Reimbursement Agreement with Carlsbad Municipal Water District for the Carlsbad 5 Flow Control Facility and Pressure Reducing Valve

Engineering and Operations Committee
May 26, 2016
Carlsbad 5 Flow Control Facility
Background & Purpose

- Carlsbad executes purchase contract for 2,500 acre-feet desal water per year
- Administrative Code requires member agencies to reimburse the Water Authority for new service connection costs.
- The Water Authority and Carlsbad negotiated a reimbursement agreement for the planning phase for the Carlsbad 5 Flow Control Facility
- Reimbursement agreement Amendment No. 1
  - Additional planning scope requested by Carlsbad
  - Property acquisition costs
  - Estimated Water Authority design phase costs
General Area Map
Proposed Facility in Carlsbad
Location Map
Flow Control Facility & Pressure Reducing Valve
Flow Control Facility - Isometric View
Staff Recommendation

Authorize the General Manager to execute Amendment No. 1 for the Reimbursement Agreement between the Carlsbad Municipal Water District and the San Diego County Water Authority for the Carlsbad 5 Service Connection Facility Planning Study to include design, permitting, and right of way services, increasing the amount by $919,300 for a total value of $1,014,300.
Capital Improvement Program
Construction Cost Update

Engineering & Operations Committee Meeting
May 26, 2016
CIP Construction Cost Update

- Historical Analyses
- Current Construction Cost Influences
- Upcoming Projects
Historical Analyses

- Comprehensive Reliability and Cost Assessment
- Biennial Budget Process
Construction Cost Influences

- Labor
- Equipment
- Materials
- Contractors
- Competition

![Annual Percent Change in Indices Graph]

- ENR
- Tunnel
- Concrete Vault
- Pipeline
- Pump Station
## Recent Bid Amounts

<table>
<thead>
<tr>
<th>Project</th>
<th>Amount</th>
<th>Estimate</th>
<th>Award Date</th>
<th># of Bidders</th>
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<tbody>
<tr>
<td>Ramona Pipeline Pumpwell</td>
<td>$488k</td>
<td>$515k</td>
<td>Dec ’15</td>
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<tr>
<td>Miramar Pump Station Rehabilitation</td>
<td>$4.1M</td>
<td>$5.0M</td>
<td>Nov ’15</td>
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<td>Nob Hill Improvements</td>
<td>$9.9M</td>
<td>$12.2M</td>
<td>Aug ’15</td>
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<tr>
<td>San Vicente Bypass Pipeline</td>
<td>$13.9M</td>
<td>$19.0M</td>
<td>Nov ‘14</td>
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Upcoming Projects
Outside Influences

- Small Contractors
- Competition
Outside Influences

- Materials
Looking Forward

- Monitor Materials
- Value Engineering
- Estimate Preparation
Looking Forward

- Regional Coordination
- Small Contractor Outreach and Opportunities Program

American Society of Civil Engineers
Pipeline 3 Inspection Results and Repair

Engineering & Operations Committee
May 26, 2016

Jim Fisher
Interim Director of O&M
Agenda

- Inspection Results
- Urgent Repair
Pipeline 3 – San Marcos to Rancho Peñasquitos
Inspection Results

- Magnetic Flux Leakage
  - 14 miles (2,600 pipe sections)
  - 162 anomalies (preliminary)
    - Small-sized corrosion
    - Consistent with age
    - No steel repairs required at this stage

- Visual Inspection
  - 14 miles walked x 2
  - 213 cement mortar repairs
  - 1 pipe section replacement
Magnetic Flux Leakage Milestone
Urgent Repair - North of Maler Road

Site of Urgent Repair

Replaced Section
Pipe Damage – Internal
Pipe Damage - External
Typical Magnetic Flux Leakage Scan
Magnetic Flux Leakage Scan – Maler Road
Original Slope
Excavation
Damage Assessment
Pipe Excavation
Preparing to Remove Pipe
Pipe Removal
Pipe Fabrication
Pipe Fabrication
Pipe Transport
Pipe Installation
Pipe Installation
Pipe Installation
Mortar Lining
Mortar Lining
Pipe Encasement
Pipe Backfill
Completed Slope
Repair Timeline

