

DIRECTOR AB 1234 REPORT

Director Name: Jacquelyn McMillan
Meeting Attended: CalDesal's 6th Annual Desalination and Salt Management Conference, Casa Munras Garden Resort & Spa, Monterey, CA
Dates/Times: January 31 – February 2, 2018
Presented at: February 6, 2018
No. of Attendees: 130 CalDesal members and representatives in the water and energy industries
Brochure/Agenda: Agenda Attached
Points Of Interest: See below

The conference discussed various desalination projects (current and upcoming) in California and Internationally. Subjects covered new technologies and challenges of ocean desalination, water/energy nexus, salinity management, state regulatory regulations and legislative proposals, and ground water desalination.

Take-aways:

- Since 2008, the cost of desalination has decreased 80%
- In 2016, the State amended the California Ocean Plan, which established rules for ocean desalination intakes (and mitigation) and brine discharge. So project has yet to be permitted under the new plan. Possible Poseidon or Hunting Beach will be first. There was a lot discussion about the various technologies available for below surface intakes and which were best in different circumstances for projects.
- Within the US, **coastal desalination** will always be only a portion of any water supply portfolio.
- **Colorado River Salinity Management** Program removes about 1.31 million tons a year. Source of salt is about 80% from groundwater leaching and 50% from federal lands. Cost to remove salt is about \$50/ton or \$434 million/yr. The program has reduced the cost of annual operations down \$300 million/yr. Not enough to remediate all the impacts.
- 95% of desalination in US is brackish desal. 95% of desalination in the Middle East is ocean desal.
- Ohio has currently permitted a **wholly enclosed onsite desalination project that treats black water to drinking water standards** using septic tanks. Has been in operation for 5 years now.
- **Contracts.** One panel discussed four different desalination projects and the types of contracts that can be negotiated: **design/build; design/build/operate/maintain; design/build/finance/operate/maintain; including water purchase agreements and government oversight.** In US, public agencies do not like private companies owning facility that serve the public. But that does not have to be the case. In the Middle

East, the **BOT (build/own/transfer)** model is typical. “Own” does not mean own the land or facility, but the contract.

- **Santa Barbara’s** just rehabbed their **desalination plant** and brought it online several days ago. Desalination is just part of the City's overall water management alternatives. During the drought their goal was 30% conservation. But because their communication outreach regarding the drought and bringing the plant back online was so successful, they actually achieved 40% conservation. Since rehabbing the plant would significantly impact rates, they kept the public involved at each and every step and reminded them over and over why the plant was needed as part of the portfolio, and why the costs had increased by \$53 million so there would be no surprises when the plant started back up. The plant is 40% more energy efficient than the original one. Their water costs are:
 - \$1,400/AF for desalinations (including operating costs)
 - \$1,200/AF for recycled water
 - \$200-\$800/AF for ground water and \$1,500 for SWP water
- * They found that the cost of desalination drove conservation.



**Implementing Water Portfolio
Planning with Desalination and
Salt Management**

*6th Annual CalDesal
Conference*

February 1-2, 2018

*Casa Munras Garden Hotel & Spa
Monterey CA*

Welcome!

As Chair of CalDesal, it is my pleasure to welcome you to the 6th Annual CalDesal Conference where we will discuss Desalination and Salt Management – Implementing Water Portfolio planning with Desalination and Salt Management.

Years of drought has clearly demonstrated that California Water Managers have made the correct decision to diversify their local and regional water supply portfolios. Even after an above average rain fall for 2017, we may see drought conditions return this year and public interest in California's water situation is still at an all-time high. Water managers' decisions are being more closely scrutinized than ever. Retaining all water supply options including desalination is important to help meet those higher expectations. Desalting brackish groundwater or seawater also provides a drought resilient, locally controlled supply, and safe, clean drinking water. Today, Salt management strategies increasingly play an important role in protecting water quality and quantity.

In 2015 the State Water Resources Control Board adopted new rules for ocean intakes and brine disposal back into the ocean. We will continue our dialogue on practical considerations and implementation of those new rules.

