

LOS ANGELES CHAPTER WATER REUSE CALIFORNIA

Chapter Newsletter

JUNE 2014

IN THIS ISSUE

President's Column
Page 2

Ask the Guru
Page 3

Retrofit Pilot Program
Page 3

Consultant Spotlight:
Trussell Technologies
Page 4

NEXT MEETING

Tuesday, June 10th
11:30 A.M.-1:30 P.M.

LOCATION:

Rowland Water District
3021 Fullerton Road
Rowland Heights, CA 91748

Lunch sponsored by:
Trussell Technologies

2014 California Conference Recap

Congratulations to Earle Hartling of the Sanitation Districts of Los Angeles County for being recognized as Recycled Water Advocate of the Year at the 2014 California WaterReuse Conference in Newport Beach in March.

In being given the honor, the association recognized Earle for being "a tireless supporter of recycled water. Earle's reputation as an expert in the field has playfully earned him the moniker of 'The Water Guru.' Through his tireless work he has not only been successful in expanding

recycled water use at Sanitation Districts of Los Angeles County, but is also dedicated to promoting recycled water use throughout the region."

Other Los Angeles chapter members and firms presenting at the conference are listed below.



Earle Hartling (center) is recognized as Recycled Water Advocate of the Year. Mike Marus and Paul Klein join Earle.



1. Joe Walters
2. Daniel Rydberg
3. Elise Goldman
4. Behind scenes tour at California Adventure Park

Technical Presentations

Achieving Reliability in Direct Potable Reuse: The Four "R's"

Brian Pecson, Trussell Technologies

The First Indirect Potable Reuse Permit Implementing the Latest California Reuse Regulations

Cathy Chang, Water Replenishment District of Southern California

Best Management Practices for Industrial Water Use

Tricia Butler, RMC Water and Environment and Elise Goldman, West Basin Municipal Water District

How Satellite Treatment Facilities Can Help the City of Los Angeles Meet Water Recycling Goals

Harmik Aghanian, Carollo Engineers

New Technology to Improve Water Quality for West Basin

Kevin Alexander, Hazen and Sawyer

Update on Metropolitan's Local Resources Program

Ray Mokhtari and Kira Alonzo, Metropolitan Water District of Southern California

continued on pg. 2 ►

President's Column

“

As the drought intensifies over the summer, actions are needed by all of us to educate our communities, leverage our resources, and reduce bottlenecks to preserve our water supply. The importance of conservation and water recycling is gaining recognition as local water restrictions expand through our communities. I challenge you to increase your participation to help overcome these water supply challenges and advance the safe use of recycled water.



I would like to thank all of the LA Chapter members for their actions, particularly those that participate in WateReuse California's legislative and regulatory committee for evaluating proposed recycled water and water bond legislation including bills on mandatory recycled water infrastructure, CEQA exemptions for recycled

water pipelines, use of recycled water for livestock, bottling of recycled water, and disposal of home-generated pharmaceutical waste.

In addition, several LA Chapter members including Ann Heil and Earle Hartling have provided valuable comments on the SWRCB draft General Permit for (nonpotable) Recycled Water Use. We hope these clarifications on applicability, monitoring, beneficial uses, and permit fees can be quickly incorporated into the final permit adopted by the SWRCB to facilitate recycled water use.

I would also like to commend Dave Smith for his valiant efforts and leadership of WateReuse California over the past several years and wish him the best as he moves on to new endeavors.

– Raymond Jay, President

”

Technical Presentations *Recap continued from pg. 1*

Enhancing Soil Aquifer Treatment Process for Potable Reuse

Sangam Tiwari, Trussell Technologies

Potable Reuse Equivalency Criteria and Treatment Train Evaluation

Fredrick Gerringer and Brian Pecson, Trussell Technologies State-of-Science on Integrity Testing and On-Line Monitoring of NF and RO Membranes

State-of-Science on Integrity Testing and On-Line Monitoring of NF and RO Membranes

Arun Subramani, MWH

Zero Discharge Desalination Performance Assessment

Philip Brandhuber, HDR Engineering

Zero Liquid Discharge without Liquid or Solid Waste Byproducts

Rick Bond, Black & Veatch

Pioneering Innovative Water Reuse Technology

Rajen Budhia, West Basin Municipal Water District

Bench-scale Pretreatment Investigations of Potential Source Waters for the MRWPCA Ground Water Replenishment Project