Inspection Finding: February 29
Analysis: March 2
Excavation Confirmation: March 4
Design: March 8
Construction Start: March 10
Construction Completion: March 18

Total Time – 19 Days
Number of days shutdown extended – 0 days
Team of Excellence

Analysis/Design
Brent Fountain
Nathan Faber
Daryl Akioka

Operations & Maintenance

Construction
Luke Holbrook
Bobby Bond
John Brown
Tyson Short
Sal Serrato
Joel Ramirez
Luis Gonzales

Permitting/ROW
Don Chadwick
Marv Sylakowski
Ray Carreon

Engineering

Water Resources
Twin Oaks Valley WTP
Expanded Service Area
Notice of Completion

Engineering & Operations Committee Meeting
May 26, 2016
Twin Oaks Valley WTP Expanded Service Area

San Diego County Water Authority

Member Agency Map with District Boundaries and Current Aqueduct System

Legend:
- Water Authority Service Area with Member Agency Boundaries
- Pipelines Completed, in Use
- Pipelines in Planning, Design, Construction

Valley Center Pump Station

Twin Oaks Valley Water Treatment Plant
Pre-Project Valley Center Pump Station Operations

Avg. Peak Demand = 80 cfs

RIVERSIDE COUNTY
SAN DIEGO COUNTY

Second Aqueduct Pipelines 3, 4, 5
First Aqueduct Pipelines 1, 2

NORTH COUNTY DISTRIBUTION PIPELINE
VALLEY CENTER PIPELINE

60 cfs
20 cfs

Avg. Peak Demand = 80 cfs

Twin Oaks Valley Water Treatment Plant
Expanded Valley Center Pump Station Operations

First Aqueduct Pipelines 1, 2

Second Aqueduct Pipelines 3, 4, 5

NORTH COUNTY DISTRIBUTION PIPELINE

VALLEY CENTER PIPELINE

Twin Oaks Valley Water Treatment Plant

RIVERSIDE COUNTY

SAN DIEGO COUNTY

Avg. Peak Demand = 80 cfs
# Change Order Summary

<table>
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<th>Board Approved:</th>
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<td>Change Orders 1-4 (9/2015)</td>
<td>$408,537</td>
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<tr>
<td>Change Order Nos. 5-7</td>
<td>$ 36,879</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>$445,416</strong></td>
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San Diego County Water Authority
## Contract Summary

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<tr>
<th>Description</th>
<th>Amount</th>
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<tr>
<td>Original Contract Amount</td>
<td>$3,682,000</td>
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<tr>
<td>Change Orders</td>
<td>$ 445,416</td>
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<tr>
<td>Final Contract Amount</td>
<td>$4,127,416</td>
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Authorize the General Manager to accept the Twin Oaks Valley Water Treatment Plant Expanded Service Area project as complete, record the Notice of Completion, and release funds held in retention to NEWest Construction Company, Inc., following the expiration of the retention period.

Staff Recommendation
Imported Water Committee
May 26, 2016
1995–2015: Disputes, Diversification and Decisions

- Imperial Irrigation District–Water Authority transfer and Colorado River Quantification Settlement Agreement dominated period
  - MWD’s response, opposition activities and legal actions
  - Key milestones and growing political support
  - Efforts to resolve rate dispute short of litigation
  - Litigation and final judgment
San Diego County’s Water Supply Portfolio 1995

1995 was a very wet year, with 17.1” of rain at Lindbergh Field -- 170% of normal.

