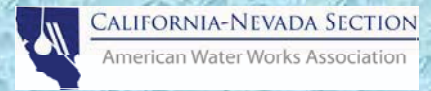


Two One-Day Workshops: The Effects of Pretreatment on Desalination Operations for Seawater, Brackish Water & Recycled Water



Organized by the California - Nevada Section AWWA
Desalination Committee

SOUTHERN CALIFORNIA

TUESDAY, AUGUST 9, 2011

HOST LOCATION: Orange County Water District

18700 Ward Street
Fountain Valley, CA 92708
Phone: 714.378.3200

www.ocwd.com
www.csmfilter.com

Tour Site: CSM, Anaheim

NORTHERN CALIFORNIA

TUESDAY, AUGUST 16, 2011

HOST LOCATION: East Bay Municipal Utility District

375 11th Street
Oakland, CA 94607

Phone: 866.403.2683 www.ebmud.com

Tour Site: RARE (Richmond Advanced Recycled Expansion),
Richmond



The most common desalination process—whether it is for seawater, brackish water or recycled water treatment—is reverse osmosis (RO). RO is a high-pressure membrane process where dissolved and undissolved constituents are rejected and concentrated on the influent side of the membrane while pure water passes through as permeate. RO is a delicate process, and its performance is largely affected by influent water-quality parameters that can cause fouling and/or scaling, including but not limited to colloidal and suspended solids, iron and manganese, hydrogen sulfide, silica, sparingly soluble salts (e.g., calcium carbonate, barium and strontium sulfate, calcium phosphate, calcium sulfate), microorganisms and organics.

Basic pretreatment steps, such as cartridge filtration, pH adjustment and/or antiscalant feed, are common to all RO systems; however, the presence of particular constituents in each application may mean additional pretreatment requirements could also differ. This workshop will present an overview and case studies of technologies and operations for pretreatment of desalination for seawater, brackish water and recycled water applications.

The workshop will be presented by industry experts on process technology and pretreatment system operation. The workshop will conclude with a tour relevant to the topics discussed.

WHO SHOULD ATTEND?

- Utility managers
- Planners
- Engineers
- Operating personnel
- Regulators
- Consulting engineers
- Scientists

6 CONTACT HOURS



FOR MORE INFORMATION ON THE WORKSHOP PLEASE CONTACT:

JOE WONG, DESALINATION COMMITTEE CHAIR
email: jmwong@brwncald.com
Phone: 925.210.2555

HEIDI LUCKENBACH, WORKSHOP COORDINATOR
email: hluckenbach@cityofsantacruz.com
Phone: 831.420.5214

Two One-Day Workshops Organized by the CA-NV Section American Water Works Association Desalination Committee

Time	TUESDAY, AUGUST 9, 2011 Orange County Water District 18700 Ward Street Fountain Valley, CA 92708 Phone: 714.378.3200 www.ocwd.com	TUESDAY, AUGUST 16, 2011 East Bay Municipal Utility District 375 11 th Street Oakland, CA 94607 Phone: 866.403.2683 www.ebmud.com
8:30 - 9:00	Registration & Breakfast	Registration & Breakfast
9:00 - 9:15	Introduction & Goals <i>Heidi Luckenbach, City of Santa Cruz</i>	Introduction & Goals <i>Heidi Luckenbach, City of Santa Cruz</i>
9:15 - 9:45	Overview of Pretreatment Requirements for Desalination of Water & Wastewater <i>Jim Vickers, SPI</i>	Overview of Pretreatment Requirements for Desalination of Water & Wastewater <i>Joe Wong, Brown & Caldwell</i>
9:45 - 10:15	Advances in Membrane Manufacturing to Limit Fouling <i>Dave Faber, CSM</i>	Advances in Membrane Manufacturing to Limit Fouling <i>Dave Faber, CSM</i>
10:15 - 10:35	Break	Break
10:35 - 11:05	RO Pretreatment of Brackish Water Facility <i>Shane Trussell, Trussell Technologies, Inc.</i>	RO Pretreatment of Brackish Water Facility <i>Shane Trussell, Trussell Technologies, Inc.</i>
11:05 - 11:35	RO Pretreatment at WW Reclamation Facility <i>Greg Wetterau, CDM</i>	RO Pretreatment at WW Reclamation Facility <i>Greg Wetterau, CDM</i>
11:35 - 12:05	RO Pretreatment at Seawater Facility <i>Peter Shen, H₂O Professional</i>	RO Pretreatment at Seawater Facility <i>Peter Shen, H₂O Professional</i>
12:05 - 1:00	Lunch	Lunch
1:00 - 1:30	Operational Experiences Optimizing Membrane Pretreatment <i>William Hunt, OCWD</i>	Operational Experiences Optimizing Membrane Pretreatment <i>John Hake, EBMUD</i>
1:30 - 2:00	Brine Recycle and Minimization <i>Charlie He, Carollo Engineers</i>	Brine Recycle and Minimization <i>Charlie He, Carollo Engineers</i>
2:00 - 2:30	Pathogen Removal & Integrity Monitoring in RO & RO Pretreatment <i>Jay DeCarolis, MWH</i>	Pathogen Removal & Integrity Monitoring in RO & RO Pretreatment <i>Jay DeCarolis, MWH</i>
2:30 - 3:00	Travel Time	Travel Time
3:00 - 5:00	Plant Tour: CSM Manufacturing Facility, Anaheim	Plant Tour: EBMUD RARE, Richmond

REGISTRATION Price Includes 6 Contact Hours

Online registration is available at: www.ca-nv-awwa.org For registration questions call Jennifer Sandoval 909.291.2113

Address: 10574 Acacia Street, Suite D6, Rancho Cucamonga, CA 91730

Faxed reservations will be accepted with a copy of the purchase order or credit card. Fax: 909.291.2107

I am registering for: **TUESDAY, AUGUST 9, 2011** **TUESDAY, AUGUST 16, 2011**

I will be attending the tour: **YES** **NO**

Name (s): _____ Title (s): _____

Organization: _____

Payment/Mailing Address: _____

email: _____ Phone: _____

Enclosed is my **\$135.00 Member Fee** or **\$175.00 Non-member Fee*** **Credit Card:** (please circle) **Visa** **MC** **AMEX**

Name of Cardholder: _____ AWWA Member#: _____

Credit Card Number: _____ Exp. _____ Amount: \$ _____ Billing Zip: _____

Signature: _____

Send receipt to this email: _____ (Must be signed to process credit card order)

*Make checks payable, in US funds, to CA-NV Section AWWA.