PALMDALE WATER DISTRICT

2029 East Avenue Q • Palmdale, California 93550 • Telephone (661) 947-4111

Since 1918

Board of Directors

ROBERT E. ALVARADO
Division 1

JOE ESTES
Division 2

MARCO HENRIQUEZ
Division 3

KATHY MAC LAREN
Division 4

VINCENT DINO
Division 5

ALESHIRE & WYNDER LLP
Attorneys

April 6, 2017

Agenda for Regular Meeting
of the Board of Directors of the Palmdale Water District
to be held at the District's office at 2029 East Avenue Q, Palmdale

Wednesday, April 12, 2017

7:00 p.m.

NOTES: To comply with the Americans with Disabilities Act, to participate in any Board meeting please contact Dawn Deans at 661-947-4111 x1003 at least 48 hours prior to a Board meeting to inform us of your needs and to determine if accommodation is feasible.

Additionally, an interpreter will be made available to assist the public in making **comments** under Agenda Item No. 4 and any action items where public input is offered during the meeting if requested at least 48 hours before the meeting. Please call Dawn Deans at 661-947-4111 x1003 with your request. (PWD Rules and Regulations Section 4.03.1 (c))

Adicionalmente, un intérprete estará disponible para ayudar al público a hacer **comentarios** bajo la sección No. 4 en la agenda y cualquier elemento de acción donde se ofrece comentarios al público durante la reunión, siempre y cuando se solicite con 48 horas de anticipación de la junta directiva. Por favor de llamar Dawn Deans al 661-947-4111 x1003 con su solicitud. (PWD reglas y reglamentos sección 4.03.1 (c))

Agenda item materials, as well as materials related to agenda items submitted after distribution of the agenda packets, are available for public review at the District's office located at 2029 East Avenue Q, Palmdale (Government Code Section 54957.5). Please call Dawn Deans at 661-947-4111 x1003 for public review of materials.

PUBLIC COMMENT GUIDELINES: **The prescribed time limit per speaker is three-minutes. Please refrain from public displays or outbursts such as unsolicited applause, comments, or cheering. Any disruptive activities that substantially interfere with the ability of the District to carry out its meeting will not be permitted and offenders will be requested to leave the meeting. (PWD Rules and Regulations, Appendix DD, Sec. IV.A.)**

Each item on the agenda shall be deemed to include any appropriate motion, resolution, or ordinance to take action on any item.

1) Pledge of Allegiance/Moment of Silence.
2) Roll Call.
3) Adoption of Agenda.
4) Public comments for non-agenda items.

5) Presentations:

5.1) Oroville Dam and Flood Management. (Deputy Water & Energy Resources Director Thompson II)

6) Action Items - Consent Calendar (The public shall have an opportunity to comment on any action item on the Consent Calendar as the Consent Calendar is considered collectively by the Board of Directors prior to action being taken.)

6.1) Approval of minutes of regular meeting held March 22, 2017.

6.2) Payment of bills for April 12, 2017.

6.3) Approve absence of Director Estes from March 22, 2017 Board meeting due to family obligation. (General Manager LaMoreaux)

7) Action Items - Action Calendar (The public shall have an opportunity to comment on any action item as each item is considered by the Board of Directors prior to action being taken.)

7.1) Consideration and possible action on defunding the vacant Senior Service Worker position and funding the Engineering Technician I position. (Human Resources Director Emery/Personnel Committee)

7.2) Consideration and possible action on Resolution No. 17-13 being a Resolution of the Board of Directors of the Palmdale Water District in Support of the Association of California Water Agencies' Policy Statement on Bay-Delta Flow Requirements. (Deputy Water & Energy Resources Director Thompson II)

7.3) Consideration and possible action on Resolution No. 17-14 being a Resolution of the Board of Directors of the Palmdale Water District Requiring that Board Members be Elected by Division Starting in November of 2018. (President Alvarado/Director Mac Laren)

7.4) Consideration and possible action on authorization of the following conferences, seminars, and training sessions for Board and staff attendance within budget amounts previously approved in the 2017 Budget:

a) P3 Water Summit to be held May 4 – 5, 2017 in San Diego.

b) ESRI User Conference to be held July 10 – 14, 2017 in San Diego.

c) 11th IWA International Conference on Water Reclamation and Reuse to be held July 23 – 27, 2017 in Long Beach.

8) Information Items:

8.1) Reports of Directors:

a) Meetings/General Report.

b) Standing Committee/Assignment Reports (Chair):

1) Facilities Committee

2) Personnel Committee

8.2) Report of General Manager.

8.3) Report of General Counsel.

9) Public comments on closed session agenda matters.

10) Break prior to closed session.

11) Closed session under:

11.1) Conference with Legal Counsel – Existing Litigation: A closed session will be held, pursuant to Government Code §54956.9 (d)(1), to confer with Special Litigation Counsel regarding existing litigation to which the District is a party. The title of such litigation is as follows: *Antelope Valley Ground Water Cases.*

12) Public report of any action taken in closed session.

13) Board members' requests for future agenda items.

14) Adjournment.

_____

DENNIS D. LaMOREAUX,
General Manager

DDL/dd

Lake Oroville Spillway Incident: Timeline of Major Events February 4-25

Oroville Spillway Public Info Line: (530) 538-7826

❶ **February 7:** As water releases from the flood control spillway ramp up to 54,500 cubic feet per second (cfs), in anticipation of inflows expected from rainfall, DWR employees notice an unusual flow pattern. Spillway flows stop for investigation. Engineers find large area of concrete erosion.

❷ **February 8:** DWR begins ongoing consultation with FERC and other dam safety agencies. DWR runs test flows down the damaged spillway, monitoring further erosion, and prepares for possible use of emergency spillway. 24/7 emergency interagency operations centers activate to study and implement response to flood control spillway and related structures, with careful study of weather forecasts.

❸ **February 11:** Inflow to Lake Oroville brings lake level above 901 feet. This engages the emergency spillway for the first time in the history of the facility.

❹ **February 12:** Anticipated erosion begins to progress faster than expected at the base of the emergency spillway. The Butte County Sheriff's Office issues mandatory evacuation orders for the Oroville area. To ease pressure on the emergency spillway, the flood control spillway outflow is increased to 100,000 cfs. After several hours, inflows decrease and overflow stops at the emergency spillway. Erosion to the emergency spillway hillside is assessed.

❺ **February 13:** DWR crews begin working around the clock to repair the emergency spillway. Evacuation orders remain in effect.

❻ **February 14:** As the lake level continues to drop, the mandatory evacuation order is modified to an evacuation warning. Crews continue working around the clock to repair the emergency spillway. An elevation of 850' is targeted for lake level.

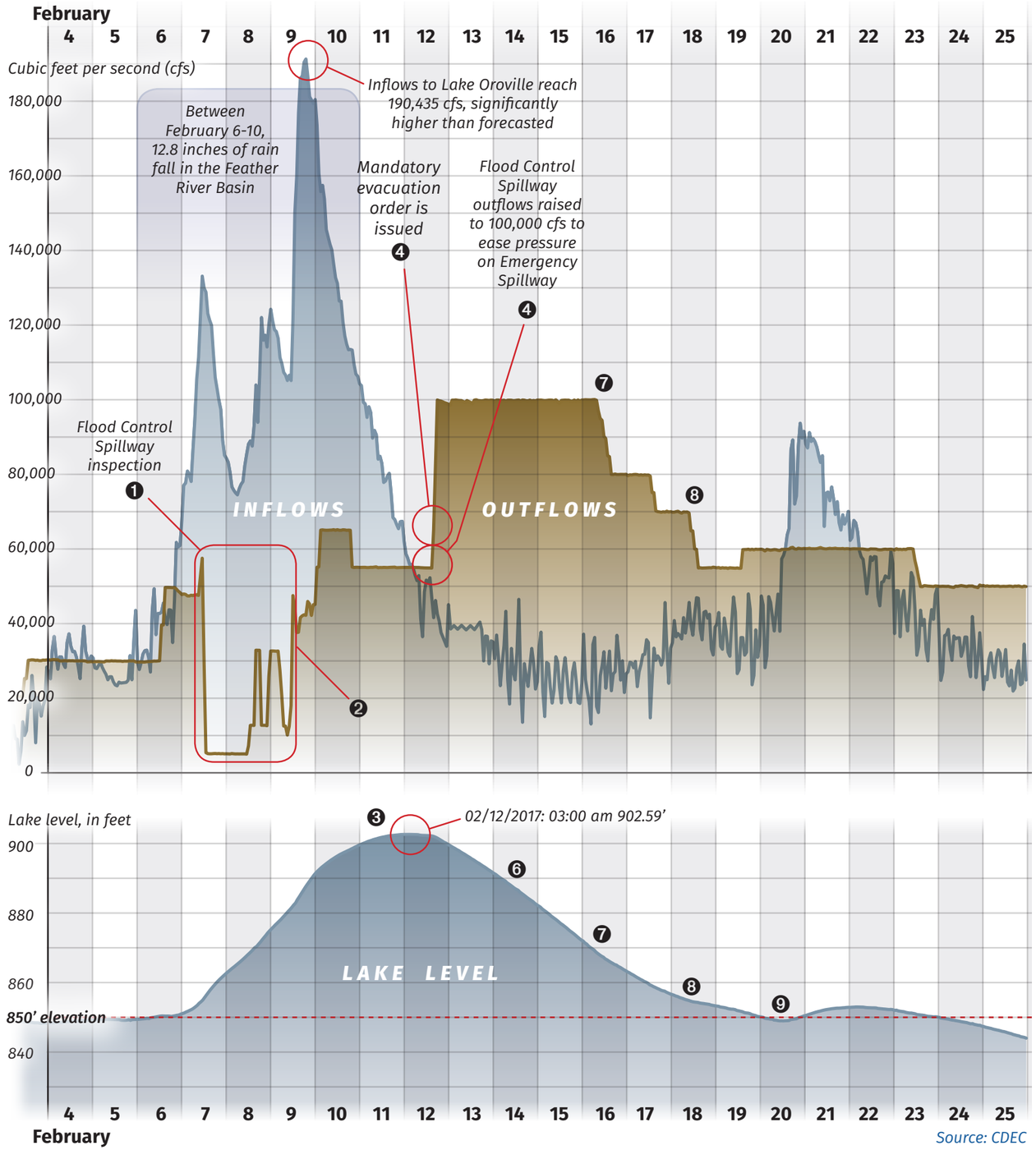
❼ **February 16:** Flood control spillway flows are reduced below 100,000 cfs to facilitate the clearing of debris from below the spillway. Lake levels continue to drop. Construction to armor the emergency spillway continues.

❽ **February 18:** Lake level down to 854 feet. Flood control spillway flows are reduced to 55,000 cfs. Barge construction begins in order to remove debris from the diversion pool beneath the spillway.

❾ **February 20:** Lake Oroville elevation reaches 848.95 feet at 11 a.m. Repairs and preparations continue around the clock.

Cooperating Agencies: California Department of Water Resources, Butte County Sheriff, CAL FIRE, Oroville Police Department, Butte County OES, Oroville Fire Department, Butte County Public Works, Oroville Hospital, Caltrans, California Highway Patrol, California State Parks, California Conservation Corps, California National Guard, California Department of Fish and Wildlife, PG&E, Red Cross, Bureau of Indian Affairs, CAL OES, USACE, FERC, FEMA

For more imagery, see DWR Pixel Library



Source: CDEC

water.ca.gov

cdec.water.ca.gov/reservoir.html

Lake Oroville Spillway Repairs: General Overview *February 21, 2017*

Oroville Spillway Public Info Line: (530) 538-7826

Cooperating Agencies: Butte County Sheriff, Oroville Police Department, Butte County OES, Oroville Fire Department, Butte County Public Works, Oroville Hospital, California Highway Patrol, California State Parks, PG&E, CAL FIRE, Caltrans, Red Cross, California Conservation Corps, California National Guard, California Department of Fish and Wildlife, Bureau of Indian Affairs, CAL OES, USACE, FERC, FEMA

For more imagery see DWR Pixel

Emergency Spillway Work Area 1 DWR continues to reinforce the Emergency Spillway and re-establish access roads, with construction crews working around the clock.

Emergency Spillway Discharge Zone 2 This area has been inspected and continues to be monitored for any erosion. Transmission lines have been inspected and function normally.

Flood Control Spillway Control Structure 3 Monitoring of structure continues. Operations are normal.

Flood Control Spillway Damage Zone 4 Assessment of structure continues as flows are reduced. Plans to maintain and repair the structure will be presented as they develop.

Thermalito Diversion Pool to Hyatt Powerplant 5 Erosion debris to be removed in order to begin operations at Hyatt Powerplant as soon as practical.

Hyatt Powerplant/ Diversion Pool Tailrace 6 Reducing the water surface elevation of the tailrace will be accomplished through the downstream debris removal process, thus allowing for Hyatt Powerplant startup.

Monitoring Truck Traffic on Oroville Dam Roads: Effects of vehicle travel on Oroville Dam Road and Oro Powerhouse Road are being closely monitored.

Trails and Boat Launch Ramps: The Brad Freeman and Dan Beebe Trails in the area around the Diversion Pool have been closed. The Spillway Boat Ramp will remain closed until further notice. For current information on launch ramps, visit the **State Parks website**.

Road Blocks/Security Checkpoints: Oroville Dam East at Glen Drive; Oroville Dam East at Canyon Drive; Dam Crest Road at Spillway Access Road; Canyon Drive at Royal Oaks Drive.

water.ca.gov

https://cdec.water.ca.gov/reservoir.html

P A L M D A L E W A T E R D I S T R I C T

B O A R D M E M O R A N D U M

DATE:	April 5, 2017	**April 12, 2017**
TO:	BOARD OF DIRECTORS	**Board Meeting**
FROM:	Mr. Dennis D. LaMoreaux, General Manager	
RE:	***AGENDA ITEM NO. 6.3 – APPROVE ABSENCE OF DIRECTOR ESTES FROM MARCH 22, 2017 BOARD MEETING DUE TO FAMILY OBLIGATION.***	

Director Estes was absent from the March 22, 2017 Regular Board Meeting. Agenda Item No. 6.3 has been placed on the Consent Calendar to excuse this absence pursuant to Section 4.07.2 of the District's Rules and Regulations which states, "The Board shall excuse absences by approving such absences pursuant to the Consent Calendar at the next regular Board meeting."

P A L M D A L E W A T E R D I S T R I C T

B O A R D M E M O R A N D U M

DATE: April 5, 2017 **April 12, 2017**

TO: BOARD OF DIRECTORS **Board Meeting**

FROM: Jennifer Emery, Human Resources Director

VIA: Mr. Dennis D. LaMoreaux, General Manager

RE: ***CONSIDERATION AND POSSIBLE ACTION ON DEFUNDING THE VACANT SENIOR SERVICE WORKER POSITION AND FUNDING THE ENGINEERING TECHNICIAN I POSITION. (HUMAN RESOURCES DIRECTOR EMERY/PERSONNEL COMMITTEE)***

Recommendation:

Staff and the Personnel Committee recommend that the Board approve the filling of an Engineering Technician I position.

Alternative Options:

The alternative is to maintain status quo.

Background:

The District has a funded position for a Senior Service Worker which is currently vacant. After assessing the District's needs, we find that the District has a greater need for an Engineering Technician I in our Engineering Department. We would like to defund the Senior Service Worker position and fund the Engineering Technician 1 position. This will allow us to prepare for our upcoming projects such as the recharge project and the Littlerock Dam project while also making sure that we are sufficiently preparing for upcoming retirements within the Engineering Department. The Engineering Technician 1 position is a position that has been presented as a "future position" during previous budget discussions. The Senior Service Worker position was at Salary Range 27, and the Engineering Technician 1 position will be at Salary Range 24.

Strategic Plan Initiative

This work is part of Strategic Initiative No. 2: Organizational Excellence

Budget:

Reduces cost to budget.

Supporting Documents:

- District Position History Spreadsheet
- Engineering Technician 1 Salary Survey (pre-COLA)
- Organization Chart

Palmdale Water District
Departmental Staffing Budget

POSITION	Mar-17	Budget 2017	Budget 2016	Budget 2015	Budget 2014	Budget 2013	Budget 2012	Budget 2011
ADMINISTRATION:								
General Manager/CEO	1	1	1	1	1	1	1	1
Assistant General Manager/COO	1	1	1	1	1	1	1	1
Water & Energy Resources Manager	1	1	1	1	1	1	1	1
Deputy Water & Energy Resources Manager	1	1	1	1	0	0	0	0
Public Affairs and Sustainability Director	1	1	0.5	0	0	0	0	0
Executive Assistant	1	1	1	1	1	1	1	1
Administrative Assistant	2	2	1	1	1	1	1	1
Management Analyst	2	2	1	1	0	0	0	0
SUBTOTAL:	10	10	7.5	7	5	5	5	5
ENGINEERING:								
Engineering/Grant Manager	1	1	1	1	0	1	1	1
Project Manager	1	1	1	1	1	1	1	1
Engineering Analyst	1	1	0	0	0	0	0	0
Construction Inspector	3	3	3	3	3	3	3	3
Cross Connection Control Specialist	1	1	1	1	1	1	1	1
G.I.S. Coordinator	1	1	1	0	0	0	0	0
Engineering Technician	2	1	1	3	3	3	3	3
Engineering Design Technician	1	1	1	0	0	0	0	0
SUBTOTAL:	11	10	9	9	8	9	9	9
FACILITIES:								
Facilities Manager	1	1	1	1	1	1	1	1
Construction Supervisor	1	1	1	0	0	0	1	1
Senior Service Worker	2	3	3	3	3	3	3	3
Service Workers	9	9	10	11	11	11	11	11
Warehouse Technician	2	2	2	2	2	2	2	2
Operations Technician - Fleet Lead	1	1	0	0	0	0	0	0
Operations Technician - Mechanical Lead	1	1	0	0	0	0	0	0
Operations Technician	6	6	0	0	0	0	0	0
Equipment Mechanic Supervisor	0	0	1	1	1	1	1	1
Equipment Mechanic	0	0	4	4	4	4	4	3
Maintenance Worker	1	1	1	0	0	0	0	0
Systems Supervisor	0	0	1	1	0	0	0	0
Pump Operator	0	0	2	2	0	0	0	0
Electrical/Instrumentation Technician - Lead	1	1	0	0	0	0	0	0
Electrician	1	1	2	2	0	0	0	0
Electronic Technician	2	2	2	2	0	0	0	0
SUBTOTAL:	28	29	30	29	22	22	23	22
OPERATIONS:								
Operations Manager	1	1	1	1	1	1	1	1
Treatment Plant Supervisor	0	0	0	0	1	1	1	1
Plant Operators	6	6	6	6	6	6	6	6
Senior Maintenance Mechanic	0	0	0	1	1	1	1	1

Maintenance Mechanic	0	0	0	1	1	1	1	1
Administrative Technician	0	0	1	1	1	1	1	1
Operations Technician	0	0	2	0	0	0	0	0
Water Quality / Regulatory Affairs Supervisor	1	1	1	1	1	1	1	1
Laboratory Analyst	2	2	2	2	2	2	2	2
Systems Supervisor	0	0	0	0	1	1	1	1
Pump Operator	0	0	0	0	2	2	2	2
Electrician	0	0	0	0	2	2	2	2
Electronic Technician	0	0	0	0	2	2	2	2
SUBTOTAL:	10	10	13	13	21	21	21	21
FINANCE:								
Finance Manager/CFO	1	1	1	1	1	1	1	1
Accounting Supervisor	1	1	1	1	1	1	1	1
Accounting Technician	1	1	1	0	1	1	1	1
Accounting Assistant	0	0	0	1	1	1	1	1
Customer Finance Supervisor	1	1	1	1	1	1	1	1
Assistant Customer Service Supervisor	0	0	0	1	1	1	1	1
Customer Account Technician	3	3	3	0	0	0	0	0
Customer Service Representative	0	0	0	9	9	9	9	9
Part time Customer Service Representative	0	0	0	0	0	0	2	2
Field Service Supervisor	0	0	0	0	0	0	1	1
Senior Field Service Technician	0	0	0	1	1	1	1	1
Field Service Technician	0	0	0	7	7	7	6	6
SUBTOTAL:	7	7	7	22	23	23	25	25
WATER CONSERVATION:								
Public Information Officer/Conservation Director	0	0	0.5	1	1	1	1	1
Water Conservation Supervisor	0	0	0	0	1	1	1	1
Water Conservation Aide	1	1	1	1	1	1	1	1
Field Customer Care Representative (Water Cons)	1	1	0	0	0	0	0	0
SUBTOTAL	2	2	1.5	2	3	3	3	3
HUMAN RESOURCES:								
Human Resources Manager	1	1	1	1	1	1	1	1
SUBTOTAL:	1	1	1	1	1	1	1	1
INFORMATION TECHNOLOGY:								
Information Technology Manager	1	1	1	1	1	1	1	1
Information Technology Technician	0	0	1	1	1	1	1	1
Information Technology Help Desk Technician	1	1	0	0	0	0	0	0
SUBTOTAL:	2	2	2	2	2	2	2	2
CUSTOMER CARE:								
Customer Care Supervisor	1	1	0	0	0	0	0	0
Senior Customer Care Representative	1	1	1	0	0	0	0	0
Customer Care Representative	6	6	7	0	0	0	0	0
Senior Field Customer Care Representative	1	1	1	0	0	0	0	0
Field Customer Care Representative	4	4	6	0	0	0	0	0
SUBTOTAL:	13	13	15	0	0	0	0	0
DISTRICT TOTAL:	84	84	86	85	85	86	89	88

		16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	
		3854.33	4047.04	4249.4	4461.87	4684.96	4919.21	5165.17	5423.43	5694.6	5979.33	6278.29	6592.21	6921.82	7267.91	7631.31	8012.87	8413.52	8834.19	9275.9	9739.7	
Engineering Tech I	24					Engineering Technician I $4719.61 - $5736.71																
						Engineering Technician I $4126 - $5363										$ 5,363.00						
						No Equivalent Position																
							Engineering Technician I $4492.80 - $5749.47									$ 5,749.47						
						Engineering and Right of Way Coordinator $4272.67 - $5978.27										$ 5,978.27						
							Engineering Technician I $4720.33 - $6221.42									$ 6,221.42						
							Engineering Technician I $4525 - $5500									$ 5,500.00						
							Engineering Technician I $4417 - $5385									$ 5,385.00						
								Engineering Technician I $4392.27 - $5470.40								$ 5,470.40						
								No Equivalent Position														
										Engineering Technician I $4603.56 - $5606.64						$ 5,606.64						
						Engineering Tech I $3954 - $6172										$ 6,172.00						
								Engineering Tech I $4042.13 - $6290.27								$ 6,290.27						
																$ 57,736.47	$ 5,773.65		Salary Range 24			

LEGEND

* ASSUMES THE ROLE OF GENERAL MANAGER IN HIS/HER ABSENCE

FULL-TIME FUNDED POSITIONS (WITH D.M.):	84
UNFUNDED POSITIONS:	1
INTERN FUNDED POSITIONS:	1
CONCEPTUAL FUTURE POSITIONS:	4
TOTAL POSITIONS:	90

VOTERS

BOARD OF DIRECTORS


ROBERT E. ALVARADO
DIVISION 1


JOE ESTES
DIVISION 2


MARCO HENRIQUEZ
DIVISION 3


KATHY MAC LAREN
DIVISION 4


VINCENT DINO
DIVISION 5

ATTORNEY

FINANCIAL ADVISOR

AUDITOR

GENERAL MANAGER / CEO

HUMAN RESOURCES DIRECTOR

RISK MANAGER

PUBLIC AFFAIRS AND SUSTAINABILITY DIRECTOR

PUBLIC AFFAIRS SPECIALIST

EXECUTIVE ASSISTANT

ADMINISTRATIVE ASSISTANT

FINANCE MANAGER / CFO

ACCOUNTING SUPERVISOR

ACCOUNTING TECHNICIAN

CUSTOMER FINANCE SUPERVISOR

CUSTOMER ACCOUNT TECHNICIAN

CUSTOMER ACCOUNT TECHNICIAN

CUSTOMER ACCOUNT TECHNICIAN

ASSISTANT GENERAL MANAGER / COO

CUSTOMER CARE SUPERVISOR

SENIOR CUSTOMER CARE REP.