Total = 526 TAF

- **410 TAF** (78%) Metropolitan Water District
- **7 TAF** (1%) Groundwater
- **102 TAF** (20%) Local Surface Water
- **7 TAF** (1%) Recycled Water

TAF=Thousand Acre-Feet
February 1995: Water Authority Board Approves Strategic Plan

Conclusions:

◦ “MWD’s ability to continue providing a reliable water supply at a reasonable price to the Authority is at risk.”
◦ “In the event MWD is unable or unwilling to meet its mission and its level of service objectives, the Authority must be prepared to step forward to fulfill its mission independently, either by securing another imported water source, intensive development of local resources or both.”
February 1995: IID Comes Calling

- Imperial Irrigation District approaches MWD with offer of a second water transfer
  - MWD declines
- IID proposes transfer with the Water Authority
September 1995: Water Authority and IID Reach Transfer MOU

Water Authority and IID boards of directors approve memorandum of understanding to discuss a potential water transfer of up to 500,000 AF/year

“Finally, we have a chance to control our future.” KFMB-TV Editorial, Sept. 25, 1995
MWD’s Response

- Halted work on Pipeline 6
- Announced wheeling rate of $285/AF
  - $59 less than full-service water rate
  - $56 more than water replenishment rate; $54 more than discounted ag rate

“MWD’s heavy-handed tactics come as no surprise.” KFMB-TV Editorial, Oct. 16, 1995
Announces surprise deal with Southern Nevada Water Authority – “Reliability Plus”
- Agree to line All American canal and split 68,000 AF conserved supply
- Deal provokes strong, near universal opposition
- Deal dies
In April 1996, Water Authority presented detailed proposal to MWD:
- Water Authority commits to buy 400,000 AF annually from MWD
- MWD to convey 200,000 AF/yr of transfer supplies, with up to 200,000 AF/yr more on a space-available basis
- MWD rejects offer
Integrated Resources Plan borne out of 1987–92 drought experience and MWD shortages

With IRP, MWD acknowledged it could not provide all the water needed in its service area
- Tacit recognition Laguna Declaration no longer valid
- Member agencies had to develop own supplies

Expanded Local Resources Program to subsidize local supply development
- MWD pays up to $250/AF for local supply development
  - Water Authority and member agencies participated in LRP
  - Water transfers not subsidized
July 1996: IID & Water Authority Reach Accord on Key Terms

- Minimum 200,000 AF/year
- $200 to $306 per AF over first 10 years, then renegotiate every 10 years
- 75 to 125 years
- Water Authority continues to study building aqueduct to Imperial Valley
- San Diego business leaders form Alliance for Water Reliability to advocate transfer approval
MWD/Member Agencies Launch Public Relations Campaigns Targeting Transfer
MWD Launches Stealth PR Campaign

- Fall 1996: MWD hires Edelman Public Relations Worldwide in disguised effort to kill transfer
  - Steadfastly denies campaign designed to kill transfer
- Later, 12 MWD member agencies organize as Partnership for Regional Water Reliability to target transfer
  - Denies coordination with MWD
- Water Authority files PRA requests on MWD and member agencies
Late August 1997: Public Records Reveal MWD Tactics

- After months of denials about P.R. campaign’s aim, multi-million campaign to scuttle transfer exposed
  - MWD hired dozens of consultants and lobbyists
    • Spent $120,000/month on contract lobbyists alone
    • Hired consultants in San Diego County, including a former Water Authority board member
Documents showed MWD controlled, and coordinated activities with the “Partnership”

- Partnership asserted the opposite:
  - “We want to make it clear that Metropolitan does not control the partnership in any way. If anything, the relationship is the reverse.” – Partnership Chairman

- Group contemplated killing discounted ag water rate program
Group hired Washington, D.C., political opposition research firm to investigate the finances of Gov. Wilson, Sen. Feinstein, all 120 members of the Legislature, Water Authority and IID boards.