Over the next two days we hope you will enjoy our discussions of salt management strategies and desalting to meet 21st century challenges. We will focus on brackish groundwater, regional salt management strategies, technologies in desalination and a panel on project implementation and construction strategies.

Our goal with this conference is to stimulate discussion to further develop a sustainable desalination and salt management strategy for California. We would also like to grow our mutual network and CalDesal as the leading California organization advocating for these key water portfolio elements. Thank you for joining us and helping our effort.

Sincerely,



Shawn Dewane
Chair
CalDesal Executive Committee

About CalDesal

Since its formation as a non-profit organization in 2010, CalDesal has established itself as a credible voice and an effective advocate for desalination and salinity management. CalDesal advocates in Sacramento and engages throughout the state to secure policies and funding to promote desalination and salinity management.

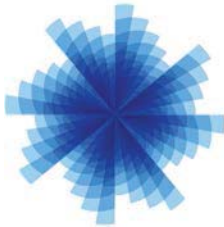
Together, CalDesal members are building a strong, unified voice for policies and funding to promote and expand desalination and salinity management.

Visit our website at www.caldesal.org to read more about ocean desalination, brackish water desalination and salinity management and how CalDesal can work for you.

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ENGINEERING
TOMORROW



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Agenda6

Attendee List 10

CALDESAL PROGRAM PLANNING WORK GROUP

Diane Gatza
Water Replenishment District of Southern California (WRD)

Joe Monaco
Dudek

Kevin Thomas
Kimley-Horn

Paul Findley
PLFAgua, Inc.

Richard Svindland
California American Water

Warren Teitz
The Metropolitan Water
District of Southern California

Zita Yu
West Basin Municipal Water District



CalDesal

AGENDA

6th Annual Desalination Conference

All Seminars will take place in Room Andalucia 1

DAY ONE

Thursday, February 1, 2018

8:30 am – 9:45 am Registration / Continental Breakfast
Room - Andalucia 1

10:00 am – 10:15 am Opening Remarks
Chair Shawn Dewane, Executive Director Paul Kelley

10:15 am – 12:00 pm **Session I: Ocean Desalination and Ocean Plan Implementation**

Moderator: *Joe Monaco, President, Dudek*

Panelists: *Kimberly Tenggardjaja, State Water Resources Control Board
Stan Williams, Poseidon Water
Zita Yu, PHD PE, West Basin Municipal Water District*

Description:

This program will examine the amendments to the California Ocean Plan related to ocean water desalination that came into effect in 2016. The amendments establish rules for ocean desalination intakes (and mitigation) and brine discharge. The panelists will discuss their experiences in complying with the Ocean Plan Amendments, and discuss the status and challenges associated with implementation of the rules on current and future ocean desalination projects.

12:00 pm – 1:30 pm **Keynote Luncheon:**
Room - Andalucia 1

“Taking the Plunge: Santa Barbara’s Experience Re-commissioning its Desalination Plant” **Keynote: Helene Schneider**

**1:30 pm – 2:45 pm Session II: Desalination in the New
Century of Energy Supply Management**

Moderator: *Zita Yu, PhD, PE, Water Resources Engineer, West Basin
Municipal Water District*

Panelists: *Jamie Ormond, JD, Legal and Water Advisor, California Public
Utilities Commission*

Mark Donovan, PE, Desalination Program Manager, GHD

Christopher Cook, PE, Engineering Manager, California American Water

Bob Holden, PE, Principal Engineer, Monterey One Water

Description:

Desalination is an important component for strengthening California's water supply reliability and drought resiliency. Water agencies considering desalination are thinking creatively to lower the associated project energy costs as well as greenhouse gas emissions, such as implementing onsite energy projects and developing offsite options. Additionally, these energy initiatives driven by the need for reliable alternative water supplies are complementary to the State's renewable and greenhouse gas reduction goals as well as help enhance grid reliability. This panel will bring together experts from the energy and water sectors to discuss the water-energy nexus and explore opportunities that would foster more cross-sector partnerships.

