



WATERREUSE

LOS ANGELES

Chapter Newsletter

NOVEMBER 2015

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NEXT MEETING

Tuesday, December 1st
11:30am-1:30pm

LOCATION:

Sanitation Districts of Los Angeles County
1955 Workman Mill Road
Whittier, CA 90601

Lunch sponsored by:
Storm Water Systems, Inc.

30th Annual WaterReuse Symposium

Seattle, WA - September 13-16, 2015

By Dawn Taffler,

Chapter Trustee to the WRCA Board and Recycled Water Practice

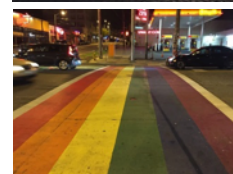
Leader at Kennedy/Jenks Consultants

The WaterReuse Association's 30th Annual Symposium brought the present day issues of the arid southwest to the usually wet city of Seattle. There were 525 attendees, the largest number since 2011, and attendees came from nine different countries, 34 U.S. states, and the District of Columbia. California dominated (@ 156 attendees), followed closely by the home state of Washington (@ 89 attendees) and Texas (@ 30 attendees).

I personally loved the location in central Seattle; where one could easily walk to the famous Pike Place Fish Market, hippy-hipster Capitol Hill or a Starbucks on -well - basically every corner. WaterReuse put on an elegant dinner at the Seattle Space Needle and perfectly mixed networking with sports at the Seattle Mariners Baseball Game. Great networking complimented the usually high standard of technical talks, inspiring speakers and introspective panels.

The keynote speaker was Brian Arbogast, the Director of the Water, Sanitation & Hygiene Team for the Gates Foundation's Global Development Program. The Gates Foundation funded and recently unveiled a low-cost treatment plant designed to provide clean water and sanitation in developing countries. Using a blend of steam power and water filtration, the system can convert up to 14 tons of sewage into potable water and electricity each day. <https://youtu.be/bVzppWSIFU0>

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The Los Angeles Regional Water Quality Control Board Responds to the Drought

What is the Los Angeles Regional Water Quality Control Board (LA Board) doing to partner with local recycled water producers and respond the drought?

The LA Board is one of 9 Regional Boards in California charged with protecting the quality of surface and ground water for present and future generations of residents and environmental resources. The LA Board continues to demonstrate its commitment by fast-tracking producer requests for recycled water permits and other water saving/producing projects, while ensuring protection of human health, environmental resources and high quality water supplies for the future. In collaboration with regulatory and public and private partners, the Board expedited actions in 2014 that saved 83 million gallons of potable water per day through recycling - enough to serve more than 187,030 households for a year (93,515 Acre-Foot per Year).

The Board, along with the State Water Resource Control Board's Division of Drinking Water and the Division of Water Rights, is responsible for implementing the



(L) The City of Oxnard uses recycled water for an irrigation impoundment at a golf course. (R) The Water Replenishment District improves the quality of highly treated effluent for injection at a sea water barrier.

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President's Column

Autumn is an exciting time of year for WateReuse and the water community. Not only did we recently celebrate all the little ghost and goblins at Halloween and our local hero's at Veteran's Day, we are just returning from celebrating the annual Thanksgiving's trip to spend with our families. This is a good time of year to acknowledge the support that we received from our colleagues and celebrate our achievements with family and friends as we remember those less fortunate and in need of our support. I hope El Niño brings us lots of treats instead of messy tricks, our WateReuse hero's get the recognition and support they deserve, and extra slices of Proposition 1 pumpkin pie are distributed to all of our members.

I would like to thank all of the WateReuse volunteers, particularly the facilities hosts, meeting presenters, and lunch sponsors. I look forward to another year of collaboration to safely expand the use of recycled water in Los Angeles.

Cheers,
Raymond Jay, President
 WateReuse California, Los Angeles Chapter

30th Annual WateReuse Symposium ▶ continued from pg. 1

Recognizing that not everyone in the Pacific Northwest knows the ins and outs of reuse like we do here in Southern California, the conference offered the first-ever Water Reuse Boot Camp - a four hour session that presented the nuts-and-bolts of organizing, developing, operating, or funding a water reuse program. My personal favorite was Monday morning's panel "Big Picture Session - Policy - Next Generation" where some of our industry's future leaders - including Shivaji Deshmukh (West Basin), Shane Trussell (Trussell Technologies), Channah Rock (University of Arizona) and Kristina Westbrook (King County Department of Natural Resources) discussed issues of concern and opportunity that will drive reuse in the next 30 years.

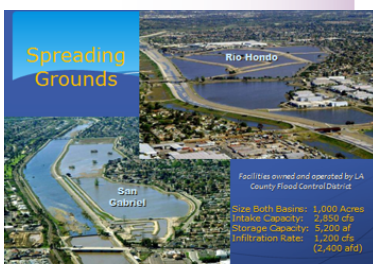
The Symposium closed with a "Ready for Action" session designed to give attendees a framework to go back to their communities and turn ideas into actions that lead to a more resilient water supply.