“These facts provide political opportunities that allow an informed charge of possible conflict of interest, potentially preventing office holders from supporting or voting for water legislation favorable to the Basses.”
Legislature Launches Investigation

- State Senate formed Select Committee on Southern California Water Agencies Expenditures and Governance
  - Work would span two 2–year legislative sessions
Legislature Scrutinizes MWD’s Governance

- Holds series of hearings
- Orders two comprehensive independent studies of MWD’s governance
  - California Research Bureau produces detailed reports (August and December 1998)
- Numerous bills to reform MWD’s governance introduced
Two MWD Reform Bills Passed

- SB 1885 (1998–Ayala)
  - Reduced size of MWD board from 51 to 37
- SB 60 (1999–Hayden)
  - Prohibited MWD or any member agencies to investigate elected officials
  - Required MWD to establish Office of Ethics
  - Prohibited associations “likely to mislead the public as to the association’s true identity, its source of funding or its purpose.”
MWD Launches Legal Front: Sues to Validate its Wheeling Rates
MWD Adopts Wheeling Rates; Files Suit to Validate Them

- Jan. 14, 1997: MWD board adopted resolution setting and fixing wheeling rates
  - $262/AF for uninterruptible wheeling
  - $141/AF for interruptible wheeling
- MWD then filed suit to validate rates
  - Defendants join suit: Water Authority, IID, Quechen Indian Tribe, Cadiz Land Company, Inyo–Mono County Farm Bureau; Chemehuevi Indian Tribe, Center for Public Interest Law (at USD)
  - Case bifurcated for trial
Nov. 1997: Phase I of bifurcated rate validation case goes to trial in San Francisco
  Two legal interpretation questions addressed:
    • May MWD include all of its system-wide costs in calculating its wheeling rates, or just the specific facilities used in the transfer?
    • May MWD set “postage stamp” wheeling rates, in advance and without regard to any particular wheeling transaction?
  If necessary, Court would address the validity of the dollar amounts of the rates in Phase 2.
Jan. 12, 1998: MWD loses Phase 1 of validation lawsuit
- Court rules rate recovery limited to costs of actual facilities used
- Wheeling rate cannot be made in advance of specific transfer proposal
- Inclusion of system-wide costs and setting rates before transfer request incompatible with wheeling statutes

On appeal, ruling later (2000) reversed and remanded back to trial court for Phase 2 trial on validity of the amount of the rates
- Rather than face trial, MWD dismisses suit
Key Turning Points:
Political Support for Transfer Grows
In keynote speech to Colorado River Water Users Conference in Las Vegas, Interior Secretary Bruce Babbitt issues warning
- Babbitt gives California 1 year to develop plan to live within its 4.4 MAF basic annual apportionment or face abrupt cutback
- Voices support for IID Water Authority transfer; says agricultural agencies must first quantify use
Kennedy Makes Transfer Cornerstone of California 4.4 Plan

Prodded by Sec. Babbitt’s Dec. 1996 warning, on Aug. 11, 1997, DWR’s Kennedy unveils California 4.4 Plan to packed California Colorado River Board meeting in San Diego

- Makes IID–Water Authority transfer cornerstone of plan to reduce California’s overuse of Colorado River water
Urgency measure gains near-unanimous Legislative support

Directed DWR Director David Kennedy to mediate dispute over wheeling rate

- If negotiations fail, required director to issue independent recommendation on wheeling rate
Dec. 1997: Sec. Babbitt Weighs in Again with Carrot & Stick

- At Colorado River Water Users Association conference in Las Vegas, Sec. Babbitt employs carrot and stick:
  - Imperial Irrigation District and Coachella Valley Water District must quantify their rights to Colorado River water
    - If districts don’t quantify, Secretary will
  - Recognizes 4.4 Plan developed by DWR Director Kennedy
  - Identifies resolution to wheeling dispute between MWD and Water Authority as key issue
  - Offers continued surplus declarations for period of time if agreements are reached
Kennedy Releases Wheeling Rate Recommendation

- Jan. 5, 1998: Unable to get parties to agree, Kennedy releases independent report recommending appropriate wheeling rate, as required by SB 1082.

