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### NEXT MEETING

Tuesday, February 13th  
11:30am-1:30pm

#### LOCATION:

West Basin MWD  
17140 S Avalon Blvd.  
Carson, CA 90746

## 2018 WaterReuse California Annual Conference

March 25-27, 2018

Portola Hotel and Spa | Monterey, CA

The 2018 WaterReuse California Annual Conference will be held at the Portola Hotel & Spa in Monterey on March 25-27, 2018. This conference is the premier educational and networking event for California water professionals involved in recycled water policy, operations, technology and public perception.

### CONFERENCE THEMES

- *The role of recycled water in One Water and Sustainable Water initiatives*
- *Recycled water system (treatment, distribution, customer sites) operations – start-up, optimization, and biggest challenges*
- *Emerging issues in reuse – What's next in our industry?*
- *Strategies for successfully delivering recycled water projects and programs, such as project delivery options and approaches to inter-jurisdictional partnerships*
- *Pathway to potable reuse – What is needed to achieve broad implementation of potable reuse in California – leadership (elected officials and executives), customers, technology, etc.*



Early Registration ends January 29, 2018

## How the Environmental Buffer Affected the Draft Reservoir Water Augmentation Regulations

by Fred Geringer, Trussel Technologies

Reservoir water augmentation, also known as surface water augmentation, was recently defined by Assembly Bill 574 as “the planned placement of recycled water into a raw surface water reservoir used as a source of domestic drinking water supply for a public water system.” This approach to potable reuse provides an option for locations, such as the City of San Diego, where the feasibility of groundwater recharge is low and surface water reservoirs are available. While the basic framework of the groundwater recharge regulations and draft reservoir water augmentation regulations are the same for chemical, pathogen, and treatment requirements, using a reservoir as the environmental buffer

poses different regulatory challenges than a groundwater basin. Two of these differences, pathogen removal credits for the environmental buffer and the dilution requirement to address short-circuiting, are discussed below.

Groundwater recharge projects can receive 1-log removal credit for virus for every month of travel time in the aquifer. If recharge is performed by surface spreading, then 1-log removal credit will be granted for *Cryptosporidium* and *Giardia*, with the 10-log removal requirement for these pathogens being satisfied if the travel time is at least 6 months. These pathogen removal credits contrast with reservoir water augmentation, which receives no credits for its environmental

## President's Column

**Happy Holidays!** I am amazed at all of the progress WaterReuse California made in 2017 to safely advance recycled water. That progress would not have been possible without the Los Angeles Chapter and you! Our members have consistently been part of critical efforts to review and comment on proposed regulations and legislation that advance recycled water and help California develop sustainable local water supplies while protecting member interests.



We held six Chapter meetings throughout Los Angeles County in 2017 to share information on recycled water project development, research, legislation, regulations, and funding. We would not have been able to reach our stakeholders (you) without the dedicated efforts of the Chapter Officers, our volunteers, and the support of the following agencies and consultants that hosted our meetings and sponsored our lunch. Thank you!

- Los Angeles County Arboretum and Botanic Garden and IDEXX
- Central Basin Municipal Water District and RMC
- Las Virgenes Municipal Water District and AECOM

- Glendale Water and Power and Rain Bird
- Los Angeles Bureau of Sanitation and CH2M
- Metropolitan Water Quality Lab and Stantec

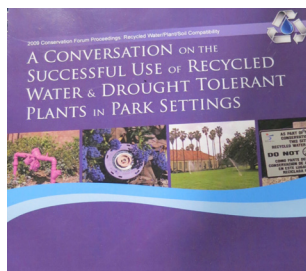
We look forward to a new year to further expand recycled water throughout Los Angeles. We still have challenges to address in 2018 including equitably updating the Recycled Water Policy, coordinating recycled water development with new state conservation measures, and securing additional project funding to offset imported supplies with recycled water. We hope to increase and diversify our membership in 2018 with more local agencies, consultants, environmental organizations and watershed advocates. We encourage our members to share their knowledge with friends and family, other Chapter members, and increase local participation.