CUST. CARE REP. I/II

CUST. CARE REP. I/II

CUST. CARE REP. I/II

CUST. CARE REP. I/II

CUST. CARE REP. I/II

CUST. CARE REP. I/II

SENIOR FIELD CUSTOMER CARE REP.

FIELD CUSTOMER CARE REP. II

FIELD CUSTOMER CARE REP. I

FIELD CUSTOMER CARE REP. I

FIELD CUSTOMER CARE REP. I

INFORMATION TECHNOLOGY MANAGER

IT - NETWORK ADMINISTRATOR

IT - HELP DESK TECHNICIAN

OPERATIONS MANAGER

PLANT OPERATOR III - LEAD

PLANT OPERATOR I/II

PLANT OPERATOR I/II

PLANT OPERATOR I/II

PLANT OPERATOR I/II

PLANT OPERATOR I/II

WATER QUALITY/ REGULATORY AFFAIRS SUPERVISOR

LAB ANALYST I/II

LAB ANALYST I/II

LAB ANALYST I/II

LAB INTERN

ENGINEERING / GRANT MANAGER

PROJECT MANAGER

ENGINEERING ANALYST

CONSTRUCTION INSPECTOR I/II

CONSTRUCTION INSPECTOR I/II

CONSTRUCTION INSPECTOR I/II

ENGINEERING DESIGN TECHNICIAN I/II

ENGINEERING TECHNICIAN I/II

ENGINEERING TECHNICIAN I/II

G.I.S. COORDINATOR

CROSS CONNECTION TECHNICIAN

MANAGEMENT ANALYST

FACILITIES MANAGER

OP. TECH. III FLEET LEAD

OPERATIONS TECH. I/II

OPERATIONS TECH. I/II

OP. TECH. III MECH. LEAD

OPERATIONS TECH. I/II

OPERATIONS TECH. I/II

OPERATIONS TECH. I/II

OPERATIONS TECH. I/II

MAINTENANCE WORKER I

ELECTRICAL/ INSTRUMENTATION TECH. III LEAD

ELECTRONIC TECHNICIAN I/II

ELECTRONIC TECHNICIAN I/II

ELECTRICIAN I/II

CONSTRUCTION SUPERVISOR

SERVICE WORKER III - LEAD

SERVICE WORKER III - LEAD

SERVICE WORKER III - LEAD

SERVICE WORKER I/II

SERVICE WORKER I/II

SERVICE WORKER I/II

SERVICE WORKER I/II

SERVICE WORKER I/II

SERVICE WORKER I/II

SERVICE WORKER I/II

SERVICE WORKER I/II

SERVICE WORKER I/II

PURCHASING TECHNICIAN

PURCHASING TECHNICIAN

WATER & ENERGY RESOURCES DIRECTOR

DEPUTY WATER & ENERGY RESOURCES DIRECTOR

MANAGEMENT ANALYST

WATER CONSERVATION SPECIALIST

WATER CONSERVATION AIDE

FIELD CUSTOMER CARE REP. II

PALMDALE WATER DISTRICT ORGANIZATIONAL STRUCTURE

PROPOSED

M.W. 4/6/17

P A L M D A L E W A T E R D I S T R I C T

B O A R D M E M O R A N D U M

DATE: April 5, 2017 **April 12, 2017**

TO: BOARD OF DIRECTORS **Board Meeting**

FROM: Mr. Peter K. Thompson II, Deputy Water and Energy Resources Director

VIA: Mr. Jon Pernula, Water and Energy Resources Director
Mr. Dennis D. LaMoreaux, General Manager

RE: ***AGENDA ITEM NO. 7.2 – CONSIDERATION AND POSSIBLE ACTION ON RESOLUTION NO. 17-13 BEING A RESOLUTION OF THE BOARD OF DIRECTORS OF THE PALMDALE WATER DISTRICT IN SUPPORT OF THE ASSOCIATION OF CALIFORNIA WATER AGENCIES' POLICY STATEMENT ON BAY-DELTA FLOW REQUIREMENTS. (DEPUTY WATER & ENERGY RESOURCES DIRECTOR THOMPSON II)***

Recommendation:

Staff recommends the Board adopt Resolution No. 17-13 being a Resolution of the Board of Directors of the Palmdale Water District in Support of the Association of California Water Agencies (ACWA) Policy Statement on Bay-Delta Flow Requirements.

Background:

On September 15, 2016, the State Water Resources Control Board (SWRCB) staff released a draft proposal to update the Bay Delta Plan by changing flow objectives for tributaries in the southern Delta. These flow objectives would set target percentages of unimpaired flow and increase water releases through the southern Delta. Unimpaired flow is defined as "the flow that would occur if all runoff from the watershed remained in the river, without storage in reservoirs or diversions, such as irrigation, power generation, or water supply."

Water flowing into and through the Delta supports a wide variety of beneficial uses including: agriculture, municipal, domestic and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation of fish, wildlife and other aquatic resources. It is the responsibility of the SWRCB to update the Bay Delta Plan in a manner that ensures reasonable protection for all of these resources.

ACWA and its member agencies believe that the SWRCB staff proposal is an unbalanced and blunt approach to a complex problem. Its potential negative impacts to water supply reliability have not been given consideration and the simplistic increased flow approach fails to utilize both the advances in ecological science and the benefits of many negotiated cooperative agreements between beneficial users.

ACWA has developed a policy statement on behalf of its member agencies that addresses these concerns and provides a road map to a more comprehensive and collaborative approach to updating the Bay-Delta Plan. In brief, the proposal calls for the SWRCB to continue to support collaborative and comprehensive solutions for water supply and eco-system management, apply the best available science in guiding decisions and standards, continue to support functional customized flows in the Delta to support ecological goals, consider the economic impacts of all beneficial uses prior to setting standards, remain consistent with State policy of pursuing water supply reliability and enhanced eco-systems as co-equal goals and leadership in pursuing engaged and negotiated solutions that provide reasonable protection to all beneficial uses of the State's precious water resource.

In order to protect the interest of our customers and help guide informed State policy, it is staff's recommendation that the Board adopt Resolution 17-13 supporting the ACWA Policy on Bay-Delta Flow Requirements.

Strategic Plan Initiative:

This work is part of Strategic Initiative No. 1 – Water Resource Reliability

Budget:

No current budget impact. If the SWRCB staff proposal is approved and water reliability was decreased, then cost of procuring water deliveries would increase.

Supporting Documents:

- Resolution No. 17-13
- SWRCB Fact Sheet on Draft Flow Requirements
- SWRCB Summary of Proposed Changes to Bay-Delta Water Quality Control Plan
- ACWA Policy Statement on Bay-Delta Flow Requirements

RESOLUTION NO. 17-13
A RESOLUTION OF THE BOARD OF DIRECTORS
OF THE PALMDALE WATER DISTRICT
IN SUPPORT OF THE ASSOCIATION OF CALIFORNIA WATER AGENCIES'
POLICY STATEMENT ON BAY-DELTA FLOW REQUIREMENTS

WHEREAS, California is facing a defining moment in water policy that will be substantially impacted by the State Water Resources Control Board's approach to water quality objectives under the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta; and

WHEREAS, the State Water Board has the responsibility for updating the Bay-Delta Plan in a manner that establishes water quality objectives that ensure the reasonable protection of all beneficial uses of water in a way that is consistent with the coequals goals of improving water supply reliability and protecting, restoring and enhancing the Delta ecosystem and with respect to the commitments made in the California Water Action Plan; and

WHEREAS, the State Water Board staff's current proposal, which focuses singularly on an "unimpaired flow" approach, is irreconcilable with a policy of coequal goals of improving both water supply reliability and ecosystem health; it is also inconsistent with the broader water policy objectives of the Brown Administration; and

WHEREAS, the ACWA Board of Directors has unanimously adopted a strong policy statement calling for a better approach that can more effectively achieve ecological objectives while maintaining water supply reliability. The statement calls on the State Water Board to set aside its "unimpaired flow" approach and heed Gov. Jerry Brown's call for negotiated agreements, which have been successful on many rivers and tributaries in California; and

WHEREAS, the ACWA statement notes that to be successful, the state's flow policy must be consistent with the principles of collaboration, comprehensive solutions, science, functional flows, economic considerations, consistency with state policy, and leadership; and

WHEREAS, California's local urban and agricultural water managers are united in their vision for a future that includes a vibrant California economy, as well as healthy ecosystems and fish populations, and believe that vision is best achieved through comprehensive, collaborative approaches;

NOW, THEREFORE, BE IT RESOLVED, that the Board of Directors of the Palmdale Water District herby supports ACWA's Policy Statement on Bay-Delta Flows and encourages the State Water Resources Control Board to embrace the approach articulated in ACWA's policy statement.

PASSED, APPROVED, AND ADOPTED at a regular meeting of the Board of Directors of the Palmdale Water District held on April 12, 2017.

_____
Robert Alvarado, President
Palmdale Water District

_____
Joe Estes, Secretary
Palmdale Water District

APPROVED AS TO FORM:

_____
Eric Dunn, General Counsel

CALIFORNIA Water Boards

Fact Sheet

Revised Draft Substitute Environmental Document for Flow Objectives on the Lower San Joaquin River and Salinity Objectives for the Southern Delta

Overview

The San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta) includes the Sacramento-San Joaquin Delta, Suisun Marsh, and San Francisco Bay. California's two major rivers, the Sacramento and the San Joaquin, converge in the Delta and meet incoming seawater from the Pacific Ocean in San Francisco Bay. Water diversions from the Delta supply a portion of the drinking water to more than two thirds of Californians and for millions of acres of farmland.

On Sept.15, 2016, the State Water Resources Control Board (State Water Board) staff released a draft proposal to update water quality requirements for salinity in the southern Delta and water flows in major tributaries to the San Joaquin River (the Stanislaus, Tuolumne, and Merced Rivers), which drains into the southern Delta. The refined salinity requirements reflect updated scientific information about salt levels that reasonably protect farming in the southern Delta. The new flow requirements for the San Joaquin River's major tributaries recognize the vital role upstream water flows provide for habitat and migratory signals for native fish species. In summary, the draft proposes increasing flows for fish and wildlife and adjusts the salinity requirements to a slightly higher level to reflect updated scientific knowledge.

State Water Board Responsibility

The State Water Board holds dual responsibilities of allocating surface water rights and protecting water quality. The State Water Board allocates water through an administrative system that is intended to maximize the beneficial uses of water while protecting the public trust, serving the public interest, and preventing the waste and unreasonable use or method of diversion of water. This requires balancing of all of those interests.

State water quality law requires the adoption of water quality control plans that identify existing and potential beneficial uses of waters of the state and establish water quality objectives to protect these uses. The plans also contain implementation, surveillance and monitoring elements.

While most water quality control planning is done by the Regional Water Quality Control Boards, the State Water Board has authority to adopt statewide water quality control plans and adopts the *Water Quality Control Plan the San Francisco Bay/Sacramento-San Joaquin Delta Estuary Bay-Delta* (Bay-Delta Plan) because of its importance as a major source of water supply for the state. The Bay-Delta Plan protects water quality in the region and includes water quality objectives to protect municipal and industrial, agricultural, and fish and wildlife beneficial uses.

The Bay-Delta Plan

The Bay-Delta Program resides in the State Water Board's Division of Water Rights because of the critical importance of flow objectives in the Bay-Delta Plan. Among taking other actions, the State Water Board may implement the Bay-Delta Plan through water right actions.

Developing the Bay-Delta Plan

The State Water Board is in the midst of developing and implementing updates to the Bay-Delta Plan and flow objectives for priority tributaries to the Delta to protect beneficial uses in the Bay-Delta Watershed. For administrative convenience, the various proceedings are referred to as phases. This phase (Phase 1) proposes amendments to the Bay-Delta Plan involving the Lower San Joaquin River flow objectives and southern Delta salinity objectives.

In a separate process, referred to as Phase 2, the State Water Board is reviewing and considering updates to other elements of the Bay-Delta Plan, including Delta outflows, Sacramento and tributary inflows (other than the San Joaquin River inflows), Suisun Marsh salinity, Delta Cross Channel Gate closure, export limits, and reverse flows in Old and Middle River. In Phase 3, the State Water Board will implement changes to the Bay-Delta Plan from Phases 1 and 2 through water right actions; in addition, the revised objectives may be implemented through water quality actions. Phase 4 focuses on the development and implementation of flows in the Sacramento River Watershed to address tributary-specific public trust needs, with consideration for other beneficial uses of water, and will be integrated with the Phase 2 effort. A draft scientific basis report for the Phase 2 proceeding was released Oct. 14, 2016; draft Phase 2 proposed amendments to the Bay-Delta Plan will be released in 2017.

Phase 1 Substitute Environmental Document

The State Water Board previously released a Draft Substitute Environmental Document (SED) in December 2012 (2012 Draft SED). This recirculated Draft SED, released on September 15, 2016, makes substantial changes to the 2012 Draft SED in consideration of the large number of oral and written public comments received concerning that document, and in light of additional information, including information learned from the recent drought.

Changes were also made in response to the state's adoption in 2014 of a state policy for sustainable groundwater management (Wat. Code, § 113) and passage of the Sustainable Groundwater Management Act (SGMA) (Wat. Code, §§ 10720 et seq.), which provide a roadmap and directive for sustainable local groundwater management.

Phase 1 Plan Amendments

In Phase 1, the State Water Board is proposing to update two elements of the 2006 Bay-Delta Plan:

- San Joaquin River flow objectives for the protection of fish and wildlife: the flow element of the proposed plan update would increase the required flows to be left in the rivers and would change the area currently protected by flow requirements by adding compliance locations on the Stanislaus, Tuolumne, and Merced Rivers, instead of only on the San Joaquin River at Vernalis.

- Southern Delta salinity objectives for the protection of agriculture: the salinity element of this proposal would adjust the salinity requirements to a slightly higher level to reflect updated scientific knowledge of salt levels that reasonably protect farming. Monitoring and compliance locations would be changed to better reflect overall salinity levels and protection of agriculture.

San Joaquin River Flow Objectives

- The recirculated Draft SED recommends increasing flow on the San Joaquin River and its tributaries to a range of 30 to 50 percent, with a starting point of 40 percent of unimpaired flow from February through June. Unimpaired flow represents the water production of a river basin, unaltered by upstream diversions, storage, or by export or import of water to or from other watersheds. Historical median February through June flows from 1984–2009 in the Merced, Tuolumne, and Stanislaus Rivers were, respectively, 26, 21, and 40 percent of unimpaired flow. In other words, half of the time more than 60 or 70 percent of each river's flow is diverted out of the river during these months.

- Scientific studies show that flow is a major factor in the survival of fish like salmon and that current flows are inadequate to protect many endangered and threatened species, as well as species relied upon by the commercial fisheries. The Draft SED recognizes that other factors, like predation and loss of habitat, affect fish populations, and those factors are also addressed in the Draft SED.

- The unimpaired flow requirement is designed to mimic the cues of nature that species have evolved to respond to, but is not intended to be a rigid and fixed percent of unimpaired flow. It is intended to provide a quantity of water as a

baseline, but the proposal provides for, and encourages, collaboration to use the flows as a block of water that can be "shaped" or shifted in time to provide more functionally useful flows that provide increased habitat, more optimal temperatures, or a migration cue. This type of targeted effort can provide more timely and efficient use of flows than a set regime.

- The Draft SED recognizes the financial and operational challenges to local economies of reduced diversions. The flow requirement considers the needs for fish and wildlife along with the needs of agriculture and local economies.

- Stakeholders are encouraged to work together to reach voluntary agreements that could implement Bay-Delta Plan objectives for fish and wildlife beneficial uses. Voluntary actions to implement non-flow measures to improve conditions for fish and wildlife may support a change in the flows within the 30 to 50 percent range.

- The proposal contemplates that the biological goals will be among the tools that inform future State Water Board decisions on whether to adjust the unimpaired flow percentage within the 30 to 50 percent range. Put another way, adaptive implementation will optimize flows and take into account actual improvements in biological conditions that support native fish. Adaptive implementation of flows will also allow a nimble response to changing information and changing conditions while minimizing unintended impacts.

Southern Delta Salinity Objectives

- The recommended amendment to the southern Delta salinity objective (southern Delta salinity proposal) would eliminate the seasonal element of the current objective by changing the objective to a higher salinity level (1.0 deciSiemens per meter [dS/m] year-round), from the current 0.7 dS/m April through August and 1.0 dS/m September through March.

- Analysis of southern Delta water quality and crop salinity requirements shows that the existing salinity conditions in the southern Delta are suitable for all crops and that the existing April through August salinity objective is actually lower than what is needed to reasonably protect agriculture.

- The United States Bureau of Reclamation will be required to continue to comply with the 0.7 dS/m salinity level for the San Joaquin River at Vernalis as a condition of its water rights.

- The revised water quality objectives coupled with the implementation measures included in the Bay-Delta Plan update would provide the same or better conditions for agricultural uses in the Delta, as compared to existing conditions through the continuation, or improvement, of existing management actions, including maintenance of water levels.

- The proposal includes requirements that the State Water Project and Central Valley Project address the impacts of their export operations on water levels and flow conditions that may affect salinity conditions in the southern Delta.

- The southern Delta salinity proposal would also replace the three current fixed points for monitoring southern Delta salinity compliance, and instead identifies three extended channel segments for monitoring conditions and measuring compliance.

- Increased February through June flows under the San Joaquin River flow element would improve salinity conditions in the southern Delta early in the irrigation season.

Next Steps

This is a draft staff proposal and SED. Comments on both the proposed Bay-Delta Plan amendments and the Draft SED are due by noon on Jan. 17, 2017. A public hearing will be held on Nov. 29, 2016 and Jan. 3, 2017 in Sacramento; Dec. 16, 2016 in Stockton; Dec. 19, 2016 in Merced; and Dec. 20, 2016 in Modesto, to receive additional oral comments.

Staff will prepare a draft final SED for consideration by the State Water Board's members. The Board members will consider the draft Final SED before approving the project, and the SED will become final upon project approval. The Board will consider approving the proposed Bay-Delta Plan amendments at a public meeting that will be held in 2017.

An expanded summary of the proposed updates to the Bay-Delta Plan is available here.

(This fact sheet was last updated on Oct 18, 2016.)

Summary of Proposed Updates to the Bay-Delta Water Quality Control Plan (September 15, 2016)

Introduction

The San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta) is a critical crossroads in the state's water supply system as well as an ecosystem in crisis. The Delta, at the confluence of the Sacramento and San Joaquin Rivers, was once a vibrant tidal marsh teeming with fish and wildlife, including several iconic species, such as Chinook salmon, many of which are threatened, endangered, and some of which still support a commercial fishery. Reclamation of farmland in the Delta and diversions upstream and through the Delta led to vibrant farming and urban development within the Delta and in Central and Southern California. Those factors have played a significant role in fish and wildlife species plummeting because of the extent of water diverted out of the rivers and Delta.

Over the past 47 years, since the passage of California's Porter-Cologne Water Quality Control Act (Porter-Cologne Act), and with subsequent passage of the federal Clean Water Act and the federal and state endangered species acts, state and federal agencies have taken steps to improve conditions for fish and wildlife while protecting other water uses. Yet on balance, Californians continue to take more water out of the Delta and its tributaries than the species can withstand.

Many state and federal agencies are working on multiple fronts to protect, restore, and enhance the Bay-Delta while balancing those efforts with water supply for farmers and cities that rely on water pumped from the Bay-Delta. The State Water Resources Control Board (State Water Board) has a unique role with respect to the Bay-Delta because it establishes water right and water quality requirements to protect human, fish, and wildlife uses of the Bay-Delta's waters. Evidence amassed over the last 10 years by researchers, the Legislature, the State Water Board, and state and federal fisheries agencies shows a crucial need to update these requirements for the benefit of people and fish.

On September 15, 2016, the State Water Board staff released a draft proposal to update water quality requirements for salinity in the southern Delta and water flows in major tributaries to the San Joaquin River (the Stanislaus, Tuolumne, and Merced Rivers), which drain into the southern Delta. The refined salinity requirements reflect updated scientific information about salt levels that reasonably protect farming in the southern Delta. The new flow requirements for the San Joaquin River's major tributaries recognize the vital role upstream water flows provide for habitat and migratory signals for threatened and endangered salmon and steelhead. In sum, the draft proposes increasing flows for fish and wildlife and adjusts the salinity requirements to a slightly higher level to reflect updated scientific knowledge.

While the proposal focuses on the southern Delta and tributaries of the San Joaquin River, the effort is one of myriad actions completed and underway related to water quality, habitat restoration, and flows in the Bay-Delta. A draft science report related to the Sacramento River and the Delta will follow in a few weeks, with a draft plan to follow next year.

What is the Bay-Delta?

The Bay-Delta includes the Sacramento–San Joaquin Delta, Suisun Marsh, and San Francisco Bay. California's two largest rivers, the Sacramento and the San Joaquin, converge in the Delta and meet incoming seawater from the Pacific Ocean in San Francisco Bay. The Delta is a critically important natural resource for California and the nation. It is both the hub of California's water supply system and the most valuable estuary and wetlands system on the west coast, serving cities, farms, fishing communities, boaters, fish, and wildlife.