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<th>Space Not Available</th>
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<td>Kennedy</td>
<td>$80/AF</td>
<td>$110/AF</td>
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<tr>
<td>Recommendation</td>
<td></td>
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<tr>
<td>MWD’s Rates</td>
<td>$141/AF</td>
<td>$262/AF</td>
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Transfer Comes Together; MWD and Water Authority Reach First Exchange Agreement
April 1998: IID and Water Authority Approve Transfer Deal

- 130,000 to 200,000 AF/year
- 100,000 AF/year to Coachella Valley Water District or MWD
- Right of first refusal to Water Authority on any additional quantity
- 45-year term, with 30-year unilateral extension
- Price pegged at a discount to MWD water rate
- Shortage premium
- Price redetermination based upon mature transfer market
November 1998: Water Authority & MWD Reach First Wheeling Agreement

- Nov. 10, 1998: MWD and Water Authority sign Exchange Agreement:
  - 30-year term with initial price of $90/AF (escalated)
  - Key conditions precedent:
    - Satisfy IID–Water Authority transfer conditions precedent
    - Legislature must appropriate $200 million to MWD for canal lining projects, and $35 million for MWD groundwater conjunctive use projects
    - Quantification of IID and Coachella entitlements
Late summer 2003, MWD offers All American and Coachella canal lining projects to Water Authority, but Water Authority must forfeit terms of 1998 Exchange Agreement

- Water Authority accepts assignment & state funding
- Amended and Restated Exchange Agreement
  - 45 years; Water Authority option to terminate after 35
  - Set price first year ($253/AF), with subsequent years based upon cost to transport supplies to member agencies and compliance with laws and regulation
  - 5-year litigation timeout

In 11th Hour, MWD Offers Canal Lining Projects to Water Authority
Nearly three dozen agreements
- Revised final transfer agreement
- Assignment of canal lining projects and state funding to Water Authority
- Amended Exchange Agreement with MWD
Post-QSA Period: Efforts to Obtain Rate Reform Fail; Litigation Path Pursued
San Diego County’s Water Supply Portfolio 2005

Total = 645 TAF

- 548 TAF (85%)
- 25 TAF (4%)
- 13 TAF (2%)
- 14 TAF (2%)
- 45 TAF (7%)

TAF = Thousand Acre-Feet

Legend:
- Yellow: Metropolitan Water District
- Purple: Recycled Water
- Light Blue: Local Surface Water
- Blue: Imperial Irrigation District Transfer
- Gray: Groundwater

TAF=Thousand Acre-Feet
Water Authority Pursues Rate Reform During QSA Implementation

- 2003–2008: Five-year litigation timeout
- Pursued resolution in all available MWD forums
  - Long-Range Finance Plan processes
  - Rate Refinement workgroups
  - Member Agency Managers
  - MWD board and committees
- MWD’s 10-year 2004 LRFP becomes obsolete
  - MWD launched update effort in summer 2007
    - Effort stopped and restarted several times
    - MWD abandoned effort in summer 2012
Unsuccessful in Achieving Rate Reform, Water Authority Files Suit

- First suit June 2010 challenging MWD’s 2011 and 2012 rates
- Second suit June 2012 challenging MWD’s 2013 and 2014 rates
- Third suit May 2014 challenging MWD’s 2015 and 2016 rates
  - 2014 case stayed by stipulation of the parties pending outcome of appeals
- Fourth suit April 13, 2016 challenging MWD’s 2017 and 2018 rates
Water Authority Victory: MWD’s 2011–2014 Rates Invalidated

Nov. 18, 2015 Final Judgment: Judge Curtis E.A. Karnow ruled MWD’s 2011–2014 rates violate:
- Proposition 26 (2013 and 2014 only)
  - California Constitution Article XIIIC
- California’s Wheeling Statutes
  - Water transportation law
- Government Code Section 54999.7(a)
  - Limiting rates to cost-of-service
- Common Law rules that apply to ratemaking

Hon. Curtis E.A. Karnow
Court ruled MWD violated the law by undercalculating Water Authority’s right to MWD water supplies by tens of thousands of acre-feet annually.
**Stakes over Eight Years: $524 million+***