The session featured Paul Bowen of Coca-Cola discussing how industry has a leadership role in advancing sustainable water supplies and Mayor Jim Hembery, of Quincy, WA, discussing the role of government and elected officials. The session ended with an exercise on pitching science to the public from Melissa Marshall of Melissa Marshall Consulting LLC.

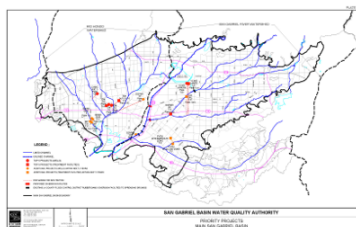
Seeing as this is my first ever contribution to the LA Chapter Newsletter, please humor me as I close with a quote from one of the Recycled Water Kids Art and Writing Contest winners:

I Hate Being Called Pollution
 By Hannah Fritz
 (A poem/spoken word)

You can call me the ocean, you can call me the streams, you can call me the water, you can call me the lakes, you can call me the ice, you can call me this now, but don't call me pollution.



More recycled water is now used for groundwater recharge at spreading grounds.



Groundwater cleanup activities in the San Gabriel groundwater basin are now permitted to produce potable water.

Water Quality Control Board ▶ continued from pg. 1

Governor's 2014 Emergency Drought Order and California's Clean Water Code, which ensure a long term clean and abundant water supply for California's residents. In Southern California, recycled water is an increasingly important component of irrigation or groundwater replenishment supplies, but must not be managed so as to degrade surface water and ground water preserved for long-term public use.

The Board prepares permits, typically Waste Discharge Requirements and/or Water Recycling Requirements, which specify process quality, treatment facilities, and final recycled water quality for each individual plant or recycled water distributor. The Division of Drinking Water is responsible for developing and approving recycled water treatment processes and ensuring safe application of that recycled water. The Division of

Water Rights determines where recycled water use removes surface or groundwater flows which are needed to support the quality or quantity delivered to downstream water right holders or to support beneficial uses.

Expediting Shifts from Use of Potable to Recycled Water: In March and June 2014, a permit was amended and issued to Watershed Replenishment District (WRD) to replace a 50/50 blend of recycled water and potable water with 100 percent highly treated recycled water for injection into the seawater intrusion barrier. The project will save three million gallons of potable water per day, enough to supply 7,000 households for a year (3,500 AFY).

In April 2014, a WRD permit was amended to increase discharge to the Montebello Forebay Groundwater Recharge Project (Rio Hondo and

Water Quality Control Board

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San Gabriel Spreading Grounds) from 35 percent to 45 percent recycled water, potentially saving 13,150 gallons of imported water a day, enough to supply 30 households for a year (15 AFY).

Expediting Groundwater Cleanup and Production of Drinking Water In July 2014, in collaboration with the San Gabriel Water Quality Authority, the Los Angeles Water Board took action to expedite the cleanup of groundwater in the San Gabriel groundwater Basin. The approved permit will facilitate the treatment of groundwater to serve up to 180,000 families and offset the need for imported water (90,000 AFY). The new potable supplies created by the clean-up projects represent a significant portion of the local water supply. The permit also provides a model for long term collaboration of local agencies to implement integrated solutions to storm water recharge and groundwater management.

Expediting "Mobile" Distribution of Recycled Water

On July 20, 2015, the Los Angeles Water Board took action to approve the first residential recycled water fill station program in southern California and authorized the City of Oxnard to begin providing up to 608 acre-feet of non-potable recycled water on a monthly basis to agricultural operations during this ongoing drought. The Water Fill Station Program is located at the Advanced Water Purification Facility at 5700 Perkins Road in Oxnard. All customers must provide a marked container to remove up to three hundred gallons of recycled water for use on their properties. Training is also required to ensure appropriate use of this water.



A mobile residential fill tank illustrating the transport of recycled water for individual use

On June 24, 2015, the Board approved Las Virgenes Municipal Water District's Residential Recycled Water Fill Station Program (Water Fill Station Program). The Water Fill Station Program involves distribution of tertiary-treated recycled water from the Tapia Water Reclamation Facility to local residents. The Water Fill Station Program will enable local residents to reduce potable water usage by using recycled water for landscape irrigation.

The Water Fill Station Program is located at the Las Virgenes-Triunfo Joint Powers Authority Rancho Las Virgenes Composting Facility located at 3700 Las Virgenes Road in Calabasas. All customers must complete a training program on the safe use of recycled water prior to handling Title 22 tertiary-treated recycled water.