Why is the State Water Board Updating the Bay-Delta Water Quality Control Plan Now?

Under the Porter-Cologne Act, the State Water Board has authority to establish water quality requirements to protect beneficial uses of water. The State Water Board is proposing changes to water quality requirements related to (1) salinity levels for the protection of farming in the southern Delta, and (2) critical flows in the San Joaquin River system to provide habitat for fish and wildlife upstream of the Delta. More than ten years ago, the State Water Board identified these water quality issues as priority updates in the 2006 Water Quality Control Plan for the Bay-Delta (Bay-Delta Plan) in an effort to develop adequate information to protect the beneficial uses of the Delta. Failure to address these priorities now could result in more draconian actions under the state or federal Endangered Species Act or federal action to establish water quality standards for the Bay-Delta. On the other hand, addressing these issues now will provide a platform for responding to future droughts, adapting to climate change, and improving water resource management.

Both changes would be incorporated into the Bay-Delta Plan, which establishes water quality requirements for the Bay-Delta. The Bay-Delta Plan lays out water quality protections to ensure the various water uses – drinking, irrigation, fisheries, and more – are protected. In establishing the water quality requirements, the State Water Board must consider all beneficial uses of water in determining how to reasonably protect particular uses. Rather than "choose" one beneficial use over others, the State Water Board must balance the needs in order to "maximize" support all of the uses.

In the last ten years, the continuing decline of the Bay-Delta ecosystem's health has reinforced the need for action. Several species of fish have been listed as protected species under the state or federal Endangered Species Act. Water diversions from the San Joaquin River and its tributaries have surpassed the rivers' ability to support a healthy fishery. The proposed update would address factors contributing to the decline of key fishery species, incorporate new science in the State Water Board's planning processes, and provide a framework for accepting voluntary agreements with alternative methods for enhancing fish and wildlife in the tributaries.

As part of the 2009 Delta Reform Act, the Legislature directed the State Water Board to develop flow criteria for the Delta ecosystem necessary to protect public trust uses. In keeping with the narrow focus of the legislation, the State Water Board's 2010 Delta Flow Criteria Report only presents a technical assessment of flow and operational requirements to provide fishery protection under existing conditions. The report does not do the analysis to inform the

consideration of competing uses of water that is required by the California Water Code. The Delta Flow Criteria Report determined that 60 percent of the unimpaired San Joaquin River inflow from February-June was necessary to preserve the attributes of a natural, variable system to which native species are adapted. It also pointed to the need for flows on all three major San Joaquin River tributaries that reflect a more natural frequency, duration, timing and rate of change to provide adequate conditions for spawning and rearing of juvenile salmon as well as for essential migration. Looking only at inflows to the Delta is insufficient. Instead, the report recognized the need for flow contributions upstream of the Delta from each tributary, and throughout the habitat range of key species, such as salmonids.

Presently, the Bay-Delta Plan specifies a combined requirement for flow at a single point upstream of the southern Delta on the San Joaquin River below the confluence of the tributaries. There is no existing requirement for the flows in the major tributaries to sustain fish in the tributaries or to contribute to the flow at this compliance point. The draft update to the Bay-Delta Plan proposes to provide the necessary flow on all three tributaries, in dry years as well as wetter ones, to ensure suitable habitat and migratory pathways upstream of the Bay-Delta to support native fish.

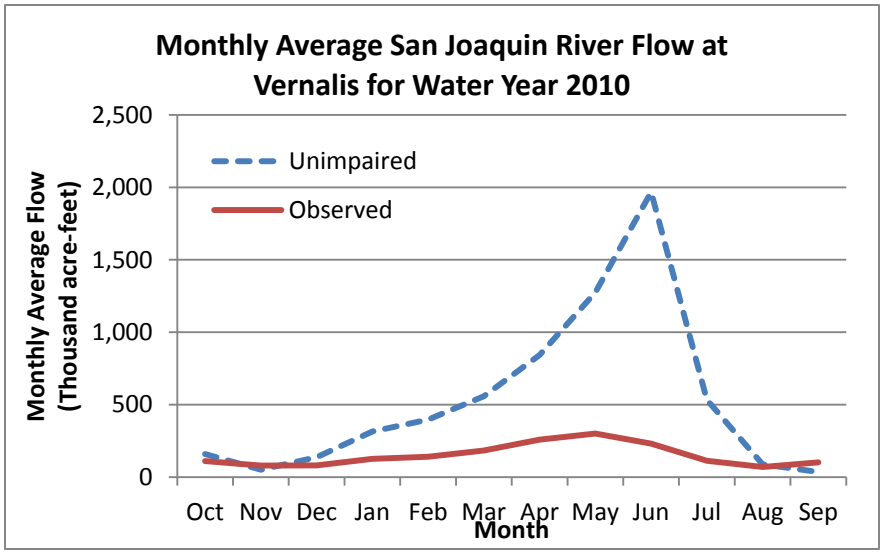
The 2010 Delta Flow Criteria Report reviews the scientific basis for modifying flow regimes on the three tributaries, but it was not designed to look, nor did it look, at the effect that this increased level of unimpaired flow would have on other competing uses of water or the environment. The update of the Bay-Delta Plan includes this analysis in a comprehensive staff report, known as the Substitute Environmental Document (SED). The SED weighs recommendations for new salinity and flow standards with the costs, impacts, and benefits of the proposals.

Proposed Change #1 – An Improved Approach to Setting Flow Objectives

The State Water Board is updating and re-tooling its Bay-Delta Plan to better account for ecosystem needs and to better address the balancing of instream and consumptive human uses. Most notably, new flow objectives proposed for the San Joaquin River and its tributaries would enhance water flows upstream of the Delta to support the migratory and spawning habitat of native fish.

As recommended in the Delta Flow Criteria Report, the new flow objectives would be based on percentages of unimpaired flows at locations on each tributary. Unimpaired flow is the rate and volume of water flow that would be produced by the rain and snow accumulating in a watershed absent any diversion, storage, or use of water. An unimpaired flow approach generally mimics the natural variability of California's river flows that support native fish like salmon and steelhead and for which they have evolved.

The proposal does not contemplate flow requirements equal to natural, pre-development conditions or even the 60 percent threshold identified in the Delta Flow Criteria Report. Instead, the draft proposes narrative and numeric flow objectives, expressed as a range from 30 to 50% of unimpaired flow, for February through June for the Stanislaus, Tuolumne, and Merced Rivers through to the San Joaquin River near Vernalis.



The proposal recommends a 30 to 50 percent adaptive flow range, with a starting point of 40 percent, because the State Water Board's analysis shows that range will provide reasonable protection of fish and wildlife while moderating impacts to water supply for drinking water and agriculture. Historical median February–June flows from 1984–2009 in the Merced, Tuolumne, and Stanislaus Rivers were, respectively, 26, 21, and 40 percent of unimpaired flow. This means that flows in the tributaries were less than this amount half the time. Observed flows are far lower than unimpaired flows even in years of above normal unimpaired flow, like 2010. The Sacramento River, in contrast, already contributes to the Delta, on average, about 50 percent of Sacramento River unimpaired flow from April through June.

Adaptive Management

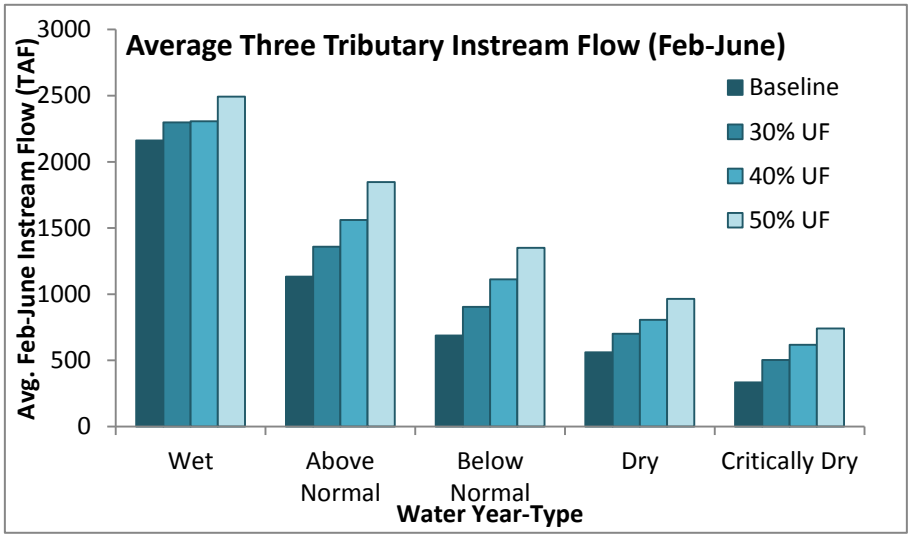
The unimpaired flow proposal does not require rigid adherence to a fixed percent of unimpaired flow, but can be thought of as a water budget. The draft proposes a block of water that can be "shaped" or shifted in time to best align instream flows with the needs of fish and wildlife throughout the year. As such, the flow proposal accommodates an adaptive implementation process that allows the magnitude and timing of flows to be adjusted, within a prescribed range, provided that such changes protect the fishery. Moreover, a key element of successful adaptive management is the implementation of non-flow measures that could reduce the flows needed, within the adaptive range, to achieve reasonable fish and wildlife protection goals, such as restoration of gravel spawning beds, suppression of habitat beneficial to predatory fish, and enhancement of habitat beneficial to native species.

The proposal contemplates that biological goals (to assess improvements to fish resulting from flow and other actions) will be among the tools that inform future State Water Board decisions on whether to adjust the unimpaired flow percentage within the 30 to 50 percent range. Put another way, adaptive management will optimize the balance between fishery and human uses, while rewarding actual improvements in biological conditions that support native fish. Adaptive implementation of flows will also allow a nimble response to changing information and changing conditions while minimizing unintended impacts.

What are the Ecosystem Benefits of the Flow Proposal?

In most instances the proposed flow objectives will provide more instream flow than existing baseline conditions, restoring the pattern and some limited magnitude of flow to levels that are

more closely aligned to the flow conditions to which native species adapted. Average annual instream flow between February and June would increase by 288 thousand acre feet (TAF), or 26 percent, under the 40 percent unimpaired flow. The effects would be more pronounced at the 50 percent unimpaired flow level (485 TAF) and more attenuated at the 30 percent unimpaired flow level (174 TAF), with the biggest benefits in dry years.



Nearly every feature of habitat that affects fish and other aquatic life is influenced by flow, including temperature, water chemistry, and physical habitat availability. These habitat features, in turn, affect the risk of disease and predation, reproductive success, growth, migration, feeding behavior, and other ecological factors that determine the viability of native fish. As discussed earlier, adding compliance locations on the tributaries helps ensure all these benefits for native fish extend further into the watersheds and along migratory routes.

The State Water Board has quantified the effect of the flow proposal on key components of habitat to assess the ecosystem benefits of providing additional instream flow. The State Water Board's analysis demonstrates that implementation of the flow proposal would significantly improve water temperature conditions conducive for salmonids, with the largest benefits occurring in dry years, particularly in the Tuolumne and Merced Rivers. With 40 percent of unimpaired flow, May salmon rearing temperature thresholds are met twice as frequently in critically dry years. Overall, temperature targets that are protective of salmonids are attained more frequently than under baseline for all life stages from February through June under 30, 40 and 50 percent of unimpaired flow.

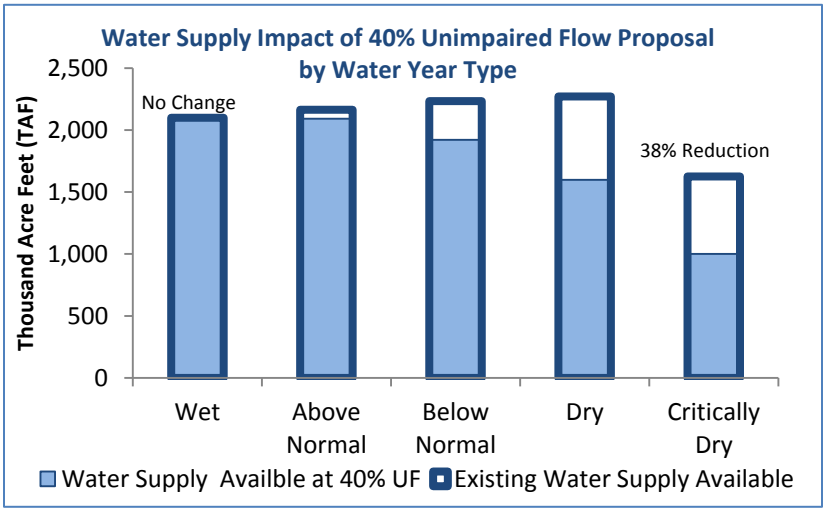
Higher instream flows will also result in increased floodplain inundation. Floodplain inundation is important because it enhances the spawning and rearing success of salmonids. This is so because floodplain habitat provides abundant food and a safer environment for growing fish. The State Water Board's analysis shows an overall 35 percent increase in floodplain inundation at 40 percent of unimpaired flow.

There are many other benefits of a more natural flow regime during the springtime, including the reduced abundance of nonnative fishes and nonnative aquatic vegetation. Additionally, it is expected that large flow pulses during the spring will help juvenile salmonids migrate

successfully to the Delta as a result of increased velocities, increased turbidity pulses, and increased volumes of water, all of which can reduce predation vulnerability.

What are the Impacts of the Flow Proposal?

The San Joaquin River Watershed does not produce enough water to both meet existing human demands and support a healthy ecosystem. Requiring more water to remain instream for the reasonable protection of fish and wildlife will reduce the quantity of surface water available for consumptive human uses, and will make water conservation and other tools like groundwater banking even more important than they already are, especially during drier years. The reduced water supply would primarily affect agriculture, but would also affect drinking water supplies and hydropower generation.



Implementing the flow proposal is expected to result in a 7 to 23 percent reduction in water available for human consumptive use, depending on the flow within the 30-50 percent adaptive flow range. During wet years, there will be almost no impacts on diversions for human use because of the abundance of flow to share. The most significant impact on diversions for human use will occur in the driest years.

As surface water availability declines, dependence on groundwater will grow, which in turn could cause or exacerbate groundwater overdraft. The State Water Board's analysis indicates that implementing the 40 percent flow proposal could result in an average increase in groundwater pumping of 105 thousand acre feet per year (TAF/yr). Given that there is an existing 45 TAF/yr deficit in current groundwater supplies, the unmet agricultural water demand has the potential to increase by 137 TAF/yr to 182 TAF/yr in the plan area. Overall agricultural water supply deficits have the potential to increase over time as pumpers must come into compliance with the Sustainable Groundwater Management Act. Water users can take many actions such as improved irrigation efficiency and enhanced groundwater recharge to reduce these water supply effects. While the SED does not require such mitigation at a programmatic level, it nonetheless identifies the actions that stakeholders can take that to address and lessen effects on groundwater supplies

The potential negative effects on agricultural economic output increase with the volume of flow retained instream. A 40 percent of unimpaired flow requirement is projected to result in an average annual decrease in economic output of $64 million. This represents a 2.5 percent reduction from baseline annual average agricultural economic sector output of $2.6 billion. The

impact would be lower at 30 percent of unimpaired flow and higher at 50 percent. Again, these impacts do not assume implementation of mitigation that water users would likely employ.

Unless water users agree to voluntary reductions to implement an updated Bay-Delta Plan, the State Water Board would determine in subsequent regulatory proceedings the reductions necessary by specific water users to implement the updated Bay-Delta Plan. The effect of the flow proposal on specific individual water rights is unknown. In general, flow objectives that would be implemented through water right actions would follow the water right priority system and other legal requirements.

Reducing Water Supply Impacts while Maintaining or Increasing Environmental Benefits

Enhanced flows are the principal means proposed to implement the updated objectives. However, the proposal recognizes that throughout the watershed a number of other factors degrade conditions for native fish, such as non-native species, predation, high water temperatures, barriers to fish passage, and habitat loss. As a result, the proposal allows for and encourages the development of non-flow measures to complement the objectives. Implementation of additional non-flow measures that meet certain criteria can reduce the need for flows within the prescribed 30-50 percent range.

The State Water Board recognizes that voluntary agreements can help inform and expedite implementation of water quality objectives and can provide durable solutions in the Delta watershed. In addition, the State Water Board believes that suitable voluntary agreements can provide reasonable protections for fish and wildlife and provide a faster and more durable implementation route if done correctly. As a result, the Board encourages stakeholders to work together to reach voluntary agreements incorporating a mix of flow and non-flow measures that meet or exceed the proposed objectives and protect fish and wildlife uses.

The State Water Board will consider a voluntary agreement as part of its proceedings to implement the plan. In evaluating any proposal, the Board will consider whether the agreement will help achieve the water quality objectives, help protect the beneficial use, and be enforceable through Board action. The Board will also need to make any independent findings required by law in connection with the proceedings to implement the plan.

Depending upon the strength of the voluntary agreement components and success in meeting the specified goals, the State Water Board could reduce the unimpaired flow requirement to as low as 30 percent.

Proposed Change #2 – Updated Salinity Water Quality Objectives

The proposal also includes a new salinity water quality objective for the southern Delta. The existing salinity objective was established at four southern Delta locations to protect agriculture.

Analysis of southern Delta water quality and crop salinity requirements shows that existing salinity conditions in the southern Delta are suitable for all crops and that the existing April through August salinity objective is actually lower than what is needed to reasonably protect

agriculture. Accordingly, the State Water Board staff proposes to increase the southern Delta salinity objective to better reflect the current condition, which is sufficient to protect agriculture. The current salinity objectives are 0.7 deciSiemens per meter (dS/m) April through August and 1.0 dS/m September through March. The update proposes a year round objective of 1.0 dS/m.

While the proposal will update southern Delta salinity objectives, the Bureau of Reclamation's water right permits would maintain existing salinity requirements at Vernalis in order to implement the proposed salinity objectives in the southern Delta, and maintain the current condition. Within the southern Delta, the proposal would specify channel segments as compliance points so that compliance with the salinity objectives can be monitored in a manner that better reflects the overall salinity levels and protection of the agricultural beneficial use.

The SJR flow element of the proposal complements the southern Delta salinity element by augmenting flow in the southern delta, particularly in February through June. Increased flows under the flow alternatives would have the incidental benefit of flushing of salts early in the irrigation season, and providing better salinity conditions during Spring germination of crops, which is generally the most salt sensitive time.

Next Steps

To finish this part of the Bay-Delta update for San Joaquin River flows and salinity, the State Water Board must complete two key components – the finalization of the environmental documentation (SED) and the Bay-Delta Plan's amendments. Comments on both the plan amendments and the SED are due on November 15, 2016, and a public hearing will be held on November 2 and November 10, 2016 in Sacramento, and November 4, 2016 in the Modesto area, to receive additional oral comments.

Staff will prepare written responses to issues raised in the comments received during the written comment period and will respond in writing or orally to comments made during the public hearing. Staff will prepare a draft final SED for consideration by the State Water Board's members. The Board members will consider the draft final SED before approving the project, and the SED will become final upon project approval. The Board will consider approving the proposed Bay-Delta Plan amendments at a public meeting that will be held in early 2017.

Simultaneously, the State Water Board is moving forward with updating other elements of the Bay-Delta Plan. These other elements include update of flows on the Sacramento River and outflow from the Delta. A draft science report will be issued in a few weeks, followed by proposed updates in a process similar to what is being proposed for the San Joaquin. As noted elsewhere, the Board will allocate responsibility for meeting flow standards through water right proceedings separately.

ACWA POLICY STATEMENT ON

BAY-DELTA FLOW REQUIREMENTS

COLLABORATIVE APPROACH IS KEY TO CALIFORNIA'S FUTURE

California is facing a defining moment in water policy. A staff proposal under consideration by the State Water Resources Control Board presents a decision point about the future we want for California and its communities, farms, businesses and ecosystems. The State Water Board's staff proposal to base new water quality objectives on a "percentage of unimpaired flow" would have impacts that ripple far beyond water for fish.

The proposal could lead to widespread fallowing of agricultural land, undercut the state's groundwater sustainability goals, cripple implementation of the Brown Administration's California Water Action Plan, negatively affect water reliability for much of the state's population and impact access to surface water for some disadvantaged communities that do not have safe drinking water. These effects are not in the public's interest.

Local water managers overwhelmingly believe the proposal's singular focus on "unimpaired flow" is the wrong choice for the state's future. California's urban and agricultural water managers are united in their vision for a future that includes a healthy economy as well as healthy ecosystems and fish populations. That vision is best achieved through comprehensive, collaborative approaches that include "functional" flows as well as non-flow solutions that contribute real benefits to ecosystem recovery.

On behalf of its more than 430 member public agencies serving urban and agricultural customers throughout the state, the Association of California Water Agencies (ACWA) adopts the following policy statement regarding the State Water Board's proposed approach to updating the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta.

LOCAL SUCCESS STORIES

Collaborative efforts have been successful on many rivers in the Bay-Delta watershed.

Lower Yuba River: A voluntary, collaborative settlement among Yuba County Water Agency, California Department of Fish and Wildlife, National Marine Fisheries Service, PG&E and conservation groups resolved 20 years of controversy and resulted in a continuing program to improve 24 miles of salmon and steelhead habitat while protecting water rights and the needs of local communities. State Water Board members have specifically recognized the value of the agreement, which was formally implemented in 2008.

Lower American River: A broad representation of water suppliers, environmental groups, local governments and others negotiated an historic agreement that led to a flow management standard that was successfully incorporated into a 2009 biological opinion issued by the National Marine Fisheries Service.

Feather River: Six years of negotiations among water users, fisheries agencies and environmental groups yielded a comprehensive agreement that includes a habitat improvement program with specific flow and temperature requirements to accommodate spawning salmon and steelhead. The State Water Board adopted the agreement, with some modification, in 2010 as a water quality certification under the federal Clean Water Act.

CHOOSING OUR VISION FOR CALIFORNIA'S WATER FUTURE

Since 2009, state law has required water resources to be managed in a way that achieves the coequal goals of improving water supply reliability for California and protecting, restoring and enhancing the Delta ecosystem. ACWA and its public water agency members believe that policy requires a commitment from state agencies and stakeholders to advance both water supply and environmental goals together. ACWA and its members further believe that effective implementation of the coequal goals requires transparent, collaborative processes and comprehensive solutions.