<table>
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<th>Years</th>
<th>Amount</th>
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<tr>
<td>2011–2014 Damages &amp; Pre-judgment interest, costs and attorneys’ fees (plus two years of post-judgment simple interest at 7%)</td>
<td>$277 million</td>
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<tr>
<td>2015 &amp; 2016 Estimated Damages*</td>
<td>$113 million+</td>
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<tr>
<td>2017 &amp; 2018 Estimated Damages*</td>
<td>$134 million+</td>
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<tr>
<td>Damages from eight rate years challenged*</td>
<td>$524 million+</td>
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*Excludes Interest, Costs and Attorneys’ Fees for 2015-2018, inclusive
Increasing San Diego County's Water Supply Reliability through Supply Diversification

**1991**
- 28 TAF (5%)
- 550 TAF (95%)
- Total = 578 TAF

**2015**
- 80 TAF (15%)
- 26 TAF (5%)
- 305 TAF (57%)
- 100 TAF (19%)
- Total = 533 TAF

**Estimated 2020**
- 190 TAF (32%)
- 80 TAF (14%)
- 44 TAF (7%)
- 48 TAF (8%)
- 27 TAF (5%)
- 48 TAF (8%)
- 150 TAF (26%)
- Total = 587 TAF

**Projected 2035**
- 200 TAF (30%)
- 120 TAF (18%)
- 50 TAF (7%)
- 50 TAF (7%)
- 30 TAF (4%)
- 50 TAF (7%)
- 100 TAF (15%)
- 100 TAF (15%)
- Total = 680 TAF

**Legend**
- Yellow: Metropolitan Water District
- Blue: Imperial Irrigation District Transfer
- Red: All American & Coachella Canal Lining
- Light Blue: Local Surface Water
- Purple: Potable Reuse (Includes conceptual and planned projects)
- Orange: Seawater Desalination
- Grey: Groundwater
- Light Brown: Recycled Water

TAF = Thousand Acre-Feet
FEDERAL ACTIVITIES
- Flood Control
- Water Deliveries
- Hydropower
- Shortage/Surplus

STATE ACTIVITIES
- Water Transfers and Exchanges
- Interstate Water Banking
- Storage in Lake Mead
STAKEHOLDER PARTICIPATION

**Federal**

Bureau of Indian Affairs  
Bureau of Land Management  
**Bureau of Reclamation**  
National Park Service  
U.S. Fish and Wildlife Service  
Western Area Power Administration

**Arizona**

AZ DWR  
Arizona Electric Power Cooperative, Inc.  
AZ Game and Fish Department  
Arizona Power Authority  
CAWCD  
Cibola Valley Irrigation and Drainage District  
City of Bullhead City  
City of Lake Havasu City  
City of Mesa  
City of Somerton  
City of Yuma  
Electrical District No. 3, Pinal County, Arizona  
Golden Shores Water Conservation District  
Mohave County Water Authority  
Mohave Valley Irrigation and Drainage District  
Mohave Water Conservation District  
North Gila Valley Irrigation and Drainage District  
Town of Fredonia  
Town of Thatcher  
Town of Wickenburg  
Salt River Project Agricultural Improvement and Power District  
Unit "B" Irrigation and Drainage District  
Wellton-Mohawk Irrigation and Drainage District  
Yuma County Water Users’ Association  
Yuma Irrigation District  
Yuma Mesa Irrigation and Drainage District

**California**

Bard Water District  
CA Department of Fish and Wildlife  
City of Needles  
Coachella Valley Water District  
Colorado River Board of California  
Imperial Irrigation District  
Los Angeles Department of Water and Power  
Metropolitan Water District of Southern CA  
Palo Verde Irrigation District  
San Diego County Water Authority  
Southern California Edison Company  
Southern California Public Power Authority

**Nevada**

Basic Water Company  
Colorado River Commission of NV  
Colorado River Commission Power Users  
Nevada Department of Wildlife  
Southern Nevada Water Authority