3:15 pm – 3:30 pm Break

**3:30 pm – 5:00 pm Session III: Strategies, Policies and
Partnerships to Successfully Manage
Source Water Salinity**

Moderator: *Phil Rosentrater –GM/Executive Director Salton Sea Authority*

Panelists: *Don A. Barnett, Executive Director, Colorado River Basin
Salinity Control Forum*

Bruce Wilcox, Assistant Secretary for California Natural Resources Agency

*Carol Mahoney, Manager, Integrated Water Resources, Contra Costa
Water, Zone 7*

Description:

Increasing salinity in source water portfolio for California agencies brings with it regulatory complications and rising costs as agencies, businesses, agriculture and environmental interests struggle to adapt plans and projects to deal with rising salt and nutrients. This panel will focus on policies and partnerships that allow agencies to handle the issues, deal with regulatory agencies, and implement projects to stay ahead of salinity impacts.

5:00 pm – 6:30 pm Reception *(Marbella Room)*

DAY TWO

Friday, February 2, 2018

8:00 am – 8:45 am Continental Breakfast

Room - Andalucia 1

8:45 am – 9:15 am **Session IV: Desalination: Future Trends and State Legislative Update**

Moderator: *Paul Kelley, Executive Director CalDesal*

Panelists: *Tom Pankratz, WDR – “Innovative Tech – what works, what doesn’t, and what looks promising”*

Report from the Tour – *Wednesday’s Tour Report*

Rich Svindland, President, California American Water - “Update on Monterey Water Projects”

Description:

This session explores the different contract delivery methods used for seawater desalination projects and importantly delves into the experiences from a legal perspective (what is allowed in CA), a financial perspective (what can be financed), and contractors and owners perspective (what provides suitable risk allocation for both the contractor and the owner)?

9:15 am – 9:20 am **Break**

9:20 am – 10:40 am **Session V: Project Delivery: Tailoring it to Your Project**

Moderator: *Paul Hermann – GHD*

Panelists: *Eric “Matt” Scott, District Manager & Senior Vice President, Southern California, Kiewit Construction
Ian C. Crooks, Vice President Engineering, California American Water
Stan Williams, Vice President, Poseidon Water
Eric Peterson, Partner, Hawkins Delafield*

Description:

This session explores the different contract delivery methods used for seawater desalination projects and importantly delves into the experiences from a legal perspective (what is allowed in CA), a financial perspective (what can be financed), and contractors and owners perspective (what provides suitable risk allocation for both the contractor and the owner)?

10:40 am – 11:50 am Session VI: Ground Water Desalination a Tool for Water Portfolio

Moderator: Paul Findley, President, PLFAgua, Inc.

Panelists: Jack Bebee, Acting General Manager, Fallbrook Public Utility District
Jim McDavid, Manager of Engineering, Water Replenishment District of Southern California

Lucie McGovern, North Pleasant Valley Desalter, Project Manager, City of Camarillo

Description:

Ground water desalination is increasingly a powerful tool for local agencies to deal with impaired groundwater basins, implementing SGMA, and providing a reliable source of water for a regions water supply portfolio.

KEYNOTE

Helene Schneider



Helene Schneider served for two terms as Santa Barbara's 49th Mayor from January 2010 – January 2018. Her prior elected and appointed office included six years on the Santa Barbara City Council and two years as a Commissioner of the Housing Authority of the City of Santa Barbara.

As Mayor, and during Santa Barbara's period of exceptional drought, Helene Schneider and the Santa Barbara City Council led a process that resulted in a 40% water conservation goal; upgraded its tertiary water treatment facility which provides recycled water to parks and other major landscaping areas throughout the City; added a fuel cell at El Estero Wastewater Treatment Facility, transforming methane gas into the electricity needed to power the Plant; reconstructed numerous city parking areas and streets with permeable pavers, thus recharging the ground water basin and preventing flooding; initiated a study towards new indirect potable reuse capital projects; and re-commissioned its 25-year old desalination plant. Schneider has been interviewed by several dozen local, national and international media outlets on the drought and the role of desalinated water as part of the City's overall Water Supply Management Plan.

Helene Schneider earned her BA degree from Skidmore College and her Professional Designation in Human Resources Management from UCSB Extension.