Gordon Williams, Trussell Technologies

Poster Presentations

A Half Century of Salinity and Nutrient Management of Two Groundwater Basins in Southern Los Angeles County

Phuong Ly, Water Replenishment District of Southern California

Disco is Dead but Permitting Continues: Bringing Recycled Water Customers from 1970's into Compliance with Title 22 Regulations

Kraig Erickson, RMC Water and Environment

On-site Retrofit Pilot Program

Metropolitan's 2010 Integrated Water Resources Plan (IRP) Update calls for developing a diverse resource portfolio, including recycled water projects to help meet expected future demands and secure supply reliability in the region. In addition, the IRP Update sets water use efficiency goals that include a 20 percent reduction in urban per capita water use by 2020. Increased conservation efforts and expanded use of recycled water are two ways of achieving this goal.

Recycled water projects usually take several years to achieve capacity because each site must be retrofitted to accept recycled water. The cost associated with the on-site retrofit of potable water systems to recycled water is an impediment to recycled water use.

To help with the site conversion costs, Metropolitan will launch an On-site Retrofit Pilot Program (Program) on July 1, 2014. The Program goal is to encourage property owners to convert from



Earle Hartling
is the Water
Recycling
Coordinator for
the Sanitation
Districts of Los



Angeles County, and has been
involved with water reuse for
33 years and counting. He ain't
getting any younger, so ask your
questions before it's too late!

Ask the Guru

Question: We are all aware of horizontal & vertical pipe separation requirements between recycled water and potable water pipelines, but are there any separation requirements between recycled water and other non-potable water pipelines, such as wastewater sewers?

Dear Loud,

To the best of my knowledge, neither the State Health Department nor L.A. County Health in their guidance documents specifically address recycled water line construction near sewers. However, my rule-of-thumb answer has been "When you build a recycled water line near a potable line, you treat it as if it were a sewer line. When you build a recycled water line near a sewer line, you treat it as if it were a potable line." That would mean a default 10-foot horizontal separation with parallel lines and a 1-foot vertical separation with perpendicular lines, with the higher quality water line on top. If you do that, you can't go wrong. These specs are in place to ensure that any breaks in non-potable lines (like sewers) that can saturate the ground or soil upheaval following an earthquake won't result in infiltration into the joints of the nearby higher-quality water pipeline (either drinking water or recycled water).

But reality is more complicated than that. Right-of-way width, presence of other utilities, topography, etc. can make these standard separations impractical or just plain impossible. But the State Health Department has a very good (and understandable) set of requirements, along with variances in the construction and separation of various types of pipelines, in their Guidance Criteria for the Separation of Water Mains and Non-Potable Pipelines that can be found at http://www.dsrds.com/img/img_standards_and_specs/Appendix/Appendix%20DOHS%20Criteria%20for%20Separation.pdf.

For instance, the 10-foot horizontal separation from potable water lines is only applied to recycled water that is less than full tertiary-treated. For the highest regulated quality recycled water, a 4-foot horizontal separation is allowed, same as for raw water heading to the drinking water treatment plant!

- Just Wonderin' Out Loud

And if certain special pipeline construction requirements are met, you can come as close as 1-foot horizontally and 4-inches vertically, even when building your water line near a sewer. These special requirements include the use of specific pipe materials, installation of sleeves around the pipes in question, locating pipe joints a certain distance away from the crossing (usually 8 to 10 feet), etc.

There are a lot of permutations and variables that this Guidance document takes into consideration, so many that it would be impossible for me to list them all here. I strongly recommend downloading the document for specifics. It also has some easy-to-follow diagrams (the Guru is all about visual learning).

Retrofit Program continued from pg. 2

potable water to recycled water use, which will increase use of recycled water and achieve IRP Update and 20x2020 goals. Increased recycled water use also will help respond to the Governor's recent declaration of a statewide drought and request to increase water savings throughout the state.

The Program is open to public or private property owners that have access to recycled water within Metropolitan's service area. To qualify, the site must be within Metropolitan's service area and use potable water.

The Program works on a first-come, first-served basis. Applications are available online at mwdh2o.com or bewaterwise.com beginning July 1, 2014. Applications will be accepted from July 1, 2014, to June 30, 2016 or until funding is exhausted, whichever is earlier.