Construction of a salinity management pipeline temporarily repurposed to provide drought relief for agriculture users.

On August 28 and September 24, 2015 the Los Angeles Water Board approved two additional Residential Recycled Water Fill Station Programs. These additional approvals were for the distribution of tertiary-treated recycled water from the Burbank Water Reclamation Plant by the City of Burbank's Department of Water and Power (Burbank DWP) and from the Ventura Water Reclamation Plant by the City of Ventura. Residents are eligible to fill up their own containers with recycled water after completing a training program on the safe use of recycled water. Burbank City staff provides residents with stickers to place on their recycled water containers. In both cities, up to three hundred gallons of recycled water may be obtained per visit, but residents are allowed to make multiple visits per day.

The Burbank recycled water fill station is located at the Starlight Bowl Parking lot on the corner of E. Walnut and Lockheed View Drive, and operates on Saturdays from 9 AM to 12 noon. The recycled water is provided free of charge to Burbank residents. However, residents need to act quickly since the fill station will only remain open until the end of October, when the rainy season is expected to begin.

The Ventura recycled water fill station is on the wastewater treatment facility grounds with access at 1400 Spinnaker Drive. The water is safe for human contact and can be used for irrigation of turf, trees and food crops. The water is not suitable for drinking, cooking, bathing, filling swimming pools, plumbing or cleaning of drains or gutters.

On July 9, 2015, the Los Angeles Water Board approved amendments to the City of Oxnard's Groundwater Recovery Enhancement and Treatment Program Water Recycling Requirements and Monitoring and Reporting Program and the Calleguas Municipal Water District's Waste Discharge Requirements for the Regional Salinity Management Pipeline. Through these amendments, the Los Angeles Water Board expedited the distribution of water produced by Oxnard's Advanced Water Purification Facility. The adopted amended permits will allow use of the existing Calleguas Regional Salt Management Pipeline to temporarily convey the high

Earle Hartling
Water Recycling
Coordinator for
the Sanitation
Districts of Los
Angeles County,



answers your burning questions on all issues regarding recycled water. He has been involved with water reuse for now over 34 years, so ask your questions sooner than later, because he ain't getting any younger! Seriously, he really isn't!

Ask the Guru

Question: All Title 22 waters are not created equal. What issues do you see with interconnecting recycled water systems served by different sources?

– Same Guy, Different Question

Dear Guy,

Just to be clear, there are four qualities of recycled water that are permitted for varying levels of reuse by California's Title 22 Water Recycling Criteria: undisinfected secondary, disinfected secondary-23, disinfected secondary-2.2 and disinfected tertiary. Of course, we generally wouldn't find a reason to comeingle secondary and tertiary treated recycled water in a common distribution system. Fortunately, nearly every single drop of recycled water produced in Los Angeles County from the major water reclamation plants (WRPs) is tertiary effluent, with the exception of the tiny, tiny (79,000 gallons per day) La Canada WRP.

But what about tertiary effluent from different plants? By definition, tertiary-treated recycled water has to meet the same water quality criteria for bacteria and turbidity for it to be used, so comingling recycled water from different sources shouldn't be a big deal from a regulatory standpoint. From what I've seen, all of the major producers of recycled water have taken extensive steps to ensure that their recycled water meets the Title 22 criteria on a consistent basis. Any excursions from these standards are relatively infrequent and generally transitory in nature. Therefore, who's responsible if there's a violation becomes less of a concern if systems are interconnected. I expect that if such a problem arises, the extensive monitoring and analysis being performed on the recycled water, regardless of source, would identify the source of the problem.

Other, non-regulated water quality issues may become a concern, such as salinity levels. One WRP may be tributary to an area receiving

more groundwater, while another may see more Colorado River water, resulting in higher total dissolved solids levels. But just as end users found that they were able to adapt when they switched from potable to recycled water (along with the resulting increase in salinity), the comingling of recycled water from multiple WRPs should be found to be workable, as well.

And, lo and behold, it already has been! Central Basin Municipal Water District not only pioneered the concept of a regional recycled water distribution system serving multiple retail water purveyors, but created the first interconnected system. Their Century distribution system, carrying recycled water from the Sanitation Districts' Los Coyotes WRP was linked with their Rio Hondo distribution system originating from the Sanitation Districts' San Jose Creek WRP. The advantages to multiple sources of recycled water are increased flow, pressure and reliability (in case of plant shutdowns).

Opportunities exist for more interagency connections: between the Walnut Valley Water District and Upper San Gabriel Valley MWD in West Covina/Walnut, between Central Basin MWD and Long Beach Water Department in Lakewood, between Glendale, Burbank and Pasadena in the San Fernando Valley. Before I'm done as Guru, I fully expect to see an unbroken string of recycled water lines from Pomona to the sea.