ATTENDEE LIST

Kim Adamson
DeepWater Desal LLC

Jim Atkinson
Mesa Water District

Gabriel Austin
Danfoss High Pressure Pumps

Bezad Basiri
Thompson Pipe Group

Jack Bebee
Fallbrook Public Utility District

Mark Beebe
HDR Engineering

Robert Bergstrom
Sustainable Desal LLC

Russell Berry IV
Intake Screens, Inc.

Donna Bloom-Crook
HDR

Fred Bockmiller
Mesa Water District

Alexandra Borack
California State Lands Commission

Robert Brannan
Pacific Gas & Electric Company

Andrew Brunhart
South Coast Water District

Charles Busslinger
Municipal Water District of Orange County

Lee Clapp
Omya Inc

Greg Clumpner
NBS

Gilad Cohen
IDE Technologies

Ian Crooks
California American Water Company

David Daitch
Rincon Consultants, Inc.
Roy Daly
LG Chem

Marshal Deane
Seven Seas Water

Brian DeCaires
PG&E

Mark Donovan
GHD

Daniel Ellis
State Water Resources Control Board

Lior Eshed
IDE Technologies

Bob Faulis
Cannery Row Plaza

Steve Friedman
Water Market Sector Leader

Silvana Ghiu
Hazen and Sawyer

William Green
South Coast Water District

Karen Grimmer
Monterey Bay National Marine Sanctuary (MBNMS)

Howard Gustafson
Marina Coast Water District

Joshua Haggmark
City of Santa Barbara

Bob Harding
Metropolitan Water District

Rand Havens
Shell Energy

Paul Herman
GHD

Tim Hogan
TWB Environmental Research and Consulting, Inc.

Bridget Hoover
Monterey Bay National Marine Sanctuary (MBNMS)

Jay Johnson
Applied Marine Sciences

John Kennedy
Orange County Water District

Larry Kraemer
Cannon Corporation

Denise Kruger
Golden State Water Company

Mark Lambert
WaterMark Resource Development Inc

Phil Lauri
Mesa Water District

Hal Martin
Vallecitos Water District

ATTENDEE LIST (CONT.)

Cara Martinez
Cannon Corporation

Lucia McGovern
City of Camarillo

Jacquelyn McMillan
Santa Clarita Valley Water Agency

Eric Miller
HDR

Joe Monaco
Dudek

Chris Morss
IDE Technologies
Jamie Ormond
California Public Utilities Commission

Eric Owens
West Basin Municipal Water District

Phil Paule
Eastern Municipal Water District

Toni Pezzetti
CA DWR

Tom Pankratz
WDR

Justin Pickard
Water Systems Consulting, Inc.

Amy Rocha
West Basin Municipal Water District

Phil Rosenrater
Salton Sea Authority

Mohamad Amin Saad
MASAR Technologies, Inc.

Ann Sansevero
Dudek

Vicente Sarmiento
Orange County Water District

John Schoener
OMYA INC

Thomas Seacord
Carollo Engineers, Inc.

Karl Seckel
Municipal Water District of Orange County

Paul Sethy
Alameda County Water District

Makrom Shatila
Michael Baker International

Robert Shaver
Alameda County Water Disitrc

Torin Snyder
Rincon Consultants

Sean Stewart
GEOSCIENCE Support Services

David J Stoldt
Monterey Peninsula Water Management District

Stephanie Strelow
Dudek

Richard Svindland
California American Water

Warren Teitz
Metropolitan Water District

Gordon Thrupp
Geosyntec Consultants

Celine Trussell
Trussell Technologies, Inc.

Brian Villalobos
GEOSCIENCE Support Services, Inc.

Steve Wait
IDE Technologies

James Wang
HDR

John Weed
Alameda County Water District

Alex Wesner
SPI

Bruce Whitaker
Orange County Water District

Stan Williams
Poseidon Water

Zita Yu
West Basin Municipal Water District

Michael Zafer
CDM Smith

Eric Zigas
ESA

SAVE THE DATE

**May 9, 2018
Sacramento, CA**

**Board Meeting
7:00 am**

**CalDesal Mixer
5:00 pm - 7:00 pm**



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