In 2014, the Brown Administration released its California Water Action Plan outlining priority actions addressing water-use efficiency, groundwater sustainability, ecological restoration, Delta conveyance solutions, water storage, safe drinking water and more. Embedded in the plan is the Brown Administration's commitment that planned actions "will move California toward more sustainable water management *by providing a more reliable water supply for our farms and communities*, restoring important wildlife habitat and species, and helping the state's water systems and environment become more resilient."

ACWA believes the policy of coequal goals and the commitment embedded in the California Water Action Plan have the potential to put California on a path that includes a vibrant agricultural and urban economy and a healthy ecosystem.

ACWA and its members believe the unimpaired flow approach proposed by State Water Board staff undercuts and threatens that potential and cannot lead us to the future we want for California. Simply put, any strategy that would result in vast amounts of agricultural land going out of production and ultimately reduce water supply reliability for the majority of Californians is irreconcilable with a policy of coequal goals and blatantly inconsistent with the water policy objectives of the Brown Administration.

ACWA strongly supports the collaborative approach called for by Governor Jerry Brown to move these important decisions out of adversarial processes and into negotiated, comprehensive agreements. The following principles can assure success in that endeavor.

A BETTER PATH TO THE FUTURE

The State Water Board is responsible for updating the Bay-Delta Plan in a manner that establishes water quality objectives that ensure the reasonable protection of all beneficial uses of water (including domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources) while considering past, present and probable future beneficial uses, environmental characteristics, water quality conditions and economic considerations, among other things. (See California Water Code Section 13241.) It also has a responsibility to update the plan in a way that is consistent with the coequal goals and respects and implements the commitments made in the California Water Action Plan.

ACWA and its members urge the State Water Board to set aside the unimpaired flow approach and heed Governor Brown's call for negotiated agreements. ACWA believes that a successful flows policy must be consistent with the following principles:

- **Collaboration:** The governor has called for work on a comprehensive agreement on environmental flows in both the San Joaquin and Sacramento River basins. He has asked that State Water Board members and staff prioritize analysis and implementation of voluntary agreements. Further, the Brown Administration committed in the California Water Action Plan that the State Water Board and the California Natural Resources Agency will work with stakeholders to encourage negotiated implementation of protective Delta standards. ACWA strongly supports the collaborative approach called for by the governor because it is the least contentious, most effective way to achieve the coequal goals. Negotiated agreements have been demonstrably successful at achieving outcomes and widespread support for appropriate environmental flows; forced regulations have not yielded the same track record. The State Water Board should wholly embrace this approach and allow enough time for it to work.

- **Comprehensive Solutions:** A successful collaborative approach will require comprehensive solutions for both water supply and ecosystem management. Water users will need to continue and build on their commitment to integrated resources management in order to maintain reliability without undue impacts on the ecosystem. Similarly, ecosystem managers will need to focus on the entire life cycle of affected species and multiple variables, such as predation, food, and habitat availability to develop integrated management portfolios that accomplish ecosystem goals without undue impacts on water supply. Utilizing the single variable proposed in the "percentage of unimpaired flow" approach will not achieve the desired ecological outcomes and is, by far, the most destructive policy approach from the perspective of protecting and improving water supply. ACWA firmly believes the ecological outcomes can be achieved with even better results through a comprehensive approach that considers multiple solutions and benefits.

- **Science:** The State Water Board needs to incorporate the best available science to inform its work and assist with the development of voluntary settlement agreements. The unimpaired flow approach, in which flow objectives are not tied to any specific ecological outcome, fails to incorporate the best available science. As noted above, the updated plan needs to focus on the entire life cycle of affected species and multiple variables, such as predation, food, and habitat availability, and incorporate relevant current scientific information. Science alone cannot identify the best policy choice, but it can inform us about the policy tradeoffs we confront and help structure integrated solutions that provide ecosystem benefits with far less impact on water supply, the California economy and the public interest.

FUNCTIONAL FLOWS: A BETTER APPROACH

Sacramento Valley: Sacramento Valley water users and conservation partners are working together to advance a new generation of innovative projects to promote salmon recovery.

Over the past two and a half years, 12 projects have been completed through the Sacramento Valley Salmon Recovery Program to address fish passage, improve the timing of flows and increase habitat for salmon and other species. Priority projects have included removal of structural barriers to fish passage, modifying riffles, eliminating predator habitat, restoring floodplains and creating side channel spawning and rearing areas.

In addition, program partners are exploring creative ways to reconnect water with the land in floodplains and agricultural areas to enhance habitat and food production and create rearing habitat in rice fields.

While each of these collaborative projects provides independent value, implementation of the entire comprehensive suite is generating unique benefits that can significantly improve ecological outcomes for salmon in the Sacramento Valley.

Merced River: Merced Irrigation District has spent millions of dollars and decades undertaking intense and in-depth scientific research on the Merced River. This research has included analysis of flows, temperatures, biological resources and habitat. MID is poised to put this research into action through its Merced S.A.F.E. Plan (Salmon, Agriculture, Flows, and Environment) to provide certainty for both the environment and local water supply in Eastern Merced County.

The plan would provide increased flows using science to dictate the amounts and timing, restore critical sections of habitat for spawning and rearing juvenile salmon, protect local drinking water quality, upgrade an existing salmon hatchery with state-of-the-art facilities and reduce predation.

Based on in-depth science and technologically advanced computer modeling, MID seeks to take immediate action and dramatically benefit salmon on the Merced River.

- **Functional Flows:** Science shows that functional flows have very promising benefits for fish as well agricultural and urban water users. Timed and tailored for specific purposes, functional flows can benefit species in ways that unimpaired flow requirements cannot. Examples abound of collaborative, innovative projects currently underway by local water agencies and stakeholders that include functional flows and non-flow solutions that reconnect land and water to restore habitat and address the full life cycle of species needs. These efforts contribute real benefits to ecosystem recovery while maintaining water supply reliability.

- **Economic Considerations:** The State Water Board has a statutory obligation to consider economic impacts when establishing water quality objectives that reasonably protect all beneficial uses of water. Having a robust economic analysis is critical. The board also has a policy obligation under the coequal goals to ensure its actions related to a revised Bay-Delta Plan increase water supply reliability and thereby allow for a healthy, growing agricultural and urban economy in California.

- **Consistency with State Policy:** ACWA urges the State Water Board to heed the governor's direction and recognize that achieving the coequal goals will lead to a more reliable water supply and healthy ecosystem. Pursuing the coequal goals should be a guiding principle for the board's decisions related to adopting a revised Bay-Delta Plan. The State Water Board also should ensure that its decisions on the Bay-Delta Plan enable, rather than obstruct, the implementation of the California Water Action Plan.

- **Leadership:** The best policy choice will come through the give and take of the negotiating process and the enlightened leadership of the State Water Board members. Ultimately, the board must establish water quality objectives that ensure the reasonable protection of all beneficial uses of water as it implements negotiated solutions. The State Water Board should actively engage in this work and lead in a manner that is grounded in an awareness of how its actions can affect the implementation of the California Water Action Plan and the achievement of the coequal goals.

ACWA and its members have taken a strong policy position in support of comprehensive solutions such as those outlined in the California Water Action Plan. We stand ready to work with the Brown Administration to pursue the collaborative and comprehensive approaches needed to ensure a future for California that includes a vibrant agricultural and urban economy and a healthy ecosystem.

P A L M D A L E W A T E R D I S T R I C T

B O A R D M E M O R A N D U M

DATE: April 5, 2017 **April 12, 2017**

TO: BOARD OF DIRECTORS **Board Meeting**

FROM: Mr. Eric Dunn, General Counsel

RE: ***AGENDA ITEM NO. 7.3 – CONSIDERATION AND POSSIBLE ACTION ON RESOLUTION NO. 17-14 BEING A RESOLUTION OF THE BOARD OF DIRECTORS OF THE PALMDALE WATER DISTRICT REQUIRING THAT BOARD MEMBERS BE ELECTED BY DIVISION STARTING IN NOVEMBER OF 2018 (PRESIDENT ALVARADO/DIRECTOR MAC LAREN)***

Recommendation:

Staff recommends that the Board consider adopting Resolution No. 17-14 requiring that Board Members be elected by division starting in November of 2018.

Alternative Options:

Take no action at this time.

Impact of Taking No Action:

Potential litigation under the California Voting Rights Act, as discussed further below.

Background:

The District currently holds at-large elections whereby all voters in the District vote for all candidates, but the Board Members must each reside in one of the five divisions. This is known as a "from-division" system. In a "by-division" system, Board candidates may only run for office within their division, and voters may vote only for candidates residing in their division. This is essentially the same as the district-based election recently adopted by the City of Palmdale, but without a mayor elected at large.

I. THE CALIFORNIA VOTING RIGHTS ACT

The CVRA was adopted in 2002 and expands on the Federal Voting Rights Act by making it easier for minority groups to challenge at-large electoral systems in the courts. "The legislative history of the CVRA indicates that the California Legislature wanted to provide a broader cause of action for vote dilution than was provided for by federal law." *Sanchez v. City of Modesto*, 145 Cal. App. 4th 660, 669 (2006).

The CVRA authorizes lawsuits challenging at-large elections for impairments of the ability of a protected class to influence the outcome of an election. (Elec. Code §14027.) A CVRA violation may be established by showing that racially polarized voting occurs in elections for the City Council. (§14028.) Racially polarized voting may be determined by the extent to which "candidates who are members of a protected class and who are preferred by voters of the protected class, as determined by an analysis of voting behavior, have been elected to the governing body." (§14028(a-b).) In other words, if a protected class consistently votes differently - as a group - than the rest of the electorate, a violation of the CVRA may be triggered. A judge has broad authority to implement appropriate remedies that are tailored to address specific CVRA violations. (§14029.) The most common remedy has been to order a municipality to switch from at-large elections to by-district elections.

At least 142 school districts, 28 community college districts, and 53 cities have switched or are in the process of switching as a result of the CVRA as of this date.

II. PROCEDURE TO SWITCH TO BY-DIVISION ELECTIONS

Pursuant to Elections Code Section 10508, amended effective January 1, 2017, a governing body of a district may require that the directors of the governing body be elected using district-based elections pursuant to Elections Code Section 10650. For the Palmdale Water District, a "district-based" election means a "by-division" election.

Under Elections Code Section 10650(a), also effective January 1, 2017, a governing body of a special district may require, by resolution, that the members of its governing body be elected using district-based elections, without being required to submit the resolution to the voters for approval. The resolution must include a declaration that the change in the method of electing members is being made in furtherance of the purposes of the California Voting Rights Act.

The attached resolution would require Board Members to be elected by division starting in November of 2018. The attached resolution would authorize and direct the Board President, General Manager, and General Counsel to execute documents and take actions necessary to implement the change to by-division elections.

Strategic Plan Initiative:

None.

Supporting Documents

- Resolution No. 17-14

PALMDALE WATER DISTRICT
RESOLUTION NO. 17-14

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE PALMDALE WATER DISTRICT REQUIRING THAT BOARD MEMBERS BE ELECTED BY DIVISION STARTING IN NOVEMBER OF 2018

WHEREAS, the Palmdale Water District is an irrigation district and is a state agency formed and existing for government purposes pursuant to Water Code section 20500 *et. seq*; and

WHEREAS, pursuant to Resolution No. 16-19 and by Los Angeles County Board of Supervisors action taken April 4, 2017, the Board of Directors of the Palmdale Water District holds its general elections on the first Tuesday after the first Monday in November of each even-numbered year; and

WHEREAS, Palmdale Water District Board of Directors are currently elected from division and voted for at large; and

WHEREAS, in furtherance of the purposes of the California Voting Rights Act of 2001, the Palmdale Water District Board of Directors desires to change, by this Resolution, the method of election for members of its governing board from an at-large, from-division method of election to a by-division method of election; and

WHEREAS, pursuant to Elections Code Section 10650(a), effective January 1, 2017, the Board of Directors may by resolution change to a by-division method of election without submitting this Resolution to the voters for approval.

NOW, THEREFORE, BE IT RESOLVED, by the Board of Directors of the Palmdale Water District as follows:

Section 1. The above recitals are all true and correct and are hereby incorporated herein by reference and adopted as findings.

Section 2. The method of election for members of the governing board of the Palmdale Water District shall be by division starting with the election in November of 2018.

Section 3. The Board President, General Manager, and General Counsel are hereby authorized and directed to execute and submit documents to the the Los Angeles County Board of Supervisors and Registrar of Voters as necessary to carry out this Resolution.

Section 4: If any section, subsection, paragraph, sentence, clause or phrase of this resolution is for any reason held to be invalid or unconstitutional, such invalidity or unconstitutionality shall not affect the validity or constitutionality of the remaining portions of this resolution, it being expressly declared that this resolution and each section, subsection, paragraph, sentence, clause and phrase thereof would have been adopted, irrespective of the fact that one or

more other section, subsection, paragraph, sentence, clause or phrase be declared invalid or unconstitutional.

PASSED, APPROVED, AND ADOPTED at a regular meeting of the Board of Directors of Palmdale Water District held on April 12, 2017.

Robert Alvarado, President
Palmdale Water District

Joe Estes, Secretary
Palmdale Water District

Approved As To Form:

Eric Dunn
General Counsel

AGENDA ITEM NO. 7.4

Hotel and Travel Accommodations

Event Name/Date:

P3 Water Summit, May 4 - 5, 2017, San Diego

CONTACT INFORMATION

First Name | Last Name | Date

ACCOMMODATION INFORMATION

Rooms and rates are subject to availability. Complete and submit this form as soon as possible to guarantee a room at the host hotel. In the event that the host hotel is booked, every effort will be made to secure a room at the closet hotel within comparable rates to the event discounted rate.

Arrival Date | Departure Date | No. of guests | Room Type

Do you require a smoking room?

◯ Yes ◯ No

Do you need transportation from the airport to the hotel?

◯ Yes ◯ No

Flight Number | Time

ADDITIONAL INFORMATION/REQUESTS

Staff Representative

Karen Baker | Relationship Director
The P3 Water Summit
607 Rockefeller, Irvine, CA 92612
office: (714) 408 - 9270
email: karen@thep3conference.com
www.p3watersummit.com

March 17, 2017

Jennifer Emery
Palmdale WD

Dear Jennifer,

It's a pleasure to invite you as our guest to the annual P3 Water Summit this May 4-5, 2017 at the Manchester Grand Hyatt Hotel in San Diego, California.

This year's event brings together hundreds of public and private professionals responsible for the planning, finance, and operations of water systems and waterways across the country.

Our program has been designed for water agencies evaluating the use of public-private partnerships ("P3s") in solving their infrastructure challenges. We have invited water managers, project owners, developers, and industry professionals to attend, learn, and share their experiences with P3s.

Our two day agenda focuses on P3 education, financing solutions, procurement methodologies, and innovative ways that partnerships are delivering water, wastewater, and stormwater projects. We'll hear from operators, technical advisors, capital providers, and Federal agency representative as they cover best practices, lessons learned, policy and legislation changes under the new administration, and effective ways to utilize P3s.

This year's Summit features over two dozen sessions and case studies examples of how communities are using P3s. Through workshops, seminars, and keynotes, over 70 public and industry leaders will discuss their water challenges and active P3 projects. Speakers will examine key features of the P3 delivery model, explore partnership structures being used in small projects and in rural areas, and breakdown how P3's can help operators maintain, repair, and upgrade critical parts of their water systems.

To learn more, please view our agenda and see who is attending on our website at www.p3watersummit.com.

Your participation is warmly welcomed by our audience, and we cordially invite you to attend as our guest. To complete your registration please use the code "P3guest" on our website and the full cost of registration will be waived.

We hope you and your colleagues can join us this year in San Diego.

Please let me know if I can answer any questions about the event or on ways for you to be involved.

Sincerely,

Karen Baker

Karen Baker
Relationship Director

2017 AGENDA

OVERCOMING CHALLENGES THROUGH PUBLIC-PRIVATE PARTNERSHIPS

PRE-SUMMIT ACTIVITIES

Times and session topics are subject to change.

WEDNESDAY, MAY 3, 2017

1:15 PM – 4:30 PM

Site Tour - P3 in Action: A Tour of the Claude "Bud" Lewis Carlsbad Desalination Plant

Advanced Registration Required | Meet in Lobby of Manchester Grand Hyatt Hotel for Shuttle Pickup

Before the Summit kicks off, come see one of the largest public-private partnership water projects in California.

We will host a limited number of P3 Water Summit attendees for a tour of the 50 million gallon per day (56,000 acre-feet per year) desalination plant located adjacent to the Encina Power Station in nearby Carlsbad. Tour participants will get an up-close look at the facility and its operations, learn the history of the project, and hear about the 30-year water agreement finalized with the San Diego County Water Authority for the purchase of 50 million gallons per day of desalinated seawater.

To reserve a spot contact sandra@thep3conference.com

Sponsored by:

IDE Technologies

6:00 PM – 8:00 PM

Summit Check-In & Registration

Grand Hall Foyer

THURSDAY, MAY 4, 2017

7:00 AM – 9:30 AM
Summit Check-In & Registration
Grand Hall Foyer

8:00 AM – 9:30 AM
P3 101 Breakfast (Open to Public Agency Attendees Only | Advanced Registration Required)
Grand Ballroom A
Join industry leaders and AIAI members for breakfast and an interactive conversation specifically tailored to the needs of water agencies that are evaluating P3s. This pre-Summit session is designed for those beginning to explore P3s and are seeking to better understand where they can be applicable. Learn about when P3s do and do not make sense to advance, what are the major considerations that need to be made when choosing this route, how can they can save money and time when dealing with system repairs and maintenance, and what are some of the first steps to make when considering the P3 route.

Public attendees please confirm your attendance by emailing Lisa Buglione at LBuglione@aiai-infra.org

FORMAL SUMMIT ACTIVITIES

THURSDAY, MAY 4, 2017

9:30 AM– 9:45 AM
Summit Start: Welcome & Opening Remarks
Grand Ballroom

9:45 AM– 10:30 AM

2017: A New Era for Water - What to Watch For
Grand Ballroom D
In our opening keynote Jill Jamieson will provide an overview of some of the most notable developments that shaped the public-private partnership landscape in the past year; and address some of the major political, policy, and project developments that are likely to define the U.S. P3 water experience in 2017. She'll address recent comments by the new administration regarding the role of partnerships for water infrastructure and speak to how P3s and other alternative delivery models are likely to be influencing major future projects being contemplated around the country.

Presenter:
Jill Jamieson, Managing Director, JLL Public Institutions Group

10:30 AM– 12:00 PM
Roundtable Discussions
Grand Ballrooms A&B

A series of interactive roundtable conversations on 16 different public-private partnership and water topics. Each conversation will last approximately 25 minutes, and during the 90 minute session attendees will be able to participate in 3 different discussions.

Roundtable conversations are meant to be informal, candid exchanges where participants can ask their questions and concerns, share experiences, and network. Hosts will guide discussions by bringing up case studies, targeted issues, and topics impacting the current P3 landscape.

Table 1: Cost of Finance – Does it Really Matter?
This roundtable will discuss the relevance of the cost of financing when considering a P3. Some public officials disregard P3s outright arguing that tax exempt financing can be cheaper. In this discussion close consideration to when the cost of finance is relevant and other factors to consider in weighing the value for money of a P3 will be made.

Table 2: Off Balance Sheet But on Credit
Among the many touted benefits of potential P3 projects is the ability to keep debt off the balance sheet. But just because it’s off the balance sheet, do the rating agencies consider it to be off-credit as well? Chat with a ratings analyst who will discuss her approach to evaluating a P3 project’s impact on credit rating.

Table 3: Making Partnerships Work
When a P3 contract is signed with a private party, the work of the partnership begins, and both private and public parties have to live up to their responsibilities. Contracts attempt to identify and plan for the potential events that could occur during the life of the P3, but can rarely imagine all events into the future. This module will present the fundamentals and challenges of contract management, methods to streamline documentation. examine P3 contract requirements, discuss enforcement policies, as well as techniques for amending, renegotiating or terminating contracts.

Table 4: Operational P3s: Lessons Learned Along the Way
This table will address the best practices and lessons learned from active P3 projects in both the construction and operation phases. The group will discuss how to drive innovation and value for money, finding the right risk transfer balance, ensuring a successful transition and what to expect for the next 30 years. The facilitator will also discuss key considerations in developing and implementing P3 projects including development of performance specifications, dispute resolution approaches, and risk allocation between the private and public partners. Join this table to discuss these issues, including some ideas to develop concepts that might work for your facility.

Table 5: Lessons Learned from a Successful P3 Procurement, Structuring and Financing
Learn how several water agencies approached their need for a plan by developing a P3 that met the city's operational requirements within the city's tight budgetary constraints and provided increased associated development of the downtown area. This discussion will cover important P3 procurement lessons learned including (i) the RFQ short listing process, (ii) the RFP process, (iii) political support during the procurement period despite a change in government, (iv) a review of alternative financial structuring elements and one-time subsidies to help meet the city's budgetary limits, (v) importance of P3 risk allocation and the potential to trade those for lower perceived costs, and (vi) how the final taxable financing was cheaper than tax exempt structures that were explored (63-20, Lease Revenue Bonds, COPs, 501(3)c, etc).

Table 6: Value Creation from Transferring Operations & Maintenance Risk
One of the biggest differences in a P3 delivery is the long-term operations and maintenance obligations the private sector is responsible for delivering. Many public sector sponsors have stated that operations and maintenance services as one of the biggest reasons for considering a P3. Join a discussion on how the inclusion of operations in a P3 helps to build better buildings and improve service quality.

Table 7: Using Tax-Exempt Bonds in P3
For years tax-exempt financing has been the preferred means to finance public facilities. This roundtable will address the issues involved in using tax-exempt debt in public-private partnerships, and compare and contrast structures involving tax exempt debt vs conventional debt and equity. The conversation will also examine the impacts of the financing structure on project cost, project delivery, and long term operations and maintenance.

Table 8: The Art & Science of Establishing Insurance Requirements
A discussion to help understand the perspectives and desired balance to be achieved by both the Public and Private sectors in determining risk allocation and minimum insurance requirements.

Table 9: Best Practices for P3 Procurement Success
Are you considering a P3 delivery for your new municipal asset, but not sure where/how to start? Concerned about attracting private sector interest? This roundtable will address pre-RFP activities for a municipal entity to consider, a procurement road map to follow, and then steps to take to prepare and implement a P3 from procurement through award, commercial/financial close, delivery, and operations.

Table 10: Developing a Successful Programmatic Approach to P3s and Innovative Project Bundling
This roundtable will discuss the challenges faced by the public and private sector in their efforts to break into the P3 market and will address innovative practices for teaming and bundling projects for an economical and effective approach.