On behalf of the Chapter Officers, thank you for your support and friendship.

Sincerely,

**Raymond Jay, President**  
WaterReuse California, Los Angeles Chapter

## WaterReuse Los Angeles—A Year in Pictures



## How the Environmental Buffer Affected the Draft Reservoir Water Augmentation Regulations *continued from pg. 1*



*Miramar Reservoir, San Diego*  
(Photo by MrGall)

buffer in the draft regulations. This difference can increase the amount of treatment that an AWTF must provide for reservoir water augmentation compared to groundwater recharge.

For the City of San Diego, treatment at the North City Pure Water Facility (NCPWF), which will discharge into Miramar Reservoir, includes pathogen removal by ozonation and free chlorine disinfection in addition to the membrane filtration, reverse osmosis and ultraviolet light/advanced oxidation process that are part of groundwater recharge projects like the Orange County Water District's Groundwater Replenishment System. The draft regulations do provide pathogen removal credits for the drinking water treatment plant, which can help offset the loss of pathogen removal credits from the environmental buffer, but NCPWF is designed to satisfy the pathogen removal requirements before discharging to Miramar Reservoir.

Short-circuiting is another issue that is a greater concern with reservoirs than groundwater basins because a small percentage of influent water can reach the outlet of a reservoir in a few days or less. The flow of water in groundwater basins more closely resembles plug-flow, thereby limiting the risk of short-circuiting and typically ensuring months will pass before recharge water will be withdrawn from the groundwater basin. The draft reservoir water augmentation regulations address short-circuiting by instituting a dilution requirement that limits the percentage of inlet water that can exit the reservoir in the first 24-hours to 1%. If an additional 1-log removal of all pathogens is provided by the advanced water

treatment facility (AWTF), then that percentage can increase to 10%. The City of San Diego is taking the latter approach with Miramar Reservoir because it is relatively small compared to the 30-MGD flow from the NCPWF.

The groundwater recharge regulations and draft reservoir water augmentation regulations differ primarily due to the inherent characteristics of the environmental buffers used in these approaches to potable reuse. The absence of filtration to provide pathogen removal eliminates pathogen removal credits from the environmental buffer in reservoir water augmentation. Similarly, the dilution requirement addresses the potential risk associated with short-circuiting in a reservoir that could result in higher levels of chemical contaminants or pathogens reaching the reservoir outlet if the AWTF underperformed. These examples highlight how understanding the effect of the environmental buffer on the regulatory, technical, and economic feasibility of a project will be critical to the successful implementation of a potable reuse program.



## Who Has Been in the Newsletter Spotlight?

In our newsletter, we like to focus on one of the Los Angeles Section's members. The June 2013 newsletter contained a list of spotlights up until that time. Since then, the following additional members have been "spotlighted:"

**Feb 2014:** Las Virgenes

**June 2014:** Trussell Technologies

**Oct 2014:** Central Basin Municipal Water District

**Dec 2014:** CH2MHill

**June 2015:** Water Replenishment District of Southern California

**Sep 2015:** Black and Veatch

**Dec 2015:** Kennedy/Jenks Consultants

**July 2016:** MNS Engineers, Inc.

**Sep 2016:** The Los Angeles Department of Water and Power

**Nov 2016:** Castaic Lake Water Agency

**Feb 2017:** Los Angeles County Department of Parks and Recreation

**June 2017:** Woodard and Curran

These spotlights can be found on the Los Angeles Chapter's page of the WaterReuse Association's website: [www.watereuse.org](http://www.watereuse.org). If you would like your agency or company highlighted in a future newsletter, contact one of our editors whose email addresses appear on the membership page.

## Ask the Guru Recap

As another year ends, we once again recap the wisdom the Guru has shared with us recently in these pages. His perspectives on recycled water contained in the July 2016 newsletter are always worth another read. Maybe the guru has a book in his future.

All our newsletters can be found on the chapter's website at: [watereuse.org](http://watereuse.org)

Thanks again to our resident guru, Earle Hartling, for sharing his perspectives.