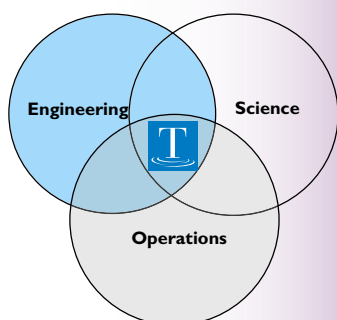
**For further information visit
bewaterwise.com or contact:**

Ms. Kira Z. Alonzo
(213) 217 - 6489 | kalonzo@mwdh2o.com

Mr. Ray Mokhtari
(213) 217-6142 | rmokhtari@mwdh2o.com



Consultant Profile: Trussell Technologies



Engineers must use experience with successful designs to ensure future success, but science must play a critical role in solutions when new engineering problems arise. Dr. Rhodes Trussell founded Trussell Technologies in 2003 as an environmental engineering firm focused on operating in this nexus between engineering practice and science. His vision was to create a company with unsurpassed technical expertise that can find simple, practical and cost-effective solutions to complex water quality problems.

Trussell Technologies has grown to 25 employees; including 13 Professional Engineers, 9 Ph.D.'s and 6 Board Certified Environmental Engineers; and now has offices in Pasadena, San Diego and Oakland.

A primary focus for Trussell Technologies is developing alternative water sources such as seawater and wastewater effluent for use as drinking water. The following describe some current projects.

California American Water (CAW) Monterey Peninsula Water Supply

The \$320-million Monterey Peninsula Water Supply Project seeks to increase drinking water supply and reliability. It includes a 9.6 MGD seawater desalination plant, beach wells, and related facilities and infrastructure. Trussell Technologies is assisting CAW to ensure the project achieves its technical goals while also meeting its budget and schedule.

Monterey Regional Water Pollution Control Agency Groundwater Replenishment

This water supply reliability project includes indirect potable reuse (IPR). New wastewater sources must be found as existing wastewater supplies are recycled during irrigation seasons. Trussell Technologies has conducted extensive bench-scale testing and source water characterization of potential new sources and is pilot-testing a treatment train of ozone, MF, RO and UV/H₂O₂.

City of San Diego Advanced Water Purification Facility Extended Testing

Trussell Technologies will test advanced treatment barriers specific to potable reuse using the City's 1 MGD Advanced Water Purification Demonstration Facility. The treatment train includes ozone, biologically activated carbon, microfiltration (MF), reverse osmosis (RO) and ultraviolet light with hydrogen peroxide (UV/H₂O₂). This project will investigate the additional treatment and monitoring needs required to implement direct potable reuse (DPR) while minimizing potential health concerns and providing the required treatment redundancy and robustness.

Padre Dam MWD Advanced Water Treatment Demonstration

This innovative IPR project is the first to seek CDPH approval for the minimum level of retention time (2 months) in a groundwater aquifer. To justify shorter aquifer storage, Trussell Technologies developed a treatment train that achieves higher degrees of contaminant removal prior to aquifer injection. CDPH approval will be sought for free chlorine disinfection of the feed water and challenging the treatment train with pathogen and chemical challenge testing.

Upper San Gabriel Valley MWD Indirect Reuse Replenishment

Motivated by depleting groundwater levels in the Main San Gabriel Basin and over-reliance on imported water, the District enlisted Trussell Technologies to help diversify the replenishment water supply portfolio and capitalize on local recycled water resources. The project team, which includes Stetson Engineers, is preparing an engineering report to demonstrate compliance with CDPH and Los Angeles Regional Water Quality Control Board requirements, such as dilute water accounting, soil aquifer treatment performance, pathogenic microorganism control and preliminary boundary development.

For more information contact
Fred Geringer at
fred.geringer@trusselltech.com

Bloopers



Sometimes things just don't go right.

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
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
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
RBF Consulting, a Baker Company
Red Wolf Studio
RMC Water and Environment
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

Raymond Jay, President
Metropolitan Water District of Southern California
rjay@mwadh2o.com

Kraig Erickson, Vice President
RMC Water and Environment
kerickson@rmcwater.com

Judi Miller, P.E., Treasurer/Secretary
CH2M Hill
judi.miller@ch2m.com

Monica Gasca, Trustee to WateReuse
California Sanitation Districts of Los Angeles County
mgasca@lacsdc.org

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@ci.burbank.ca.us) or Shelah Riggs (sriggs@dudek.com)

WateReuse Association: www.watereuse.org/sections/california/losangeles

Newsletter design by **DUDEK**