Table 11: Defining and Maximizing Value in a Public-Private Partnership
The deal structures of today are multivariable equations, not off-the-shelf deal structures that are bid on spec and valued exclusively by price. As such, the most successful projects are implemented when an institution defines project values, creates framework that prioritizes and normalizes variables, and drives competition by providing developers with sufficient information and flexibility to be innovative. This roundtable is designed to empower institutions to become the strongest owners possible by defining project requirements, weighing delivery options against risk, and selecting a development structure that best fits their goals prior to soliciting private partners.

Table 12: From Idea to Implementation: The Role of a Project Champion in Building Internal Partnerships
Between the idea for a P3 project and ribbon cutting lie many obstacles. P3

projects are still new and different to many. They require new processes, new ways of thinking, new legal and financial models, and new risks. They change the politics of building on campus. A project champion is essential to navigate those obstacles and build a team and a process that will maximize the chances for success. The project champion must understand enough about both the traditional process for campus construction and the new opportunities offered by the P3 model to bridge those worlds and to help the project adapt and remain flexible as campus needs change through the design and implementation phases. This roundtable is designed to empower potential project champions to build the internal partnerships needed to take a project from idea stage to implementation.

Table 13: Owner Roles/Responsibilities in Executing a P3
A discussion tailored to key problems, issues and hard learned lessons in major P3 procurement. Cancelled projects, contractor insolvency, defective buildings – it's not all bad news but take the opportunity to avoid the mistakes of others around the globe.

Table 14: Setting the Table for P3. Capturing Voices and Making Decisions in the First 60 Days
The first 60 days of a P3 project can be intense. Many decisions must be made rapidly, not only about design and construction, but also about financing options, operational agreements and many other facets about which institutions might not have long standing protocol. Additionally, P3 processes typically result in a shuffling of roles and voices at the table. This discussion will explore several approaches to "setting the table" for a successful project.

12:00 PM– 2:00 PM
Networking Lunch
Expo Hall

1:00 PM– 1:45 PM
Lunch Conversation: The Role of WIFIA - An Overview of the Program
Grand Ballroom D
The Water Infrastructure Finance and Innovation Act of 2014 (WIFIA) established the WIFIA program, a federal credit program administered by EPA for eligible water and wastewater infrastructure projects. WIFIA and the WIFIA implementation rule outline the eligibility and other requirements for prospective borrowers.

This session is designed prospective borrowers. WIFI representatives will provide

an overview of the program and explain the process for submitting and evaluating WIFIA letters of interest. This conversation is meant to foster a greater understanding of the WIFIA program requirements; clarify the purpose and goals of the WIFIA program; and pave the way for successful applications to the program.

Presenter:
Jordan Dorfman, Advisor-Attorney, U.S. EPA

2:00 PM – 3:00 PM
Risk and Resiliency Under P3's
Grand Ballroom A
Water supply and compliance regulations are often combined in headlines. Municipal water system have suffered historically from underfunded system maintenance and capital upgrades. As such they have struggled to meet debt service liabilities and maintain compliance. Unable to raise adequate capital in the tax-exempt market, many utilities are now examining the public private partnership model. This session examines P3s as a solution for water supply, financial stability and compliance. P3s allow access to private finance, as well as operations and maintenance to meet a community's needs. This panel of experts will explore the risks associated with providing safe and reliable water to residents. These risks include overcoming previous unfunded maintenance, differing site conditions, unknown environmental conditions, stabilizing existing workforce and financing variables.

The panel will focus on several case studies including Rialto and Carlsbad. Public officials and private partners will share their lessons learned, issues and challenges, as well as how risk allocation allows them to address the solutions facing the community. This session explain the risks facing public procurement officials to implement programs to meet the growing water needs of industry and communities, and provides an overview of how P3s facilitate access to safe, reliable water resources. We will outline the risk drivers which serve to motivate the adoption of technology to address restoration of safe drinking water and distribution of potable water resources to meet the needs of residents and commercial and industrial partners.

Moderator:
Frank Rapoport, Partner, Peckar & Abramson

Panelists:
Rich Distler, Vice-President, Granite Constructions

Greg Johnson, Partner, Squire Patton Boggs
Tom Mulvihill, Managing Director and Head of Infrastructure Finance and Public-Private Partnerships - KeyBanc Capital Markets

Water Design-Build Best Practices to P3 Delivery
Grand Ballroom C
The presentation and follow-on discussion, facilitated by the Water Design-Build Council, discusses the intersection of current design-build practices in the water and wastewater sector and how those practices should be adapted for P3 delivery. As some form collaborative delivery is inherently embedded in almost any P3 approach, mastering the design-build learning curve is fundamental to successfully implementing P3 projects. The presentation portion of this session will focus on identifying key issues and risk transfer considerations unique to design-build delivery in the water and wastewater sector, followed by an interactive discussion focused on several key implementation issues, including: Is your organization prepared to implement a P3 project without prior hands-on design-build experience? How does the fixed price design-build approach translate to a P3 procurement, particularly in relation to prescriptive- versus performance-based requirements? Is there a progressive design-build option within the P3 framework? How do does the risk transfer and securitization of existing DBO models compare to typical P3 practice? How can commissioning approaches and Acceptance metrics for design-build and DBO projects be applied in a P3 environment?

Panelists:
Mark Alpert, Executive Director, Water Design Build Council
Bryan Bedell, Water Division Leader, Haskell
Leofwin Clark, Past WDBC President and Education Committee Chair, Brown and Caldwell

A Template for Instilling Confidence in the Procurement Process
Grand Ballroom D
To attract the right P3 consortium partners (developers, investors, contractors and service professionals), the public sector must instill confidence in the procurement process and house the necessary expertise to support a pipeline of P3 projects. One way to do this is through a dedicated institutional framework designed to manage and guide programs and projects. This session explores best practices and new approaches to procurement in the context of public-private partnerships, and considers how pre-development agreements can evaluate risk transfer in design and construction costs, operational and maintenance challenges, and factors that can impact value for money analysis.

Panelists:
Bruce Allender, Associate Vice President, Black & Veatch
Simon Baker, M.Sc, P.Eng, AECOM

3:00 PM– 3:30 PM
Networking Coffee Break
Expo Hall

3:30 PM– 4:30PM
P3s for Rural Areas and Small Cities – How Can You Make the Model Work?
Grand Ballroom A
Join a panel of practitioners and industry experts who will explore how P3s can create opportunities for water resource development and sustainable water management in rural areas and small cities. This discussion will to address challenges to water safety and efficient distribution facilities at the local level. Local business leaders and municipal officials can learn how to develop a strategy for the development of supply and treatment facilities, including strategies and specific steps to take advantage of P3 best practices in public infrastructure procurement.

Topics will include:
• How do small and medium sized municipalities and rural communities ensure their water treatment systems are safe and built to handle dynamic and future growth?
• What regional imperatives and market forces drive needs for safe and readily available water supply?
• What compliance mandates drive funding or access to capital to help rural and modest scale urban or suburban systems keep pace?
• How does technology play a role in providing communities with safe drinking water and efficient wastewater treatment?
• How do local requirements affect procurements?
• How do P3s address communities' needs?

Moderator:
Bill Hvidt, The Hvidt Group

Panelists:
Michael Deane, Executive Director NAWC
Don Hunt, Princiapl, Antero Group
Bob Nespeca, VP Asset Management, PERC Water

How Can the Traditional Engineering Industry Succeed in a P3 world?
Grand Ballroom C
P3 projects are often perceived as large and complex and they typically require a Developer to serve as an intermediary between an Owner and their traditional design consultant. As P3 projects gain acceptance in the water and wastewater sector, the relationship between Owners and their "trusted advisors" in engineering roles may be disrupted, for particularly smaller firms. This objective of this discussion is to explore how traditional mid- and small-size engineering firms can successfully participate in P3 delivery. From the perspective of an Owner, a Developer, and an Consultant, we'll address questions such as, "How can sound engineering practice be ensured in a monetized selection process" and "How can long-standing owner-consulting engineering relationships be maintained in a P3 delivery structure," and "How can a smaller firm hold their own in the midst of a Developer-led consortium?"

Presenters
Leofwin Clark, Vice President, Brown and Caldwell
Adel Hagekhalil, Assistant Director - Sanitation at City of Los Angeles, City of Los Angeles

P3s and Capital Program Solutions
Grand Ballroom D
What are financing options available to municipalities that can accelerate investment in much needed water infrastructure? This session brings together the perspectives of infrastructure banks, state revolving funds, and WIFIA representatives to discuss a range of familiar and lesser known programs available to communities evaluating water system investment. Panelists will share insight on the risks and advantages of different options, while considering key issues related to the application process; project selection; leveraging WIFIA with SRF resources; credit analysis; determining leverage; aggregating smaller projects;, the role of public private partnerships; hybrid funding, implementation, and proper stakeholder coordination.

Moderator:
Peter Luchetti, Managing Partner, Table Rock Capital

Panelists:
Kevin McDonald, WIFIA Credit Program, U.S. Environmental Protection Agency
John Medina, Vice President, Project and Infrastructure Finance, Moody's Investors Service

Ian Parker, Managing Director, Goldman Sachs
Nancee Trombly, Chief Deputy Executive Director, California Infrastructure and Economic Development Bank

4:45 PM– 5:45 PM

P3 Considerations in the Early Stages

Grand Ballroom A

The proposed panel discussion, in conjunction with the AIAI P3 Water Infrastructure Committee will cover a range of considerations that need to be taken into account during the early stages of a P3 project development. These will include assessing the feasibility of a project and what type of projects are best served by P3 delivery. A large consideration of P3 projects is determining where the funding will come from and how the project will be financed. What would attract the private sector to be engaged and be involved in the project? What are the benefits that would be achieved for the owner? In addition, the panel discussion will also highlight the merits and risks of P3 structures and how these played out in a selection of P3 Water projects to date; Prince George's County and Carlsbad California.

Moderator:
Justin Ashford, Principal, WSP|Parsons Brinkerhoff

Panelists:
Greg Cannito, Managing Director, Corvias
Eric Letsinger, Founder, Quantified Ventures
Bar Littlefield, Chief Financial Officer, Poseidon Water
Brian Rapp, Kiewit Infrastructure

Small P3s: Innovative Solutions for Small Communities

Grand Ballroom C

Small and medium size communities as well as planned communities face increasing challenges to meet federal and state regulations. Are P3's appropriate for small projects? This session will explore the tools and financing options available to community stakeholders to evaluate, plan and execute a successful P3 project. Whether upgrading an existing facility, building a new facility or planning for anticipated growth, establishing the right partners in advance is key to delivering a winning project and can make a small project become a big deal.

Moderator:
Mark Lambert, Managing Partner, WaterMark Resource Development

Panelists:
William Brennan, Managing Director & Co-Chief Investment Officer, Ultra Capital
Matthew J. Diserio, President, Water Asset Management
Frank Martinez, Long Beach Board of Water Commissioners

5:45 PM – 7:00 PM
Opening Night Welcome Reception
Expo Hall
Join us at this special evening networking event for all Summit attendees. Meet with speakers, exhibitors, and Summit delegates.

Sponsored by:

FRIDAY, MAY 5, 2017

7:00 AM – 9:00 AM
Networking Breakfast
Expo Hall

8:00 AM– 9:00 AM
Strategic Solutions for Municipal Water Challenges
Grand Ballroom A
There is a wide spectrum of water challenges, and more often than not, it's a delicate balance for communities to manage all the challenges. The good news is there are proven and effective resources to help them solve water challenges across the spectrum. Through public-private partnerships water companies have a solid resume of delivering strategic solutions to the water challenges facing municipalities. More than 2,000 water and wastewater facilities across the country depend on P3s to provide ready access to capital, expertise, technology and operational acumen. This session will navigate through the benefits afforded

by the different P3 models and discuss the key components of successful water P3s currently underway in the U.S. Join a panel of industry participants as they discuss P3s in the context of the US water infrastructure market and cite examples of projects that illustrate successful P3 contracts.

The Federal Perspective: A Conservation Across Agencies
Grand Ballroom D
A conversation with representatives from Federal Agencies focused on P3's. How are the USDA, EPA, Army Corp, and Department of Interior thinking approaching water partnerships in the Trump era? What sorts of P3's are likely to be encouraged? What are options for system managers? In this discussion panelist will discuss their agency's approach to P3's, where they perceive opportunities for the model, and share what's likely to change under the new administration.

9:15 AM– 10:15 AM
The Role of P3s in Water Resilience Projects
Grand Ballroom D
Climate resilience and water are inextricably linked. With increasing temperatures, evolving rain and snowfall patterns and changing demographics, resilience is moving to the top of many cities and regions agendas. Resilience projects encompass a diverse range of water related matters, from flood defense to drought resiliency, and municipal, state, and federal stakeholders. As the infrastructure need is becoming increasingly apparent, and as federal funds are ever more constrained, P3 is beginning to emerge as one possible way forward for these key projects. This section will draw on the lessons learned from a number of recent, high profile resilience projects to identify key issues, approaches and themes, which will be relevant to those contemplating similar projects, as well as those involved in structuring complex water related projects. Topics will include an overview of resilience infrastructure, and key drivers for action while considering major challenges faced by resilience projects. As well as the potential roles and limitations of P3 in resilience projects (value proposition, risk, pricing, design innovation etc.). With key success factors considered from relevant experiences such as (i) SAWS; (ii) Fargo Moorhead; and (iii) New York City.

Moderator:
Stephen J. Auton-Smith, Managing Director, Ernst & Young Infrastructure Advisors LLC

Panelists:
Alan Gordon, Deputy Treasurer, Legislation and Infrastructure Financing, California State Treasurer's Office
Francesca McCann, Business Development Director - InfraManagment Group, Black & Veatch
Laurie Wayburn, Co-CEO and President, Pacific Forest Trust

P3s for Emerging Sustainable Water Projects
Grand Ballroom C
As the regulatory environment has become more difficult and affordable water supplies more scarce, there is increased public interest in P3s for a variety of water supply projects that use emerging technologies, and which support local water sustainability. These projects can be constructed and maintained utilizing P3 vehicles and include advanced wastewater treatment facilities for indirect/direct potable reuse of highly treated recycled water, groundwater storage, replenishment and injection facilities, desalination of ocean and brackish water, and even P3 approaches for water/wastewater infrastructure maintenance. Are public-private partnerships ("P3s") suitable for these types of projects? How do industry leaders from the public, private development, and finance sectors envision collaborating on sustainable water projects in the coming years? What are the hallmarks of successful (or unsuccessful) P3s in the water industry? Join our panel for a candid discussion about the pros and cons of P3 project delivery for sustainable and emerging water supply projects.

Moderator:
Justine Kastan, Senior Associate. Rutan & Tucker, LLP

Panelists:
Brian Adams, Senior Vice President, AECOM
Brian Cullen, President, PERC Water Corp.
Jeremy Jungreis, Partner, Rutan & Tucker, LLP
Kim Thorner, General Manager, Olivenhain Water District

Structuring and Financing Options for Water P3's
Grand Ballroom D
P3s have long been discussed as a potential solution to the underfunding of U.S. water infrastructure needs. In this session we will explore the various financing structures that have been successful for delivering water projects: comparing the various tax-exempt and taxable debt models, equity options and government

programs. We will also discuss how P3 financing models are evolving and how a traditional project finance program compares to other P3 tools, such as concession agreements, that are more common in other sectors. Panelists we explore what can we expect regarding future market activity and what is the significance for both primary and secondary infrastructure markets? And delve into which P3 structure work best for a specific project or to meet the specific goals of an agency, examining specifically how each structure impacts the viability of the project, the return to the agency; and the municipalities credit profile and balance sheet.

Panelists:
Cherian George, Managing Director, Fitch Ratings
Stephen Howard, Director, Barclays
Andrew Prindle, Vice President, Goldman Sachs
Jeffrey Murphy, Managing Director, Infrastructure Ullico Infrastructure Management Company
Cecilio Velasco, Principal, KKR

10:15 AM– 10:30 AM
Networking Coffee Break
Expo Hall

10:30 AM– 11:30 AM
What Makes the Water Sector So Unique and Why is it Important to Understand this in the Water P3 World?
Grand Ballroom A
The water sector has unique features that are central to the consideration of best practices in the evaluation, procurement, contracting and execution of a P3 approach. Before a water sector P3 can be considered, it is important that these unique water-focused features are fully understood. Recognizing – and addressing – the challenges presented by these water-focused features will enable the integration of the P3 approach into the broad spectrum of delivery models available to the water sector. The application of best practices, continuity within the spectrum of delivery models, and recognition of water's unique place in public infrastructure will provide the foundation for water and wastewater projects to grow commensurate with past performance in other sectors. The Moderators in this interactive session will recap major themes addressed at this year's summit.

Topics to be discussed include:
• Funding and Financing- what is the difference?
• True cost of service dilemma and its role in a Water P3.
• Financing and the Water P3 – is it necessary?
• Impact of O&M to a Water P3– is the P3 model different than the DBO model?
• Selection of the P3- it isn't just the price tag.
• Water sector is local and P3 could include more or less- which is better?
• Asset life, performance variability, preventive and predictive care, turnover and other system needs that need to be recognized.

Presenters:
Leofwin Clark, Vice President, Brown and Caldwell
Douglas Herbst, DBIA, Freese and Nichols, past President of DBIA SW Region, DBIA Water/Wastewater Liaison to DBIA P3 Committee

Applying P3s to Stormwater
Grand Ballroom C
As owners of public storm drainage systems are aware the current generation of watershed-based stormwater permits (when including water quality standard-linked compliance requirements) have the potential to cost billions. We will discuss how cities and counties are in need not only of technically sound solutions, but also funds for implementation, which are limited by myriad political and policy challenges (in California, Prop 218).

Despite the recent rains, continuing drought conditions potentially face many areas of the country; and with population growth, resiliency and sustainability are critical long term needs. Stormwater (as well as recycled water) represent an option for providing low cost commodity of the water agencies. Administratively, however, in many areas different agencies are responsible for storm water quality, flood control, groundwater remediation, and water supply.

Our panel will examine how performance-based requirements could include the development of new, environmental infrastructure, coupled with appropriate levels of operations, maintenance, and asset management. We will explore how Performance Based Infrastructure and P3s might provide opportunities to more holistically provide solutions that meet numerous technical, financial, risk, political and governance needs.

Moderator:
Ryan Baron, Regulatory Counsel, Best Best & Krieger LLP

Panelists:
Adel Hagekhalil, Assistant Director - Sanitation at City of Los Angeles, City of Los Angeles
Cris Liban, Executive Officer, Metropolitan Transportation Authority
Chad Praul, Environmental Incentives
Ken Susilo, PE, CPSWQ, Geosyntec Consultants

11:30 AM– 1:00 PM
Networking Lunch
Expo Hall

1:00 PM– 2:00 PM
Solutions for Small Projects: How to Structure P3s to Create Genuine Value for Projects Starting at $20 Million and Up
Grand Ballroom A
While large scale public-private partnership projects capture headlines, the majority of infrastructure opportunities fall into the $20 million -$100 million range. These smaller developments, while seldom spotlighted, represent the majority of all completed P3 for Social Infrastructure projects in the United States. Attendees will be introduced to a variety of successful P3 Water Infrastructure projects that have cost less than a $100 million. The presentation will address the key components that lead to cost savings on smaller scale P3 projects and projects will be showcased to illustrate how smaller scale P3 projects can be built on-time, on or under budget and with a lower cost structure than if delivered through a conventional public delivery process.

Using P3's for Safe and Secure Water Supply from Innovative Operational and Maintenance Practices
Grand Ballroom C
Water supply shortages and the challenges that American cities face due to aging infrastructure are impacting quality of life and safety. Many municipal water systems have suffered from historically underfunded system maintenance programs and inability to perform capital upgrades. Utilizing private financing through P3s Public private partnerships provide municipality’s an opportunity to provide communities with the safe water they require through innovative technology solutions and planned O&M.

Join industry leaders both public and private as they discuss what role technology plays in the processing of potable water, ensuring that it remains safe, from its

source to the tap. Learn from a review of world class examples of the impacts of technology on the: reconstruction of an existing plant; development of a new, innovative facility; and on-going operations, monitoring and maintenance of a state-of-the-art plant. Public officials who have entered into P3 agreements have found they create long-term value and cost savings for local residents by providing significant managerial and professional expertise in complying with environmental standards, implementing new technologies, and meeting staffing requirements.

Moderator:
Steven Paquette, President of U.S. Water and Environment Practice, WSP|Parsons Brinkerhoff

Panelists:
James Eklund Director Colorado Water Conservation Board
Miriam Faigon, COO, IDE Assets, IDE Technologies
Bill Malarkey, Senior Vice President, Severn Trent
Michael Patella, Water Infrastructure and Resiliency Finance Center Office of Water, U.S. EPA
Elliott Wheeler, P.E., CH2M

The Intersection of Water and Power
Grand Ballroom D
Water and Power are closely linked. Energy is needed for the delivery of water, in particular in the case of desalinated water. Electricity generation uses water in particular as cooling water or requires water for the generation of electricity in particular in the case of hydroelectric power. Investments in drinking water infrastructure, wastewater treatment facilities and the need for upgrades to storm water infrastructure are posing challenges to local communities in the US as a significant portion of water and wastewater infrastructure approaches its first renewal cycle.

This panel will explore the linkages between water and power, and examine the benefits and challenges of a more holistic approach: Can P3's be employed to drive energy efficiency and water usage benefit from a more holistic approach and private sector innovation? Some utilities in the US provide only water and/or sewer services, while others are multi-utilities that provide both water and power services. We will discuss the benefits and challenges of both approaches and the potential for greater regional cooperation in particular in areas with a growing population and those that face declining water use and a declining tax base. Time will be spent analyzing the funding challenge: Both water and energy use are usually funded ultimately through rate payers. Is a lack of willingness to increase

water rates driving low investments in water infrastructure? Can the water sector learn from the power sector?

2:00 PM– 3:00 PM

Overcoming Barriers to Advance Public-Private Partnerships

Grand Ballroom D

P3s are frequently touted as one of many strategic solutions to overcome the nation's many water infrastructure challenges. Despite the numerous benefits of P3s, both municipalities and private water companies often face barriers in gaining public support for private sector involvement. A recent poll conducted by the National Association of Water Companies (NAWC) found that public perception of water being a "public good" and fear of negative voter reaction are significant factors impeding the use of P3s. This session will demystify P3s and address the barriers that can deter communities from pursuing a P3 as a potential solution to their water challenges. A panel comprised of both private and public sector representatives will share their respective experiences in overcoming public resistance to private participation in water projects.