Water Quality Control Board

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FREE RECYCLED H₂O to GO

Community Recycled Water Fill Station



DRIVE UP



FILL UP



DON'T DRINK UP

The City of Burbank's advertisement for their recycled water fill station

quality recycled water from Oxnard's treatment facility to the growers in the Oxnard Plain rather than waiting two years for the permanent piping from the purification facility to the growers to be constructed.

As much as 165 million gallons or 608 acre-feet of non-potable water every month will be provided to the growers in the Oxnard Plain. An acre foot of potable water is enough water

to supply two California household's water use in any given year. Stakeholders that supported the amended permits were supported by Senator Hannah-Beth Jackson's office, Assemblymember

Jacqui Irwin's office, City of Oxnard, Calleguas Municipal Water District, Pleasant Valley County Water District, United Water Conservation District, Fox Canyon Groundwater Management Agency, local growers and the Farm Bureau."



Labeled Container holding Recycled Water

ASHRAE 188 Summary

Legionellosis: Risk Management for Building Water Systems

Summary supplied by ChemTreat

In June 2015, ASHRAE released Standard 188 for Legionella risk management. The standard does not provide a large amount of guidance around water treatment strategies or testing limits. The standard instead focuses on the creation and implementation of a documented risk management process by the owners and managers of buildings. This bulletin provides a brief, high-level overview of the standard. It is not meant to replace reading the standard.

Standard Applicability

The applicability of the standard depends on a survey of the building's risk factors based on listed criteria.

1. *Does the building have one or more of the following:*
 - a) Open and closed circuit cooling towers or evaporative condensers that provide cooling and/or refrigeration for the HVAC&R systems or other systems or devices in the building.
 - b) Whirlpools or spas in the building or on the site.
 - c) Ornamental fountains, misters, atomizers, air washers, humidifiers, or other nonpotable water systems or devices that release water aerosols in the building or on site.
2. *Is the building characterized by one or more of the following:*
 - a) Multiple housing units with one or more centralized potable water heater systems.
 - b) Building is more than 10 stories high (includes below grade levels).
 - c) Healthcare facility where patient stays exceed 24 hours.
 - d) Building containing one or more areas for the purpose of housing or treating occupants receiving treatment for burns, chemotherapy for cancer, solid organ transplantation, or bone marrow transplantation.
 - e) Building containing one or more areas for the purpose of housing or treating occupants that are immunocompromised, at-risk, are taking drugs that weaken the immune system, have renal disease, diabetes, or chronic lung disease.
 - f) Building identified as housing occupants over the age of 65 years. If the building has one or more of the risk factors listed in items #1 and #2 above, then ASHRAE Standard 188 applies as follows:
 - a) If a building contains any factors listed in item #1 (a–c) and no characteristics of item #2 (a–f), a water management program should be developed for only those systems identified in item #1.
 - b) If a building is identified as having any of the characteristics in item #2 (a–f), a water management program should be developed for the potable building water system and any of the water systems of item #1 (if present). Section 4.3 of Standard 188 also provides specific guidance for health care facilities.

Water Management Program Principles Summary

Team Structure

The standard contemplates the creation of a team that includes building owners, facility management, maintenance personnel, and personnel from infection control, risk management, and senior management. The team should have a schedule for meetings and should identify those occurrences that prompt a team meeting. The team should document all meetings.

Building Analysis

The standard contemplates a survey of the building water systems. The survey information provides a basis for identifying systems that pose a risk for legionellosis and creating a description of where the water enters a building, how it is processed or conditioned, and its end uses.

Flow Diagrams

The standard contemplates flow diagrams for potable and/or utility water systems according to the factors in sections 1 and 2 above.

Control Measures and Monitoring

The standard contemplates identification of control locations. Control locations are sites where controls are in place, or need to be in place, to control Legionella or its dissemination (e.g., potable water heaters, cooling towers). The team is to determine control measures, control limits, and monitoring systems/ methods at the control locations, including the frequency of monitoring.

Corrective Actions

The team must develop corrective actions when the control limits are out of range.

Verification

The standard requires a procedure to verify implementation in accordance with the Water Management Program.

Validation

The team must determine whether testing for Legionella should be performed and if so, how such test results should be used to validate the program, including testing approach, frequency, samples, locations, and method. The testing decision must include consideration of maintenance of program control limits, at-risk populations (for health care facilities), and prior history of legionellosis.

Documentation and Communication

The water management program elements should be contained in a single document. Other information such as communication procedures, maintenance procedures, operational manuals, testing procedures and results, and water disruption plans are part of this documentation. The documentation requirements in Standard 188 are very extensive, and they are detailed in sections 7 and 8 (and for some health care facilities, Annex A) of the standard.



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
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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
WaterReuse California
West Basin Municipal Water District



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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)

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

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