there are several other states that do it.
- AB1667: Agricultural water management planning. Attempts to establish a more standardized approach to agricultural and urban water planning. WaterReuse is hopeful that this will get adopted.
- AB 968: Urban Water Use Efficiency Targets - also to ensure that recycled water is not used against agencies to meet water reductions.

Federal Legislation

- HR 434 – New Water Act
- HR 465 – Water Quality Improvement Act of 2017
- HR 875 – USBR Water Project Streamlining Act
- HR 1579 – Secure and Resilient Water Systems Act
- HR 1654 – Water Supply Permitting Coordination Act
- HR 1663 – Water Resources Research Amendments Act
- S 216 – Bureau of Reclamation Transparency Act
- S 880 – Made in America Water Infrastructure Act
- S 692 – Water Infrastructure Flexibility Act

2017 Regulatory Actions

- Surface Water Augmentation regulations
- Evaluate recycled water use for animals
- Recycled Water Policy Update
- Mandatory RW Building Standards
- On-site Treatment System Policy

5. **Regulatory Agency Update:**

a. **Los Angeles County Department of Public Health** (*Robert Bueras*)

- Groundwater Replenishment Reuse Project (GRRPs) are becoming popular and LADPH is interested in any that are coming online or going into construction.
- The new LA stadium is going to be divided up into sections. The first 60 acres will be the actual stadium and they are having issues finding ways to use recycled water. The other 8 to 10 sites may partner with the owner on the water supply for the lake. The water supply for the lake will be supplemented by recycled water and used for irrigation, thus using the lake as a reservoir.

b. **Los Angeles Regional Water Quality Control Board** (*Cris Morris*)

- No update. Chris is the unit chief for the municipal permitting group responsible for NPDES municipal permits. There is a lot going and the Regional Board is understaffed. Feel free to bug Chris if you are still waiting for a response.

6. **California State Section Update** (*Monica Gasca*)

- A decision on the new Water Reuse Association Executive Officer will be made soon.
- Water Reuse California will be putting together a history of water reuse.
- The Annual Water Reuse Symposium is September 10-13 in Phoenix. Registration is already open and award nominations are due June 26.

7. **Chapter Updates**

a. Approval of February 2017 Member Meeting summary (*Raymond Jay*)

- April 2017 Member Meeting Summary was approved without opposition.

8. **Focus Areas**

a. Funding Opportunities (*Raymond Jay*)

- A summary of funding opportunities has been prepared. There is new funding available through Prop 1, IWRM, and USBR which come out annually.

9. **Membership Roundtable** (*Fred Gerring*)

- How was the LA Rams stadium pond different from a pond at a golf course? A pond at a golf course is only used for irrigation of the turf. There may be an issue at the stadium concerning human exposure.
- It has been 6 months since the MWD demonstration project discussion. MWD is planning to present to the board in July for additional authorization. An MBR system is being considered but there needs to be the right amount of treatment credit available. Debra Man was a proponent in pushing the project forward and she just retired. They are hoping for a formal approval later this year. Construction of the demonstration plant is planned for 2018.
- The Annual Water Reuse Symposium will be in September. The registration is \$600 if you are a member and register by July 17.
- The International Water Association Conference on Water Reclamation and Reuse will be held July 23-27 in Long Beach.

- Since potable reuse is starting to gain a lot of momentum, have agencies started to push away from purple pipe? It is important to maintain commitments to existing recycled water customers. With potable reuse, there is no longer a reason to sell outside of the service area.

10. **Next Meetings**

- August 8, 2017– Host: Glendale Water & Power; Sponsor: Rain Bird
- October 10, 2017 – Host: Los Angeles Bureau of Sanitation; Sponsor: CH2M

Los Angeles Chapter Officers for 2016

Raymond Jay, President	213-217-5777	rjay@mwdh2o.com
Fred Geringer, Vice President	626-463-0390	fredg@trusselltech.com
Judi Miller, Secretary/Treasurer	213-228-8236	judi.miller@ch2m.com
Monica Gasca, Chapter Trustee	562-908-4288 x2838	mgasca@lacs.org
John Robinson, Past-President	626-375-9389	jrobinson@johnrobinsonconsulting.com

Meeting Attendees

MEMBER		ORGANIZATION
Mike	Agbodo	Black & Veatch
Maria	Alvarez	AECOM
Jenny	Anderson	Valencia Water Co.
Jehan	Anketel	RMC/Woodard & Curran
Julia	Aranda	MNS Engineers
Max	Armenta	Kennedy Jenks
Shadi	Bader	Castaic Lake Water Agency
Hélène	Baribeau	AQUALity Engineering
Doug	Barrow	Las Virgenes MWD
Jim	Borchardt	MWH/Stantec
Robert	Bueras	LA County Dept. of Public Health
Run	Chen	Burbank Water and Power
Kun	Cheng	DDW
Michael	De Ghetto	Glendale Water & Power
Sean	Dempsey	LA Bureau of Engineering
Matt	Elsner	RMC/Woodard & Curran
Zeynep	Erdal	AECOM

MEMBER		ORGANIZATION
Gerry	Filteau	SPI
Katrina	Forbes	LA Bureau of Engineering
Alex	Franchi	Parsons
Jordi	Fuentes	LA County DPH
Kyle	Fuller	Parsons
Monica	Gasca	Sanitation Districts of Los Angeles County
Fred	Gerringer	Trussell Technologies
Dmitry	Ginzberg	DDW
Clint	Granath	Forest Lawn
Brandon	Hale	Kennedy Jenks
Slavica	Hammond	Parsons
Jan	Hansen	AECOM
Jamie	Harlan	Kennedy Jenks
Amanda	Heise	CH2M
Zakir	Hirani	MWH/Stantec
Raymond	Jay	Metropolitan Water District of Southern California
Darrel	Johnson	Las Virgenes MWD
Sunny	Kim	Neotec
Satish	Kamath	Parsons
Crystal	Lee	LA Bureau of Engineering
Jared	Lee	Burbank Water and Power
John	Lockett	LADWP
Mara	Luevano	LA Bureau of Engineering
Alex	Mena	LA County Department of Parks and Recreation
Enayet	Miah	LADWP
Judi	Miller	CH2M
Larry	Miller	Las Virgenes MWD
Ray	Mokhtari	Metropolitan Water District of Southern California
Tom	Monk	Walnut Valley Water District
Cris	Morris	LA Regional Water Quality Control Board
Coleman	Olinger	Las Virgenes MWD
Dave	Pederson	Las Virgenes MWD

MEMBER		ORGANIZATION
Jeff	Reinhardt	Las Virgenes MWD
Tom	Richardson	RMC/Woodard & Curran
Julie Ann	Robinson	Glendale Water & Power
Gary	Roepke	Cannon
Bertha	Ruiz-Hoffman	Los Angeles County Dept. of Parks and Recreation
Christopher	Saenz	Valencia Water Co.
Eric	Schlageter	Las Virgenes MWD
Oliver	Slosser	MWH/Stantec
Eric	Smith	CDM Smith
Kevin	Smith	ESA
Sharona	Sokolow	UCLA
Austin	Strauss	LADWP
Dawn	Taffler	Kennedy Jenks
Tony	Umphenour	Burbank Water and Power
Kody	Whisman	Burbank Water and Power
Bob	Yamguchi	Walnut Valley Water District
John	Zhao	Las Virgenes MWD

Total: 66