P3 Questions and Answers Discussion Session - Where to go from Here

Grand Ballroom C

Join industry leaders and AIAI members for an interactive conversation specifically tailored to audience questions and answers about P3s. Attendees will have the opportunity to submit questions in advance and also join in the discussion of the benefits, values, and applications of P3s in an open dialogue.

3:00pm

Summit Ends

HOTEL INFO

EXPLORING THE APPLICATION OF PUBLIC-PRIVATE PARTNERSHIPS

The beautiful Manchester Grand Hyatt San Diego Hotel is our event headquarters. A block of rooms are being held at the hotel at a special rate of $229. Reservations must be made by April 16, 2017 or before the block is sold out in order to guarantee this rate. Reservations made after this date can only be honored on a space and rate available basis.

To make your hotel reservations, please click here (https://aws.passkey.com/event/16374103/owner/414/landing) or call the hotel directly at (619) 232-1234 and identify yourself as part of The P3 Water Summit

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Getting There

The Manchester Grand Hyatt San Diego is located at 1 Market Pl, San Diego, CA 92101.

One major airport serves the San Diego area and is convenient for staying at Manchester Grand Hyatt Hotel:
San Diego International Airport (http://www.san.org/) (DFW) – which is just 3 miles away.

For information or special pickup arrangements with the Manchester Grand Hyatt Hotel, please can contact the hotel at (619) 232-1234

STAFF CONFERENCE/SEMINAR REPORT FORM

NAME:_____ DATE:_____
POSITION:_____

CONFERENCE SUMMARY:

- TITLE:_____
- ORGANIZATION:_____
- LOCATION AND DATES:_____
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SESSION/CLASS ATTENDANCE:

		CONTACT HOURS (HRS):	N/A
1			
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KEY POINTS/BENEFITS RELATING TO WORKGROUP, DEPARTMENT AND/OR OVERALL OPERATIONS:

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SUPERVISOR:_____ DATE:_____

DEPARTMENT MANAGER:_____ DATE:_____

Hotel and Travel
Accommodations

Event Name/Date:

ESRI User Conference, July 10 - 14, 2017, San Diego

CONTACT INFORMATION

First Name | Last Name | Date

ACCOMMODATION INFORMATION

Rooms and rates are subject to availability. Complete and submit this form as soon as possible to guarantee a room at the host hotel. In the event that the host hotel is booked, every effort will be made to secure a room at the closet hotel within comparable rates to the event discounted rate.

Arrival Date | Departure Date | No. of guests | Room Type

Do you require a smoking room?

◯ Yes ◯ No

Do you need transportation from the airport to the hotel?

◯ Yes ◯ No

Flight Number | Time

ADDITIONAL INFORMATION/REQUESTS

Staff Representative

⊞	Integrating IoT and ArcGIS	Marten Hogeweg	Saturday
⊞	Planning & Managing a GIS (Tomlinson's Approach)	Dave Peters	Saturday
⊞	Implementing ArcGIS–An Architects Perspective	Dave Wrazien	Saturday-Sunday
⊟	Python Scripting for GIS People	Alan Coyle, Jack Horton	Saturday-Sunday

Python scripts can reduce the time spent on complex or repetitive tasks, enabling GIS staff to be more productive. This seminar teaches how to create Python scripts to automate tasks related to data management, feature editing, geoprocessing and analysis. You will also learn how to share your Python scripts so your key GIS workflows are accessible to others.

Level: Intermediate
Fee: $695.00

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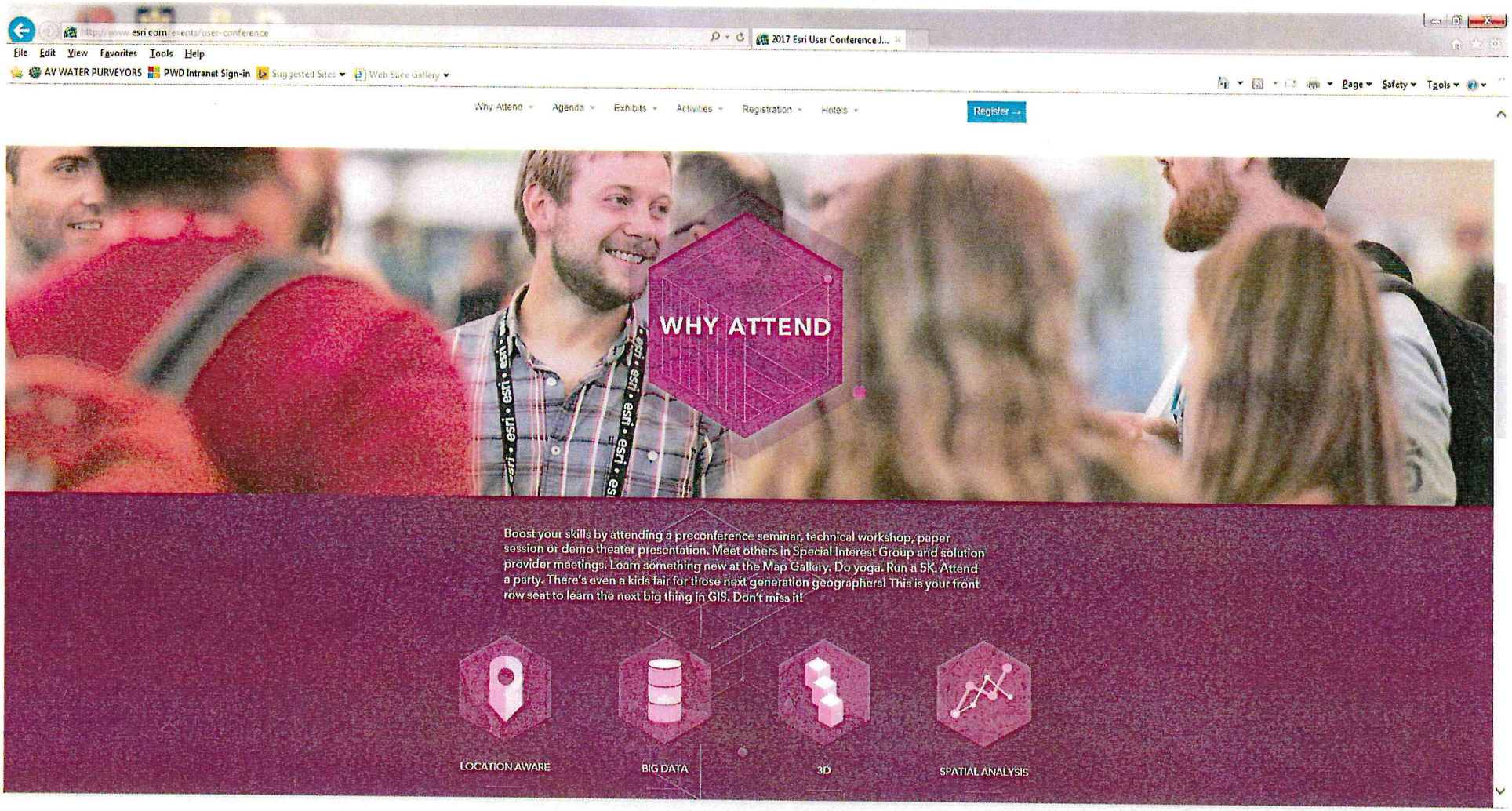
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WHY ATTEND
Boost your skills by attending a preconference seminar, technical workshop, paper session or demo theater presentation. Meet others in Special Interest Group and solution provider meetings. Learn something new at the Map Gallery. Do yoga. Run a 5K. Attend a party. There's even a kids fair for those next generation geographers! This is your front row seat to learn the next big thing in GIS. Don't miss it!
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We're pulling back the curtain. Come and hear from the people who create Esri software and data. Share your experiences, give us feedback and find out what's next in the ArcGIS platform.

SUD MENON

Director of Software Development
What's next? Find out the latest with the Esri platform

JO FRALEY

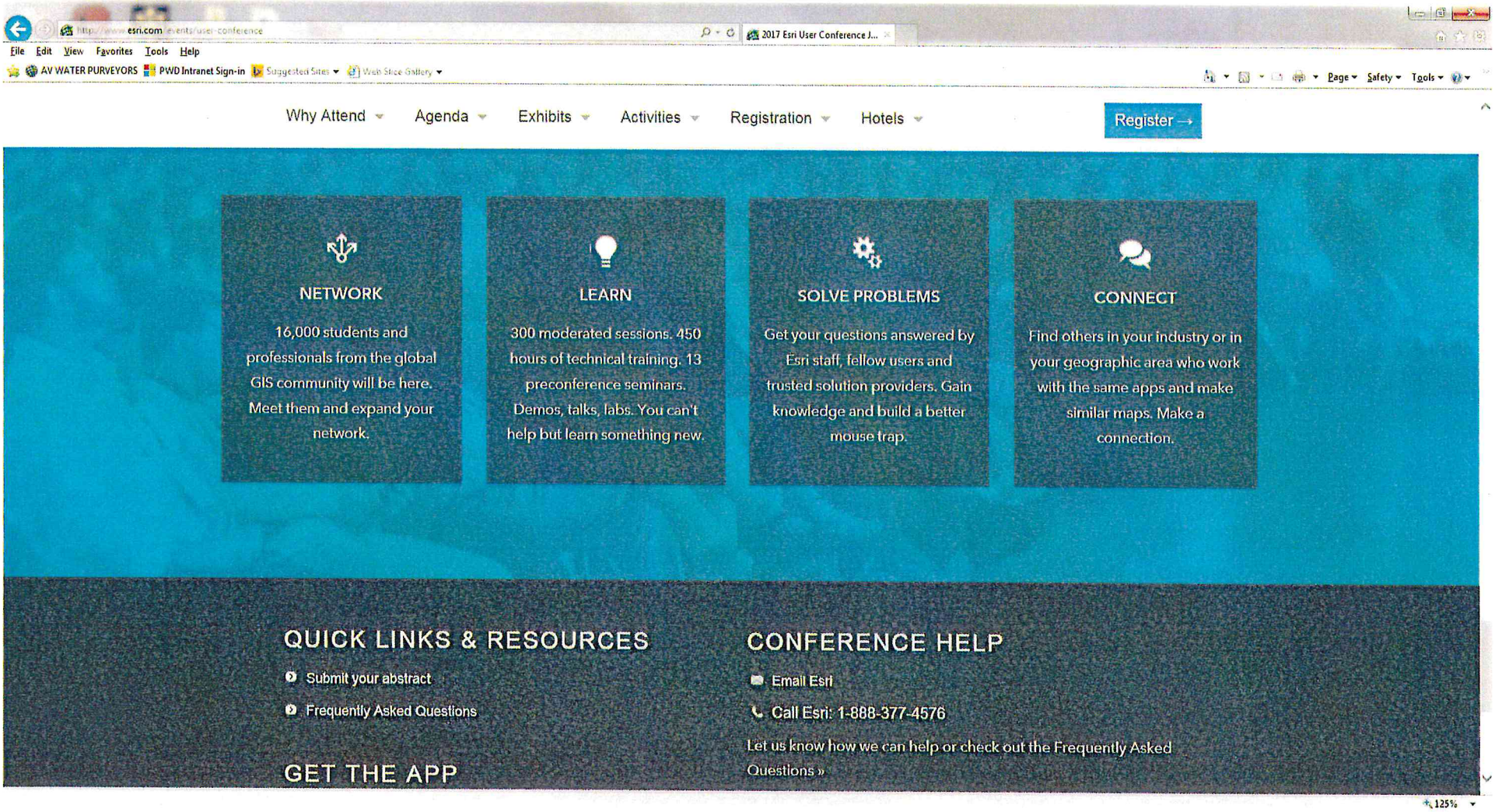
Solutions Engineer
Interested in Apps? Learn how easy and extendable they are.

JIM MCKINNEY

ArcGIS Program Manager
Get under the hood of ArcGIS desktop and Pro.

LAUREN BENNETT

Lead Product Engineer
Spatial statistics turn data into information using spatial analysis for a real difference in your organization.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16,000 students and professionals from the global GIS community will be here. Meet them and expand your network.
LEARN
300 moderated sessions. 450 hours of technical training. 13 preconference seminars. Demos, talks, labs. You can't help but learn something new.
SOLVE PROBLEMS
Get your questions answered by Esri staff, fellow users and trusted solution providers. Gain knowledge and build a better mouse trap.
CONNECT
Find others in your industry or in your geographic area who work with the same apps and make similar maps. Make a connection.
QUICK LINKS & RESOURCES
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STAFF CONFERENCE/SEMINAR REPORT FORM

NAME:_____ DATE:_____
POSITION:_____

CONFERENCE SUMMARY:

- TITLE:_____
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KEY POINTS/BENEFITS RELATING TO WORKGROUP, DEPARTMENT AND/OR OVERALL OPERATIONS:

REVIEWED BY:

SUPERVISOR:_____ DATE:_____

DEPARTMENT MANAGER:_____ DATE:_____

Hotel and Travel
Accommodations

Event Name/Date:

11th IWA International Conference on Water Reclamation & Reuse, 7-23-27-2017, Long Beach

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CONTACT INFORMATION

First Name | Last Name | Date

ACCOMMODATION INFORMATION

Rooms and rates are subject to availability. Complete and submit this form as soon as possible to guarantee a room at the host hotel. In the event that the host hotel is booked, every effort will be made to secure a room at the closet hotel within comparable rates to the event discounted rate.

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◯ Yes ◯ No

Do you need transportation from the airport to the hotel?

◯ Yes ◯ No

Flight Number | Time

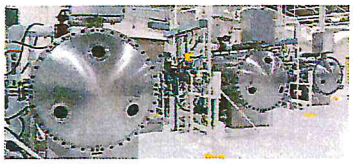
ADDITIONAL INFORMATION/REQUESTS

Staff Representative

11TH IWA INTERNATIONAL CONFERENCE ON WATER RECLAMATION AND REUSE

JULY 23-27, 2017 • LONG BEACH, CALIFORNIA

the international water association



IWA'S PRIME EVENT ON WATER RECLAMATION AND REUSE COMES TO NORTH AMERICA FOR THE FIRST TIME

This event will bring together water managers, industry leaders, and cutting edge researchers from around the world to learn what's working, what's not and what's next in water reuse policy and regulations, technology, operations, financing and public perception.

iwareuse2017.org

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WERF Water Environment & Reuse Foundation · WateReuse California · NWRI National Water Research Institute

Saturday, July 22, 2017	
8:30 – 15:00	**Technical Tour**: San Diego Area Tours ***Additional Cost: $125***
Sunday, July 23, 2017	
7:30 – 17:30	Registration Open
Pre-Conference Workshops *(additional fees apply)*	
8:30 – 10:00	**Workshop #1: Moving Towards Safe Water Reuse for Food Crop Irrigation: a Sustainable Solution in an Era of Climate Variability** ***Additional Cost: $50*** *Amy Sapkota, University of Maryland (United States)* *Channah Rock, University of Arizona (United States)* *Clive Lipchin, Arava Institute for Environmental Studies (Israel)*
10:30 – 12:00	**Workshop#2: Antibiotic Resistance: What Every Water Professional Needs to Know** ***Additional Cost: $50*** *Jean McLain, University of Arizona (United States)* *Channah Rock, University of Arizona (United States)* *Daniel Gerrity, University of Nevada Las Vegas (United States)* *Walter Jakubowski, Consultant (United States)* *Amy Sapkota, University of Maryland (United States)* *Brian Bernardos, California State Water Resources Control Board (United States)* *Jeff Mosher, Water Environment and Research Foundation (United States)*
9:00 – 12:00	**Workshop #3: Successful Strategies for Sustainable Industrial Water Reuse** ***Additional Cost: $85*** *Eric Rosenblum, Envirospectives (United States)* *Elise Goldman, West Basin Municipal Water District (United States)* *Abigail Antolovich, Xylem (United States)* *Josef Lahnsteiner, VA TECH WABAG (Austria)* *Manuel César Martí Calatayud, RWTH Aachen University (Germany)* *Tony Adel Rizk, Eastern Washington University (Saudia Arabia)*
9:00 – 12:00	**Workshop #4: DPR Risk Reduction and Critical Control Point Monitoring for Public Health** ***Additional Cost: $85*** *Ben Stanford, Hazen and Sawyer (United States)* *Andy Salveson, Carollo Engineers (United States)* *Jeff Neeman, Black & Veatch (United States)* *Troy Walker, Hazen and Sawyer (United States)* *Denise Funk, Gwinnett County Department of Water Resources (United States)*

9:00 – 12:00	**Workshop #5: Public Engagement: Experiences and Tools** ***Additional Cost: $85*** *Daniel Goodwin, Thames Water (United Kingdom)* *Kevin DeVito, CyberCity 3D, Inc (United States)* *Mark Millan, Data Instincts, Public Outreach Consultants (United States)* *Melissa McChesney, Padre Dam Municipal Water District, California (United States)* *Steve Thomas, Pure Water Monterey (United States)*
12:00 – 13:30	**Lunch on Your Own**
12:30 – 17:00	**Technical Tour**: The Water Replenishment District of Southern California – The Use of Recycled Water for Recharge in Urban Los Angeles County ***Additional Cost: $75***

	A1: Potable Reuse Treatment Studies by Utilities	B1: Distributed Treatment and Energy Topics	C1: Groundwater Recharge Operations and Planning	D1: Sources, Formation, and Control of Nitrosamines
13:30 – 13:50	Development of a Cartridge Filter Management Procedure to Reduce Replacement Frequency and RO Fouling *Jana Safarik, Orange County Water District (United States)*	Pilot-Scale Tests of a Novel Filtration Approach with Low Energy Demand for Tertiary Treatment in Wastewater Reclamation Applications *Thomas Vistisen Bugge, Grundfos (Singapore)*	Optimizing Recycled Water and Stormwater Networks to Augment Urban Groundwater Recharge *Jonathan Bradshaw, Stanford University; ReNUWIt Engineering Research Center (United States)*	Formation and Sources of N-Nitrosamines in Potable Reuse *Eric Dickenson, Southern Nevada Water Authority (United States)*
13:50 – 14:10	Innovative Potable Water Purification Without RO – Direct Potable Reuse Demonstration Pilot in Central Florida *David Ammerman, Carollo Engineers (United States)*	Pilot Studies of Advanced Water Treatment and Waste Heat Recovery Technologies for Distributed Potable and Near-Potable Reuse Applications *Martin Page, U.S. Army Engineer Research and Development Center (United States)*	Experiences of Reuse Associated with Managed Aquifer Recharge *Elio Mauro, Suez (France)*	Rejection of NDMA and NDMA Precursors: The Role of Reverse Osmosis Membrane Age *Shannon Roback, Orange County Water District (United States)*
14:10 – 14:30	Phased Retrofit of Singapore's Changi WRP with MBR Technology to Meet NEWater Feedstock Demand *James DeCarolis, Black & Veatch (United States)*	Permutations and Combinations for Designing the Largest Water Reuse Ultraviolet Disinfection System in North America *Bill Sotirakos, Carollo Engineers (United States)*	Water Quality Benefits of the Groundwater Replenishment System *Greg Woodside, Orange County Water District (United States)*	RO-Induced Shifts in Chloramine Chemistry Cause Nitrosamine Regrowth at Potable Reuse Plants *Daniel McCurry, University of Southern California (United States)*

14:30 – 14:50	Pesticide Removal through Wastewater and Advanced Treatment: Full-Scale and Bench-Scale Testing for the Pure Water Monterey Project *Robert Holden, Monterey Regional Water Pollution Control Agency & John Kerry, Trussell Technologies, Inc. (United States)*	Holistic Evaluation of Decentralized Water Reuse: Life Cycle Assessment and Cost Analysis of Membrane Bioreactor Systems in Water Reuse Implementation *Jay Garland, U.S. Environmental Protection Agency (United States)*	Fiber Optic Distributed Temperature Sensing as a Tool for Measuring Recharge Rate in a Potable Reuse Spreading Basin *Christine Pham, Orange County Water District (United States)*	Trade-offs in Disinfection Byproduct Formation in Potable Water Reuse Using Various Oxidant Combinations *Erica Marti, Southern Nevada Water Authority (United States)*
14:50 – 15:00	Panel Discussion	Panel Discussion	Panel Discussion	Panel Discussion
15:00 – 15:30	**Networking Break**			
15:00 – 15:30	**Poster Presentations**			
	A2: Potable Reuse - Design and Operations	**B2: Wastewater Treatment for Water Reuse**	**C2: Environmental and Groundwater Topics**	**D2: Topics on Antibiotic Resistant Bacteria and Antibiotic Resistance Genes**
15:30 – 15:50	Orange County' s Ground Water Replenishment System Expansion – Operating Results *Srinivas Veerapaneni, Black & Veatch (United States)*	Integration of Aerobic Granular Sludge and Membrane Filtration for Sustainable Wastewater Reclamation *Oliver Iorhemen, University of Calgary (Canada)*	Identifying Markers of Reuse Effluent Loading to Impaired Water Bodies *Joan Oppenheimer, MWH, now part of Stantec (United States)*	Disinfection Strategies for Controlling Occurrence of Antibiotic Resistance Genes in Reclaimed Water Distribution Systems *Ni Zhu, Virginia Tech (United States)*
15:50 – 16:10	Configuring a Robust, State-Of-The Art Advanced Treatment Facility on a Limited Site: an Engineering Case Study from Pure Water San Diego *Tyler Hadacek, MWH, now part of Stantec (United States)*	Evaluating Organic Carbon Removal in a Decentralized, Anaerobic Treatment System for Water Reuse in South Africa *Natalie Mladenov, San Diego State University (United States)*	Maximizing Reuse and Maintaining Environmental Stewardship of Receiving Waters *Evan Geer, Brown and Caldwell (United States)*	Occurrence of Antibiotics and Antibiotic Resistance in Recycled Water Applications *Daniel Gerrity, University of Nevada, Las Vegas (United States)*
16:10 – 16:30	Evaluation and Bench Testing to Retrofit a Conventional WTP for Potable Reuse *Jason Assouline, CH2M (United States)*	Field Testing of a Solar-Powered Anaerobic Membrane Bioreactor (Anmbr) for Decentralized Wastewater Recycling	Soil Aquifer Treatment & Infiltration Performance Tests for the Palmdale IPR Project *Paul Chau, Kennedy/Jenks*	Environmental Antibiotic Resistance is Due to National Phenomena, Not Anthropogenic Activities