**Native American**

Chemehuevi Indian Tribe  
Colorado River Indian Tribes  
Hualapai Tribe

**Conservation Groups**

Ducks Unlimited  
Lower Colorado River RC&D Area, Inc.  
The Nature Conservancy
SPECIES
HABITAT

COTTONWOOD-WILLOW

MARSH

HONEY-MESQUITE

Through FY15

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<th>Habitat</th>
<th>Acres</th>
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<tr>
<td>Honey-Mesquite</td>
<td>98%</td>
<td>1%</td>
<td>97%</td>
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<tr>
<td>Marsh</td>
<td>67%</td>
<td>3%</td>
<td>64%</td>
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<tr>
<td>Backwater</td>
<td>26%</td>
<td>4%</td>
<td>22%</td>
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<tr>
<td>TOTAL PROGRAM</td>
<td>59%</td>
<td>7%</td>
<td>52%</td>
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CONSERVATION AREAS

BEAL LAKE

YUMA EAST WETLANDS

HART MINE MARSH

PALO VERDE ECOLOGICAL RESERVE
FUNDING

COST SHARE BREAKDOWN

Federal

CA

Water Authority

AZ

NV

SPENDING TO DATE

$222 Million

Habitat Development $98M

Research and Monitoring $60M

Fish Augmentation $16M

Other $13M

WATER AUTHORITY SHARE PAID WITH CREDITS EXPECTED TO RUN OUT 2021
**2017 New Hoover Power Contracts**

- Water Authority will receive 1.6 MW
- $2,000/year for MSCP coverage
SUMMARY

Model Program

Habitat

Fish Program

Current Issues

Monitoring

$ in 2021
Salton Sea Management Plan
Update

Imported Water Committee
May 26, 2016
Salton Sea Management Program

Led by California Natural Resources Agency based on direction from the Governor’s Salton Sea Task Force

- 12,000 acres of habitat within five years
- Additional 25,000 acres starting in 2020
- Stakeholder Advisory Committees

Assembly Bill 1095 (Garcia): Only “shovel-ready” projects to be considered
Salton Sea Management Program

San Diego County Water Authority
**Governor’s FY 2017 Budget**

- $80 million proposed to support development, permitting, and construction of individual restoration projects;
- Additional $700K for state staff
- Water Authority has advocated for an additional $20M

**$249M Total Available from all Sources**

- **Prop 1** $80M
- **Prop 50** $22M
- **Prop 84** $47M
- **Salton Sea Restoration Fund** $67M
- **Water Resources Development Act** $30M
- **Wildlife Conservation Advisory Board** $3M
- **Salton Sea Restoration**

**Untapped Funding Options:**

- IRWM Grant Program
- Army Corps – Tribal Partnerships
- Dept. of Agriculture – Water Quality
- Dept. of Interior – Special Drought Funding
- Small Reclamations Project Act Loan Funds
- White House/DOI Infrastructure Investment Cntr.
Proposed Calendar Year 2017
Rates and Charges

Administrative and Finance Committee
May 26, 2016
Lisa Marie Harris, Director of Finance
David Shank, Financial Planning Manager
CY 2017 Rate and Charge Drivers

• Drivers
  – Water sales uncertainty due to long-term impacts of state water regulations
  – MWD’s CY 2017 rate and charge increases
  – Meeting rate and charge goals and objectives
Projections account for long-term impacts of water use regulations
Water sales projected to remain relatively flat over the next five years

*Current projections based on the Urban Water Management Plan (UWMP)
# Changes to MWD’s Rate and Charge Structure

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<th>Adopted MWD</th>
<th>CY 2016</th>
<th>CY 2017</th>
<th>% Change</th>
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<tr>
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<td>System Access</td>
<td>$259</td>
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<td>Water Stewardship</td>
<td>$41</td>
<td>$52</td>
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</tr>
<tr>
<td>System Power</td>
<td>$138</td>
<td>$124</td>
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<tr>
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<td>$348</td>
<td>$313</td>
<td>-10.1%</td>
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<tr>
<td>Tier 1 Untreated</td>
<td>$594</td>
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<td>Tier 1 Treated</td>
<td>$942</td>
<td>$979</td>
<td>3.9%</td>
</tr>
</tbody>
</table>