**Sep 2016:** As my agency increases its deliveries of recycled water, the influent flow to my treatment plant is decreasing due to conservation. Does the Guru have any ideas for alternate sources of water for my plant so my customers do not have to resort to potable backups?

**Nov 2016:** I'm confused over Title 17 and Title 22. What's the connection between them?

**Feb 2017:** Our permit requires us to monitor recycled water quality where it enters the distribution system. How do we ensure our customers receive water of good quality?

**July 2016:** I see where your LinkedIn profile shows that you're having your 35-year anniversary working with recycled water. From all that time in the industry, do you have any general advice on promoting recycled water?



*Known by his colleagues (affectionately or otherwise) as the "Guru", Earle Hartling, Water Recycling Coordinator for the Sanitation Districts of Los Angeles County, answers your burning questions on all issues regarding recycled water. His opinions are his own, and do not necessarily reflect those of the Sanitation Districts. He has been involved with water reuse for over 35 years, so ask your questions sooner than later, because he ain't getting any younger! Seriously, he really isn't. C'mon, people, the clock's ticking on this guy.*

## OUR MEMBERS

AECOM  
Black and Veatch  
Burbank Water and Power  
California Department of Public Health  
California Department of Water Resources  
California Regional Water Quality Control Board  
California State Water Resources Control Board  
Calleguas Municipal Water District  
Cannon  
Carollo Engineers  
Castaic Lake Water Agency  
CDM Smith  
Central Basin Municipal Water District  
City of Cerritos  
CH2M Hill  
Dudek  
Environmental Now  
Eurofins Eaton Analytical  
Forest Lawn  
Glendale Water and Power  
Irvine Ranch Water District  
John Robinson Consulting  
Kennedy/Jenks Consultants  
City of Lancaster  
Las Virgenes Municipal Water District  
LEE & RO, Inc.  
Long Beach Health Department  
Long Beach Water Department  
Los Angeles Bureau of Sanitation  
Los Angeles Department of Public Health  
Los Angeles Department of Public Works  
Los Angeles Department of Water and Power  
Los Angeles Regional Water Quality Control Board  
Metropolitan Water District of Southern California  
MNS Engineers  
MWH Americas, Inc.  
NALCO  
Newhall Land and Farming Company  
Pacifica Services, Inc.  
City of Palmdale - Public Works Program Management  
City of Pasadena

Phoenix Civil Engineering, Inc.  
City of Pomona  
Precise Landscape Water Conservation, Inc.  
Psomas  
Purple Pipe Consulting  
Rain Bird Corporation  
RBF Consulting, a Baker Company  
Red Wolf Studio  
RMC a Woodard & Curran Company  
Rowland Water District  
SA Associates  
Sanitation Districts of Los Angeles County  
City of Santa Monica  
Sequia Technologies  
Separation Processes, Inc. (SPI)  
Surfrider Foundation  
Test America  
Three Valleys Municipal Water District  
United Water  
Upper San Gabriel Valley Municipal Water District  
Valencia Water Company  
City of Vernon  
Walnut Valley Water District  
Water Replenishment District of Southern California  
WateReuse California  
West Basin Municipal Water District



## CHAPTER OFFICERS

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CH2M Hill  
[judi.miller@ch2m.com](mailto:judi.miller@ch2m.com)

### **Monica Gasca, Trustee to California WateReuse Section**

California Sanitation Districts of Los Angeles County  
[mgasca@lacsdc.org](mailto:mgasca@lacsdc.org)

**Past-President: John Robinson**

## GOT NEWS?

We're always looking for interesting stories and informational articles to keep our members up to speed on all that's happening in water reuse and reclamation. Email articles or ideas to Matthew Elsner ([melsner@woodardcurran.com](mailto:melsner@woodardcurran.com)) or Shelah Riggs ([sriggs@dudek.com](mailto:sriggs@dudek.com))

**WateReuse Association:** [www.watereuse.org/sections/california/losangeles](http://www.watereuse.org/sections/california/losangeles)

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