		Robert Bair, University of South Florida (United States)	*Consultants (United States)*	*Ian Pepper, University of Arizona (United States)*
16:30 – 16:50	Expansion of the City of Los Angeles' Terminal Island Advanced Water Purification Facility: How to Translate an IPR Design into a Constructed Facility *Zacheis Adam, Carollo Engineers (United States)*	Integrated Solutions for Water Reuse and Recovery Resources: Comparing and Identifying Sustainable Water Reuse Treatment Options *Sherri Cook, University of Colorado, Boulder (United States)*	Virus Removal from Wastewater at a Managed Aquifer Recharged Facility *Walter Betancourt, University of Arizona (United States)*	Wastewater Treated for Direct Potable Re-use: The Human Health Risk Priorities in South Africa *Nonhlanhla Kalebaila, Water Research Commission (South Africa)*
16:50 – 17:00	Panel Discussion	Panel Discussion	Panel Discussion	Panel Discussion
17:30 – 19:00	**Welcome Reception with the Exhibitors**			

Monday, July 24, 2017				
7:30 – 17:30	Registration Open			
7:30 – 15:30	Exhibit Hall Open			
7:30 – 8:30	Continental Breakfast			
8:30 – 10:00	**Opening Keynote Session** *Diane D'arras, Suez; IWA President (France)* *Jerry Brown, Governor of California (invited) (United States)* *Takashi Asano, University of California, Davis (United States)* *Jörg Drewes, Technical University of Munich; Chair, IWA Water Reuse Specialist Group (Germany)* *Jeff Kightlinger, Metropolitan Water District (United States)*			
10:00 – 10:30	**Networking Break**			
10:00 – 10:30	**Poster Presentations**			
	A3: Potable Reuse Utility Demonstration Studies	**B3: Advanced Treatment Technologies for Control of Chemicals**	**C3: Water Reuse as Sustainable Supply**	**D3: Pathogen Removal and Control**
10:30 – 10:50	Comparing the Performance of Pilot-Scale Carbon-Based and Membrane-Based Potable Reuse Treatment Systems	Micropollutant Removal by Membrane Separation: Prediction, Optimization, and Emerging Processes	Water Meta-Cycle as a Sustainable Water Reuse System at Regional Level: A Case Study at Gaotang County, Shandong, China	Converting Operational Monitoring Data to Probabilistic Log Reduction Values

	Ramola Vaidya, Virginia Tech (United States)	*Long Nghiem, University of Wollongong (Australia)*	*Zhuo Chen, Shenzhen Tsinghua University (China)*	*Stuart Khan, University of New South Wales (Australia)*
10:50 – 11:10	Developing an Alternative Treatment Train for the Los Angeles Groundwater Recharge Project with Soil Aquifer Treatment Characterization *Roshanak Aflaki, City of Los Angeles, LA Sanitation (United States)*	NF Rejection of CECs from Municipal WRRF Secondary Effluents for DPR Applications *Michael Watts, Garver (United States)*	Assessment of Water-Energy (WE) Nexus in Urban Water Reuse System Using a Metabolic Approach: a Mexican Case Study *Oriana Landa-Cansigno, University College London (United Kingdom)*	Achieving Maximum Pathogen Removal Credit for UF and RO in Potable Reuse Schemes – Full Scale Experience at the Bennyup Advanced Water Recycling Facility *Jim Lozier, CH2M (United States)*
11:10 – 11:30	Interim Ozone Project to Provide Enhanced Title 22 Reuse Water *Roshanak Aflaki, City of Los Angeles, LA Sanitation (United States)*	Moving Towards Potable Water Reuse: Fate and Transformation of Persistent Priority Contaminants with Microfiltration, Reverse Osmosis, Advanced Oxidation Processes and Chlorine Disinfection *Susana Kimura, University of South Carolina (United States)*	Regional Transfer Vs. Water Reuse – A Comparison of Life-Cycle Cost, Energy, and GHG Emissions *Jim Chamberlain, University of Oklahoma(United States)*	Modifying Existing Infrastructure to Maximize Pathogen Control for Both Potable and Non-Potable Reuse *Al Lau, Padre Dam Municipal Water District (United States)*
11:30 – 11:50	Pure Water Monterey: Successful Fast-Track Design of Northern California's First IPR Project *Todd Reynolds, Kennedy/Jenks Consultants (United States)*	Impact of Pre-Oxidation on The Removal of Regulated and Emerging Disinfection Byproducts by Granular Activated Carbon: A Potable Reuse Pilot-Scale Evaluation *Edgard Verdugo, Southern Nevada Water Authority (United States)*	Sustainability Assessment for Indirect Potable Reuse Demonstration in Reno, NV *Laura Haak, University of Nevada, Reno (United States)*	Realizing Reverse Osmosis Potential for Potable Reuse: Demonstrating Enhanced Pathogen Removal *Rodrigo Tackaert, Trussell Technologies, Inc. (United States)*
11:50 – 12:00	Panel Discussion	Panel Discussion	Panel Discussion	Panel Discussion

12:00 – 13:30	**Lunch On Your Own**			
	A4: Key Questions in Implementing Reuse	**B4: Removal of Trace Organic Compounds by Advanced Treatment Technologies for Potable Reuse**	**C4: Guidance and Assessment of Water Reuse Programs**	**D4: Assessment of Pathogens and Removal in Wastewater and Water Reuse**
13:30 – 13:50	Source Control and Wastewater Treatment in Advanced Reuse Operations *Ian Law, IBL Solutions (Australia)*	From Modernized To Advanced Treatment, Micropollutant and Disinfection in a Fully Integrated Indirect Water Potable Reuse Scheme: Lausanne WWTP *Sylvain Donnaz, Suez Treatment Infrastructure (France)*	WaterVal, a Framework to Validate Treatment Technologies for the Safe Implementation of Water Reuse *Cedric Robillot, Australian WaterSecure Innovations Ltd (Australia)*	How Much Reduction of Viruses Do We Need for Recycled Water; A Continuous Need for Assessment? *Charles Gerba, University of Arizona (United States)*
13:50 – 14:10	Water Reuse: A Key Initiative of Water sustainability in Singapore *Mong-Hoo Lim, PUB Singapore (Singapore)*	Predicting RO Removal of Toxicologically Relevant Unique Organics *Daisuke Minakata, Michigan Technological University (United States)*	Good Practice Guidance for the Governance of Water Reuse Schemes *Jos Frijns, KWR Water cycle Research Institute (Netherlands)*	Monitoring Pathogen Concentrations through the City of Oceanside's San Luis Rey Wastewater Treatment Plant *Shane Trussell, Trussell Technologies, Inc. (United States)*
14:10 – 14:30	Evaluation of Surface Water Augmentation at Lake Jennings *Seval Sen, Padre Dam Municipal Water District (United States)*	Predicting the Attenuation of Trace Organic Compounds (Torcs) by Advanced Treatment Technologies in Water Reuse using Spectroscopic Surrogates *Minkyu Park, University of Arizona (United States)*	Assessing Feasibility of a Large-Scale IPR Program for Southern California *Paul Brown, Paul Redvers Brown Inc. (United States)*	Norovirus Measurements in Locally-Collected Greywater and Wastewater: Implications for Risk Management of Decentralized Water Reuse *Michael Jahne, U.S. Environmental Protection Agency (United States)*
14:30 – 14:50	Investigating Fertilizer Drawn Forward Osmosis Process for Groundwater Desalination for Irrigation in Egypt *Peter Nasr, Center of Sustainable*	Treatment of Poly- and Perfluoroalkyl Substances (PFAS) in Potable Reuse Systems *Eric Dickenson, Southern Nevada Water Authority (United States)*	Oklahoma's Development of the Three R's: A Reuse Regulation Rulebook *Michael Graves, Garver (United States)*	Understanding Pathogen Variability and Reduction in Wastewater to Establish Log Credits for Direct Potable Reuse *Carla Cherchi, MWH, now part of Stantec (United States)*

	Development at the American University in Cairo (Egypt)			
14:50 – 15:00	Panel Discussion	Panel Discussion	Panel Discussion	Panel Discussion
15:00 – 15:30	**Networking Break**			
15:00 – 15:30	**Poster Presentations**			
	A5: Public Engagement Topics for Recycled Water	**B5: Concentrate Management: Treatment and Planning**	**C5: Utility Planning for Reuse**	**D5: Bioassays and Other Innovative Monitoring**
15:30 – 15:50	Customer Engagement in the Australian Water Utility Industry *Catherine Ferrari, Water Corporation (Australia)*	A Novel Photobiological Process for Reverse Osmosis Concentrate Treatment Using Brackish Water Diatoms *Keisuke Ikehata Pacific Advanced Civil Engineering, Inc. (United States)*	Water Independence Now - The Road to Locally Sustainable Water Resources in a Growing Urban Region *Robb Whitaker, Water Replenishment District of Southern California (United States)*	A Framework for the Application of Bioassays to Water Reclamation and Reuse *Richard Bull, Retired (United States)*
15:50 – 16:10	Why Communication, Education and Public Participation Matters: Case Studies from South Africa *Nonhlanhla Kalebaila, Water Research Commission (South Africa)*	Assessment of Open Water Unit Process Treatment Wetlands for Management of Reverse Osmosis Concentrate from Municipal Water Reuse *Rachel Scholes, University of California, Berkeley (United States)*	It Takes A Village: Ensuring Success in Advancing Large-Scale Water Reuse Programs in Our Communities *Halla Razak, City of San Diego (United States)*	Identification of Genotoxic Compounds Formed after LP/MP UV/H2O2 Treatment of Secondary Wastewater Effluent using The P-53 Assay and Ames II Test *Kevin Daniels, University of Arizona (United States)*
16:10 – 16:30	Potable Reuse Terminology - Less Jargon/More Understanding *Ian Law, IBL Solutions (Australia)*	RO Brine Minimization for Potable Reuse at Padre Dam *Seval Sen, Padre Dam Municipal Water District (United States)*	Meeting Water Supply Needs through Potable Reuse in California's Silicon Valley *Hossein Ashktorab, Santa Clara Valley Water District (United States)*	Occurrence and Fate of Low Molecular Weight Compounds in Potable Water Reuse Systems *Emily Marron, University of California, Berkeley (United States)*
16:30 – 16:50	From Yuck to Yes -- Enabling Change *Linda Macpherson, New Water ReSources (United States)*	Inland Reuse Planning and Brine Management Options *Gary Hunter, Black & Veatch (United States)*	An Innovative Approach to Large-Scale Potable Reuse in Virginia *Tyler Nading, CH2M (United States)*	Nitrogen Management Strategies for Potable Reuse *Zakir Hirani, MWH, now part of Stantec (United States)*
16:50 – 17:00	Panel Discussion	Panel Discussion	Panel Discussion	Panel Discussion

Tuesday, July 25, 2017

7:30 – 15:30	Registration Open
7:30 – 15:30	Exhibit Hall Open
7:30 – 8:30	Continental Breakfast
8:30 – 9:30	**Plenary Session - Potable Reuse: Health and Safety** *David Cunliffe, South Australia Health Department (Australia)* *Joan Rose, Michigan State University (United States)*
9:30 – 10:00	**Networking Break**
9:30 – 10:00	**Poster Presentations**

	A6: DPR Performance and Operation	**B6: Ozone and Biofiltration for Water Reuse Applications**	**C6: Integrate Planning - Utility Experience**	**D6: Onsite Nonpotable Water Systems**
10:00 – 10:20	The New Goreangab Water Reclamation Plant – Do we Comply with the Drafted New DPR Guidelines – Short Comings & Compliance *Truddy Theron-Beukes, Windhoek Goreangab Operating Company (Namibia)*	Biofiltration – an Emerging Process for Water Reuse *Peter Huck, University of Waterloo (Canada)*	Keeping San Clemente Green & Clean: Impact of Capturing Urban Runoff on Municipal Recycled Water Flows *Nathan Chase, RMC, A Woodard & Curran Company (United States)*	National Blue Ribbon Commission to Advance Innovation in Decentralized Non-Potable Water Systems *Paula Kehoe, San Francisco Public Utilities Commission (United States)*
10:20 – 10:40	Direct Potable Reuse – Development of a Proactive Framework for Reliable Operations *Troy Walker, Hazen and Sawyer (United States)*	Evaluating and Optimizing the use of Ozone, Bio-filtration and Activated Carbon at the UOSA Potable Reuse Facility *Bob Angelotti, Upper Occoquan Service Authority (United States)*	LADWP's Transition to Local Supplies, Recycled Water Reuse from NPR to IPR to DPR *Yoshiko Tsunehara, Los Angeles Department of Water and Power (United States)*	A Risk-Based Framework for the Development of Public Health Guidance for Decentralized Non-Potable Water Systems *Sybil Sharvelle, Colorado State University (United States)*
10:40 – 11:00	Microbiological stability in Direct Potable Reuse (DPR) Distributions Systems: Insights from Pilot-Scale Research using Flow Cytometry and High-throughput Sequencing	Holistically Optimizing Biofiltration Systems in Reuse Applications for Improved Reliability and Performance *Chance Lauderdale, HDR (United States)*	Potable Reuse Implementation in the Silicon Valley: Risk Identification, Assessment and Management *Phillippe Daniel, HDR (United States)*	Design of Decentralized Non-potable Water Systems (DNWSs): Pathogen Removal and Monitoring Systems *Harold Leverenz, University of California, Davis (United States)*

	Scott Miller, University of California, Berkeley (United States)			
11:00 – 11:20	New Training Materials for DPR Operator Certification *Ben Stanford, Hazen and Sawyer (United States)*	Robust "Membrane-free" Advanced Treatment Solutions for Inland IPR Projects *Vijay Sundaram, University of Nevada, Reno (United States)*	Reclaimed Water Expansion - An Approach That Makes Sense *Andrew Burnham, Hawksley Consulting (United States)*	Endogenous System Microbes as Treatment Process Indicators for Decentralized Non-potable Water Reuse *Nichole Brinkman, U.S. Environmental Protection Agency (United States)*
11:20 – 11:40	Observations from Over Two Years Studying the DPR Project in Big Spring, TX *Eva Steinle-Darling, Carollo Engineers (United States)*	Safe and Sustainable Reuse in New Mexico Through Ozone-Based AOP *Keel Robinson, Xylem (United States)*	Salt/Nutrient Challenges in the San Fernando Valley *Anthony Hicke, ULARA Watermaster (United States)*	Novel Demonstration of Decentralized Direct Potable Water Reuse *Manisha Kothari, San Francisco Public Utilities Commission (United States)*
11:40 – 12:00	Panel Discussion	Panel Discussion	Panel Discussion	Panel Discussion
12:00 – 13:30	**Keynote Luncheon - International Perspectives: Role of Water Reuse for Sustainable Development and Circular Economy** *Ng Joo Hee, Public Utilities Board (Singapore) (invited)* *Rafael Mujeriego, Universitat Politècnica de Catalunya (Spain) (invited)* *Akissa Bahri, National Agricultural Institute (Tunisia)* *Hu Hong-Ying, Tsinghua University, Beijing, China (invited)*			
	A7: DPR Criteria and Reliability	**B7: Ozone and Biofiltration for Potable Reuse and Trace Organics Removal**	**C7: Integrated Planning for Water Reuse**	**D7: Agriculture Irrigation with Recycled Water**
13:30 – 13:50	California Expert Panel on Developing Criteria for Direct Potable Reuse *Brian Bernados, California State Water Resources Control Board (United States)*	Introducing Sequential Biofiltration Hybrid Systems for Enhanced Removal of Trace Organic Compounds And Pathogens during Water Reclamation *Johann Müller, Technical University of Munich (Germany)*	A Proven Model for Urban Water Reuse *Andrzej Listowski, University of Wollongong, Australia (Australia)*	State of use of Recycled Water in Agricultural Irrigation--Impediments and Incentives *Bahman Sheikh, Water Reuse Consulting (United States)*
13:50 – 14:10	Feasibility Analysis for Developing Uniform Water Recycling Criteria for	Demonstrating Simultaneous Removal of Multiple Contaminants for	An Exploration of Various Water Reuse Pathways: Whole Plant Implications and the	A Global Assessment of the De Facto Reuse of Untreated Wastewater in Irrigated Agriculture

	Direct Potable Reuse in California – Quantifying the Reliability of Multiple Barriers *Adam Olivieri, EOA, Inc.* *(United States)*	Potable Reuse using Ozone, Biofiltration, and Activated Carbon *Mac Gifford, Southern Nevada Water Authority (United States)*	Criticality of Integrated Water Supply Planning *Stephanie Ishii, Hazen and Sawyer* *(United States)*	*Anne Thebo, University of California, Berkeley* *(United States)*
14:10 - 14:30	Assessing the Reliability of Public Health Protection in DPR: QMRA Results from a One-year Demonstration Project *Brian Pecson, Trussell Technologies, Inc.* *(United States)*	O3 Squared: Ozone-Biofiltration-Ozone in Melbourne Australia *Nick Burns, Black & Veatch* *(United States)*	Direct Potable Reuse Plays and Integral Role in Meeting Water Demands in the Lower Rio Grande Valley *Phillip Cook, Black & Veatch* *(United States)*	Understanding Reuse Potential of Nanoparticles-Contaminated Water for Irrigation Arun Kumar, Indian *Institute of Technology Delhi India* *(India)*
14:30 – 14:50	Design Considerations for Direct Potable Reuse Projects *Larry Schimmoller, CH2M* *(United States)*	Optimization of Ozone-BAC Treatment Processes for Potable Reuse Applications *Ruth Marfil-Vega, American Water* *(United States)*	Exploring Wastewater Storage to Meet Water Demands in the Columbia Basin Project *Charity Davidson and Jennifer McConnell, U.S. Bureau of Reclamation* *(United States)*	Treatment of Oilfield Produced Water for Agricultural Reuse – Lessons Learned from Water Planet's Pilot at Bakersfield California *Anna Jawor, Water Planet* *(United States)*
14:50 – 15:00	Panel Discussion	Panel Discussion	Panel Discussion	Panel Discussion
15:00 – 15:30	**Networking Break**			
15:00 – 15:30	**Poster Sessions**			
	A8: DPR Monitoring and Water Quality for Microbial and Chemical Safety	**B8: Evaluation of Advanced Oxidation and Water Quality**	**C8: Water Reuse Planning - Costs and Economics**	**D8: Managed Aquifer Recharge and Soil Aquifer Treatment**
15:30 – 15:50	Assessment of Techniques to Evaluate and Demonstrate the Safety of Water from Direct Potable Reuse Treatment Facilities: Perception versus Reality *Channah Rock, University of Arizona* *(United States)*	Does UVAOP Deserves Better Pathogen Credits in Potable Reuse Applications *Ufuk Erdal, AECOM* *(United States)*	Economic Analysis of Investments to Improve Water Supply Reliability and Reduce Drought Risk *Chris Behr, HDR* *(United States)*	Sequential Managed Aquifer Recharge Technology (SMART) – Principles, Performance and Optimization Strategies *Karin Hellauer, Technical University of Munich* *(Germany)*
15:50 – 16:10	Ensuring the Microbial Safety of	Evaluation of Surrogates for	Implementing the Sewer Mining Toolbox:	Sequential Managed Aquifer Recharge

	Direct Potable Reuse: Recommendations and Research Needs Identified by the California Expert Panel *Kara Nelson, University of California, Berkeley (United States)*	Iodinated Contrast Media Treated by LP-UV/H2O2 AOP *Israel Lopez, University of Arizona (United States)*	Developing Conceptual Cost Curves for Fit-for-Purpose Recycled Water *Jonathan Loveland, Black & Veatch (United States)*	(SMART): Results of Demonstration-scale Operation in Berlin, Germany *Alexander Sperlich, Berliner Wasserbetriebe (Germany)*
16:10 – 16:30	Evaluation of Microbiological Risks Associated with Direct Potable Reuse *Jeffrey Soller, Soller Environmental, LLC (United States)*	Predicting the Fate of Organic Compounds Degradation in UV/H2O2 and UV/Chlorine Advanced Oxidation Processes *Daisuke Minakata, Michigan Technological University (United States)*	Reclaimed Water Cost of Service Studies – An Advanced Example *Andrew Burnham, Hawksley Consulting (United States)*	Analysis of Select Transformation Products as Intrinsic Tracers to Characterize Redox Conditions during the Initial Phase of Soil-Aquifer Treatment *Uwe Hübner, Technical University of Munich (Germany)*
16:30 – 16:50	Resilient DPR Design from Collection System to Tap, WE&RF Project 14-13 *Sharon Waller Sustainable Systems LLC – Consulting (United States)*	UV/Hypochlorite Advanced Oxidation Process for 12 MGD IPR Project *Richard Loeffler, Xylem/Wedeco (United States)*	Potable Reuse vs Seawater Desalination: Comparing Costs of Alternative Water Supplies *Greg Wetterau, CDM Smith (United States)*	Removal of N-Nitrosodimethylamine (NDMA) Precursors in the Environmental Buffer during De Facto Potable Reuse *Gwen Woods-Chabane, HDR (United States)*
16:50 – 17:00	Panel Discussion	Panel Discussion	Panel Discussion	Panel Discussion
19:00 – 22:00	**Networking Dinner at The Aquarium of the Pacific**			

Wednesday, July 26, 2017

7:30 – 15:30	Registration Open
7:30 – 15:30	Exhibit Hall Open
7:30 – 8:30	Continental Breakfast
8:30 – 9:30	**Plenary Session - Challenges and Opportunities for Non-potable Reuse** *Laura Alcalde-Sanz, Joint Research Centre, European Commission* *Josef Lahnsteiner, VA TECH WABAG (Austria)*
9:30 – 10:00	**Networking Break**
9:30 – 10:00	**Poster Sessions**

	A9: Risk Assessment and QMRA for Water Reuse	B9: Evaluation of Novel Advanced Treatment Technologies	C9: Topics in Advancing Water Reuse	D9: Industrial Reuse: Pilots and Studies
10:00 – 10:20	Making the Case for Indirect Potable Reuse in France: Risk Management and Environmental Benefits of a Prospective IPR System at Vendee *Ulf Miehe, Kompetenzzentrum Wasser Berlin gGmbH (Germany)*	A Novel Concept to Integrate Energy-Recovery into Potable Water Reuse Treatment Schemes *Nils Horstmeyer, Technical University of Munich (Germany)*	A Roadmap to Water Reuse as an Element of a Diverse and Resilient Water Management Strategy *Barry Liner, Water Environment Federation (United States)*	Direct Reuse of Sewage Water for Industrial Demiwater Production *Bas Heijman, Delft University of Technology (Netherlands)*
10:20 – 10:40	Risk Management and Life-Cycle Assessment of Indirect Potable Reuse in El Port de la Selva/Spain – How to Deal with Uncertainties and Lack of Data *Ulf Miehe, Kompetenzzentrum Wasser Berlin gGmbH (Germany)*	A Low Cost, Low Maintenance Method of Wastewater Desalination Using Physical Online Membrane Cleaning instead of Periodic Chemical Cleaning *Boris Liberman, IDE Technologies (Israel)*	Moving Water Reuse to the Center of the Water-food-energy Trilemma: a Case Study of the Urban/Agricultural Interface *Brent Haddad, University of California, Santa Cruz (United States)*	Scaling-up Electro-Fenton for Industrial Wastewater Treatment Reuse *Olivier Lefebvre, National University of Singapore (Singapore)*
10:40 – 11:00	Quantitative Microbial Risk Assessment of Potable Reuse Treatment with Ozone and Biological Filtration *Erfaneh Amoueyan, University of Nevada Las Vegas (United States)*	Optimization of Forward Osmosis in Challenging Environmental Applications for Water Reuse and Zero Liquid Discharge *Kirsten Remmen, University of Applied Sciences and Arts Northwestern Switzerland (FHNW) (Switzerland)*	Getting Ahead of DPR: Collaborative Approach to Direct Potable Reuse Implementation in Colorado *John Rehring, Carollo Engineers (United States)*	Case Study: Impact of Industrial Water Reuse at Lagunitas Brewing Company *Matthew Silver, Cambrian Innovation (United States)*
11:00 – 11:20	Comparative Microbial Assessment of Recycled Water from Urban Runoff and Recycled Water from Treated Wastewater Sources in Southern California *Ryan Sinclair Loma, Linda University*	A Novel Forward Osmosis Membrane Bioreactor – Membrane Distillation System for High-Strength Wastewater Treatment Applications *Sage Hiibel, University of Nevada, Reno (United States)*	Updating California's Recycled Water Policy *Laura McLellan, California State Water Resources Control Board (United States)*	Evaluation of Innovative Technologies for Multipurpose Use of Municipal Reclaimed Water at Nuclear Power Plants *Mohammad Badruzzaman, MWH, now part of Stantec (United States)*

	School of Public Health (United States)			
11:20 – 11:40	Evaluating the Health Risks from Exposure to Legionella in Reclaimed Water Aerosols *Kerry Hamilton, Drexel University (United States)*	Waste-heat-driven Membrane Distillation: Experimental analysis of System Configurations and Impact Of Waste-heat Source Variability on Water Production and Heat Transfer *Ryan Gustafson, University of Southern California (United States)*	California Recycled Water Use in 2015 *Tonianne Pezzetti, California Department of Water Resources (United States)*	Integrated UF and RO Application in Challenging Coal to Chemical Wastewater Reuse *Andrea Lima, Dow Water and Process Solutions (United States)*
11:40 – 12:00	Panel Discussion	Panel Discussion	Panel Discussion	Panel Discussion
12:00 – 13:30	**Lunch On Your Own**			
	A10: Potable Reuse in Texas: Beyond Big Spring and Wichita Falls	**B10: Membrane Bioreactors (MBRs) and Pathogen Removal and Credits**	**C10: Economic, Environmental, and Social Assessments for Water Reuse**	**D10: Industrial Reuse: Planning and Approaches**
13:30 – 13:50	Potable Reuse in Texas: Beyond Big Spring and Wichita Falls *Caroline Russell, Carollo Engineers (United States)* *Eva Steinle-Darling, Carollo Engineers (United States)* *Ellen McDonald, Alan Plummer Associates, Inc. (United States)*	Giving Credit Where Credit is Due – MBR for Potable Water Reuse *Stephen Katz, GE Water & Process Technologies (Canada)*	Sustainable Indirect Water Reuse in Mexico City: Advanced Treatment using Membranes *Sylvain Donnaz, Suez Treatment Infrastructure (France)*	A Systematic Approach for Quality Control to Minimize Risk of Water Quality Failure in Industrial Water Reuse Schemes Henrik Grüttner, DHI *(Denmark)*
13:50 – 14:10		Can MBR Replace MF/UF in a Potable Reuse Train? Concerns and Limitations *Ufuk Erdal, AECOM (United States)*	Case Studies of the Economic, Environmental, and Social Impacts of Direct Potable Reuse *Benjamin Stanford, Hazen and Sawyer (United States)*	Integrated Industrial Water Management in the Chemical Industry *Christina Jungfer, DECHEMA e.V. (Germany)*
14:10 – 14:30		Granting Pathogen Credits to MBR for Full Advanced Treatment Train for Potable Reuse *Zakir Hirani, MWH, now part of Stantec (United States)*	Improving the Reliability of the Indirect Potable Reuse System using a Real-Time Decision Support System Based on an Integrated Modeling Approach	Is Produced Water the New "Toilet-to-Tap" for California? *Lee Portillo, Black & Veatch (United States)*

			Adnan Lodhi, Virginia Tech (United States)	
14:30 – 14:50		Demonstration Study to Evaluate Pathogen Removal Performance Of Membrane Bioreactors (MBR) for Water Reuse in California *Luisa Sangines, Santa Clara Valley Water District (United States)*	Triple Bottom Line Analysis of a Wastewater Treatment Plant to Augment Water Supply through Reuse – Lessons Learned at Livermore, California *Colin Chung, Kayuga Solution (United States)*	Types of Agreements to Provide Recycled Water for Industrial and Commercial Customers *Bahman Sheikh, Water Reuse Consulting (United States)*
14:50 – 15:00		Panel Discussion	Panel Discussion	Panel Discussion
15:00 – 15:30	**Networking Break**			
15:00 – 15:30	**Poster Presentations**			
15:30 – 17:00	**Closing Plenary Session - The Future of Water Reuse** **Moderator:** George Tchobanoglous Panelists TBD			

Thursday, July 27, 2017

8:30 – 16:00	**Technical Tour –** Los Angeles Area Tour ***Additional Cost: $125***
8:30 – 16:00	**Technical Tour –** Orange County Area Tour ***Additional Cost: $125***

STAFF CONFERENCE/SEMINAR REPORT FORM

NAME:_____ DATE:_____
POSITION:_____

CONFERENCE SUMMARY:

- TITLE:_____
- ORGANIZATION:_____
- LOCATION AND DATES:_____
- GENERAL SUBJECT MATTER:_____

SESSION/CLASS ATTENDANCE:

		CONTACT HOURS (HRS):	N/A
1			
2			
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KEY POINTS/BENEFITS RELATING TO WORKGROUP, DEPARTMENT AND/OR OVERALL OPERATIONS:

REVIEWED BY:

SUPERVISOR:_____ DATE:_____

DEPARTMENT MANAGER:_____ DATE:_____

MINUTES OF MEETING OF THE FACILITIES COMMITTEE OF THE PALMDALE WATER DISTRICT, JUNE 13, 2016:

A meeting of the Facilities Committee of the Palmdale Water District was held Monday, June 13, 2016, at 2029 East Avenue Q, Palmdale, California, in the Board Room of the District office. Chair Dino called the meeting to order at 11:15 a.m.

1) Roll Call.

Attendance:	**Others Present:**
Facilities Committee:	Matt Knudson, Assistant General Manager
Vincent Dino, Chair	Tim Moore, Facilities Manager
Marco Henriquez, Committee Member	Mike Williams, Finance Manager
	Dawn Deans, Executive Assistant
	0 members of the public

2) Adoption of Agenda.

It was moved by Committee Member Henriquez, seconded by Chair Dino, and unanimously carried to adopt the agenda, as written.

3) Public Comments.

There were no public comments.

4) Action Items:

4.1) Consideration and Possible Action on Approval of Minutes of Regular Meeting Held May 19, 2016.

It was moved by Committee Member Henriquez, seconded by Chair Dino, and unanimously carried to approve the minutes of the Facilities Committee meeting held May 19, 2016, as written.

4.2) Consideration and Possible Action on Lease Options for the District's Lighter Duty Vehicles. ($10,000.00 – Non-budgeted – Facilities Manager Moore/Finance Manager Williams)

Finance Manager Williams provided an overview of the benefit to the District from leasing light duty utility fleet vehicles, Facilities Manager Moore reviewed the District's

vehicle list and vehicles recommended to be replaced with leased vehicles, and after a brief discussion of the age of the District's vehicles, maintenance, the terms and cost of the proposed lease, and the data gathered from the proposed Geotab vehicle device, it was moved by Committee Member Henriquez, seconded by Chair Dino, and unanimously carried that the Committee concurs with staff's recommendation to authorize the District to enter into a Master Lease Agreement with Enterprise Fleet Management for the leasing of the District's light duty vehicles and that this item be presented to the full Board for consideration at the June 22, 2016 Regular Board Meeting.

4.3) Consideration and Possible Action to Purchase Used Construction Equipment Utilizing Proceeds From Selling Surplus Equipment. (Facilities Manager Moore)

Facilities Manager Moore recommended the District purchase an asphalt zipper machine in the amount of $18,000.00 prior to the receipt of surplus equipment funds due to the low cost of this equipment, and after a brief discussion of the savings to the District and the process for advertising surplus equipment, it was moved by Committee Member Henriquez, seconded by Chair Dino, and unanimously carried that the Committee concurs with staff's recommendation to purchase construction equipment being an asphalt zipper machine in the amount of $18,000.00 prior to receiving proceeds from selling surplus equipment.

5) Information Items.

5.1) Vehicle/Equipment List. (Committee Member Henriquez/Facilities Manager Moore)

Facilities Manager Moore stated that this item was reviewed earlier in the meeting followed by a brief discussion of the mileage and hours of the District's vehicles and equipment.

5.2) Other.

There were no additional information items.

6) Board Members' Requests for Future Agenda Items.

There were no requests for future agenda items.

7) Adjournment.

There being no further business to come before the Facilities Committee, the meeting was adjourned at 11:50 a.m.

Chair

MINUTES OF MEETING OF THE PERSONNEL COMMITTEE OF THE PALMDALE WATER DISTRICT, JANUARY 9, 2017:

A meeting of the Personnel Committee of the Palmdale Water District was held Monday, January 9, 2017 at 2029 East Avenue Q, Palmdale, California, in the Board Room of the District office. Chair Mac Laren called the meeting to order at 9:02 a.m.

1) Roll Call.

Attendance:	**Others Present:**
Personnel Committee:	Dennis LaMoreaux, General Manager
Kathy Mac Laren, Chair	Matt Knudson, Assistant General Manager
Vincent Dino, Committee Member	Jennifer Emery, Human Resources Director
	Danielle Henry, Administrative Assistant
	0 members of the public

2) Adoption of Agenda.

It was moved by Committee Member Dino, seconded by Chair Mac Laren, and unanimously carried by all members of the Committee present at the meeting to adopt the agenda, as written.

3) Public Comments for Non-Agenda Items.

There were no public comments for non-agenda items.

4) Action Items:

4.1) Consideration and Possible Action on Approval of Minutes of Meeting Held November 7, 2016.

It was moved by Committee Member Dino, seconded by Chair Mac Laren, and unanimously carried by all members of the Committee present at the meeting to approve the minutes of the Personnel Committee meeting held November 7, 2016, as written.

4.2) Ratification to Increase Safety Boot Allowance Under the District's Safety Footwear Policy From $125.00 to $175.00. (Human Resources Director Emery)

Human Resources Director Emery provided an overview of staff's recommendation to increase the safety boot allowance due to increased pricing, and after a brief discussion, it was moved by Committee Member Dino, seconded by Chair Mac Laren, and unanimously carried by all members of the Committee present at the meeting to ratify the increase in the safety boot allowance under the District's Safety Footwear Policy from $125.00 to $175.00.

4.3) Consideration and Possible Action on Updating Section IV.K Unpaid Time Off Policy of the District's Employee Handbook. (Human Resources Director Emery)

Human Resources Director Emery provided an overview of the District's current Unpaid Time Off Policy and staff and General Counsel's recommendation to revise the Policy to limit benefit coverage and define and focus the needs of the District and an employee's responsibilities as an employee, and after a brief discussion of the need to revise the Policy, it was moved by Committee Member Dino, seconded by Chair Mac Laren, and unanimously carried by all members of the Committee present at the meeting to update Section IV.K Unpaid Time Off Policy of the District's Employee Handbook and to present this item to the full Board for consideration at the January 11, 2017 Regular Board meeting.

4.4) Consideration and Possible Action on Job Description and Recruitment of Public Affairs and Sustainability Director Position and Revise Title to Public Affairs Director.

Human Resources Director Emery provided an overview of recommended revisions to the Public Affairs & Sustainability Director job description and title change to Public Affairs Director, and after a brief description of the recruitment process, outreach, and relationships with outside agencies, it was moved by Committee Member Dino, seconded by Chair Mac Laren, and unanimously carried by all members of the Committee present at the meeting to approve the job description and recruitment of the Public Affairs and Sustainability Director position, to revise the title to Public Affairs Director, and to present this item to the full Board for consideration at the January 25, 2017 Regular Board meeting.

5) Project Updates:

5.1) Other.

Human Resources Director Emery stated that a Resolution is included on the agenda for the January 11, 2017 Regular Board meeting to create a benefits open enrollment period for Directors through January 20, 2017; that work continues on the Internship Program; and that the Employee Handbook will be updated in 2017.

6) Information Items.

6.1) Engineering Intern Status. (Human Resources Director Emery)

Human Resources Director Emery stated that additional funds are available in the 2017 Budget due to a vacancy; that as a result, staff will be continuing the Engineering Intern position; and that an April retirement will create the Budget to fill the Engineering position on a full time basis by May, 2017.

General Manager LaMoreaux then stated that the State Water Project origination point is at almost 200% of normal and that the State Water Resources Control Board will conduct a hearing on January 18 to determine drought restrictions for the next nine months followed by discussion of potential flooding of the Delta due to anticipated heavy rains and run-off in the San Joaquin Valley and the need to continue conservation efforts.

There were no further information items for discussion.

7) Board Members' Requests for Future Agenda Items.

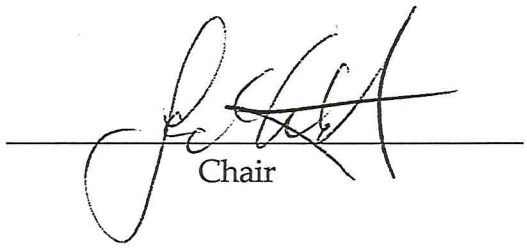
Chair Mac Laren requested a future agenda item for "Consideration and possible action on the impact to the District from repealing the Affordable Care Act" followed by discussion of the postponement of the Cadillac Tax and the effects of repealing the Affordable Care Act.

She then requested staff review not designating the annual cost of living increase towards the employees' portion of CalPERS and consider raising the $1,600 cap on benefits for the next budgetary period followed by discussion of the CalPERS downgrade in investments and staff preparing a recommendation on these items by August, 2017.

There were no further requests for future agenda items.

7) Adjournment.

There being no further business to come before the Personnel Committee, the meeting was adjourned at 9:30 a.m.



Chair

MINUTES OF MEETING OF THE FINANCE COMMITTEE OF THE PALMDALE WATER DISTRICT, JANUARY 10, 2017:

A meeting of the Finance Committee of the Palmdale Water District was held Tuesday, January 10, 2017, at 2029 East Avenue Q, Palmdale, California, in the Board Room of the District office. Chair Henriquez called the meeting to order at 4:05 p.m.

1) **Roll Call.**

Attendance:
Finance Committee:
Marco Henriquez, Chair
Robert Alvarado, Committee Member

Others Present:
Dennis LaMoreaux, General Manager
Matt Knudson, Assistant General Manager
Vincent Dino, PWD Director
Kathy Mac Laren, PWD Director
Mike Williams, Finance Manager
Laura Gallegos, Public Affairs Specialist
Bob Egan, Financial Advisor
Dawn Deans, Executive Assistant
2 members of the public

2) **Adoption of Agenda.**

It was moved by Committee Member Alvarado and seconded by Chair Henriquez to adopt the agenda, as written, and after a brief discussion of Agenda Item No. 4.8, it was unanimously carried by all members of the Committee present at the meeting to adopt the agenda, as written.

3) **Public Comments on Non-Agenda Items.**

There were no public comments on non-agenda items.

4) **Action Items:**

4.1) Consideration and Possible Action on Approval of Minutes of Meeting Held December 13, 2016.

It was moved by Committee Member Alvarado, seconded by Chair Henriquez, and unanimously carried by all members of the Committee present at the meeting to approve the minutes of the Finance Committee meeting held December 13, 2016, as written.

4.2) Discussion and Overview of Cash Flow Statement and Current Cash Balances as of November, 2016. (Financial Advisor Egan)

Financial Advisor Egan reviewed the investment funds report as of November, 2016, including assessments received, CDs, and interest earnings for December and then provided an overview of the cash flow statement, anticipated assessments for December, RDA Pass-through funds, and projected year-end cash for 2016 and 2017.

4.3) Discussion and Overview of Financial Statements, Revenue, and Expense and Departmental Budget Reports for November, 2016. (Finance Manager Williams)

Finance Manager Williams reviewed in detail the balance sheet, profit and loss statement, year-to-year comparisons, month-to-month comparisons, consumption comparisons, and revenue and expense analysis reports for the period ending November, 2016 and stated that most departments are operating at or below the targeted expenditure percentage of 92%.

General Manager LaMoreaux then stated that through the end of November, operating expenses were up $1.1 million, operating revenue was up $1.17 million, and this indicates a balanced budget and staff is doing a good job of controlling costs to match revenue.

4.4) Discussion and Overview of Committed Contracts Issued and Water Revenue Bond Projects. (Assistant General Manager Knudson)

Assistant General Manager Knudson provided an update on the Contractual Commitments and Needs for 2017 capital projects, consulting and engineering support projects, new and replacement equipment, and water quality fee funded projects along with an update on the Water Revenue Bond Series 2013A Bond funds and payments to date followed by discussion of $10 million in future debt for projects, private placement funding, and a lab equipment purchase on the January 11, 2017 Regular Board meeting consent calendar.

4.5) Consideration and Possible Action on Lease Agreement with Holman Capital. ($830,000.00 – Budgeted – Finance Manager Williams)

Finance Manager Williams provided an overview of the Lease Agreement with Holman Capital for the purchase of technology related capital improvements over a five-year term, and after a brief discussion of the items included in the Lease Agreement purchase, prepayment penalties, the benefit to the District of improving cash flow, the District's policy for discounts to local vendors, the lease effect on the District's Debt Service Coverage, and data storage space, it was moved by Committee Member Alvarado, seconded by Chair Henriquez, and unanimously carried by all members of the Committee present at the meeting to recommend approval of the Lease Agreement with Holman Capital in the amount of $830,000.00 to the full Board for consideration at the January 11, 2017 Regular Board Meeting subject to final document approval by General Counsel Dunn.

General Manager LaMoreaux then stated that if approved by the full Board, a Resolution regarding this item will be presented to the full Board for approval at the January 25, 2017 Regular Board meeting.

Committee Member Alvarado then requested an update at a future meeting on the status of financing the grade control structure at Littlerock Dam for the Littlerock Dam Sediment Removal Project.

4.6) Consideration and Possible Action on Revisions to Application Process for Rate Assistance Program. (Finance Manager Williams)

Finance Manager Williams provided an overview of staff's recommendation to establish an application period for the Rate Assistance Program, and after a brief discussion of staff's recommendation, of allowing new service applicants to also apply for the Program, and of outreach opportunities to share this information with customers, it was moved by Committee Member Alvarado, seconded by Chair Henriquez, and unanimously carried by all members of the Committee present at the meeting to recommend approval of the revisions to the application process for the Rate Assistance Program to the full Board for consideration at the January 11, 2017 Regular Board Meeting.

4.7) Consideration and Possible Action on Reducing Funds Available for the Rate Assistance Program to Offer Additional Assistance Under the Cash for Grass Program. (Chair Henriquez/Deputy Water & Energy Resources Director Thompson II)

General Manager LaMoreaux stated that a grant application resolution for up to $75,000.00 in matching funds towards the District's Cash for Grass Program will be considered by the full Board at the January 11, 2017 meeting; that this is a better source of additional funding for the Cash for Grass Program rather than reducing funds in the Rate Assistance Program; and that the District will be informed in a few months if the grant is approved.

After a brief discussion of $160,000.00 in funds available for the Rate Assistance Program and of using unused funds for the Cash for Grass Program rather than unused funds being transferred to the following budget year, General Manager LaMoreaux stated that staff will prepare a written report on funding for the Rate Assistance Program to determine any funds over the $160,000.00 cap that can be applied to the Cash for Grass Program.

4.8) Consideration and Possible Action on Amending the Approved November 7, 2016 Finance Committee Meeting Minutes. (Chair Henriquez)

Chair Henriquez stated that he will provide Executive Assistant Deans his requested changes to the November 7, 2016 Finance Committee Meeting minutes and requested this item be tabled to the next Finance Committee meeting after which it was moved by Committee Member Alvarado, seconded by Chair Henriquez, and unanimously carried by all members of the Committee present at the meeting to table this item to the next Finance Committee meeting.

5) Information Items.

5.1) Status of Debt Service Coverage. (Financial Advisor Egan)

Financial Advisor Egan stated that the Debt Service Coverage for the period of December, 2015 through November, 2016 is 1.34 and meets the required Debt Service Coverage and the District will continue to meet the Debt Service Coverage with the inclusion of the Holman Capital Lease Agreement and financing for the Littlerock Dam Sediment Removal Project.

5.2) Status of Refunding 2012 Installment Purchase Agreement and a Portion of the 2013A Water Revenue Bonds. (Finance Manager Williams)

Finance Manager Williams stated that interest rates are increasing, and there has been no update from the bond team on this item followed by discussion of lowering the 5% savings threshold to a lower amount.

5.3) Status on District Policy Regarding Landlord/Tenant Responsibility and Deposits for Water Service Accounts. (Chair Henriquez/Finance Manager Williams)

Finance Manager Williams stated that renters can be charged a higher deposit for water service applications followed by discussion of the $25.00 application fee, the owner of a property being ultimately responsible for the account as water is a property-based service, current policy providing better protection for the District and the property owner, and the potential high cost of customer deposits, and General Manager LaMoreaux stated that the information gathered will be provided in written format for further discussion.

Committee Member Alvarado requested any Committee recommendations be presented to the full Board for consideration.

5.4) Other.

There were no other information items.

6) Board Members' Requests for Future Agenda Items.

"Consideration and Possible Action on Amending the Approved November 7, 2016 Finance Committee Meeting Minutes" will be placed on the next agenda.

Committee Member Alvarado requested an update at a future meeting on the status of financing the grade control structure at Littlerock Dam for the Littlerock Dam Sediment Removal Project.

There were no further requests for future agenda items.

After discussion of Finance Committee presentations to the full Board, it was determined that the next Finance Committee meeting will be held February 21, 2016 at 4:00 p.m.

7) Adjournment.

There being no further business to come before the Finance Committee, the meeting was adjourned at 5:42 p.m.

Chair