- **Transportation increase of 6.2%**

- **CY 2017 fixed charge decreases**
  - Readiness-to-Serve Charge (RTS) - $135M for a decrease of 11.8%
  - Capacity Charge - $8,000/cfs for a decrease of 26.6%
MWD Remains the Largest Share of Water Cost

- Water Authority water supply costs increased by 3.4% due to MWD’s CY 2017 $72/AF rate increase

Excludes MWD’s fixed RTS and CRC charges, which are not recovered on the Melded Supply Rate
*Excludes the debt service for capital projects and recovery of settlement expenditures
MWD’s Transportation Rate Increase Impacts QSA Supplies

Diversified, Local and Stable Water Supply

- Agreements stabilize cost and supply of water in drought
  - Projected 3.2% increase in IID water rate
  - 46% of projected M&I sales are controlled by contract
- By 2021, represents over 280,000 acre-feet of water supply reliability

IID and Canal Lining Deliveries 2003-2021

<table>
<thead>
<tr>
<th>Calendar Year</th>
<th>IID Water Transfer</th>
<th>Canal Lining</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>0</td>
<td>0</td>
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<tr>
<td>2004</td>
<td>0</td>
<td>0</td>
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<tr>
<td>2005</td>
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<td>2006</td>
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<td>2007</td>
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<tr>
<td>2020</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2021</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Meeting Goals and Objectives

- Smooth and predictable rates
  - Mitigating upward rate and charge pressures
    - Continued low water sales environment
    - Increasing MWD costs
    - Cost of desalinated water
  - Utilizing the RSF
    - Projected fiscal year draw of $20.1M in 2017
      - ~$50 per acre-foot of rate relief
### Proposed CY 2017 Rates & Charges

<table>
<thead>
<tr>
<th>Water Authority Rates and Charges</th>
<th>CY 2015 Previous</th>
<th>CY 2016 Current</th>
<th>CY 2017 Proposed</th>
<th>Year/Year Change</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Variable Rates</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melded Supply Rate ($/AF)</td>
<td>$764</td>
<td>$780</td>
<td>$855</td>
<td>9.6%</td>
</tr>
<tr>
<td>Melded Treatment Rate ($/AF)</td>
<td>$278</td>
<td>$280</td>
<td>$290</td>
<td>3.6%</td>
</tr>
<tr>
<td>Transportation Rate ($/AF)</td>
<td>$101</td>
<td>$105</td>
<td>$110</td>
<td>4.8%</td>
</tr>
<tr>
<td>Untreated Special Agricultural Water Rate ($/AF)</td>
<td>$582</td>
<td>$594</td>
<td>$666</td>
<td>12.1%</td>
</tr>
<tr>
<td>Treated Special Agricultural Water Rate ($/AF)</td>
<td>$860</td>
<td>$874</td>
<td>$956</td>
<td>9.4%</td>
</tr>
<tr>
<td><strong>Fixed Charges</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer Service Charge (millions)</td>
<td>$26.4</td>
<td>$26.4</td>
<td>$26.4</td>
<td>0%</td>
</tr>
<tr>
<td>Storage Charge (millions)</td>
<td>$63.2</td>
<td>$63.2</td>
<td>$65.0</td>
<td>2.8%</td>
</tr>
<tr>
<td>Supply Reliability Charge (millions)</td>
<td>-</td>
<td>$26.0</td>
<td>$24.8</td>
<td>-4.6%</td>
</tr>
<tr>
<td><strong>Other Rates and Charges</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infrastructure Access Charge (IAC)</td>
<td>$2.76/ME³</td>
<td>$2.76/ME³</td>
<td>$2.87/ME³</td>
<td>4.0%</td>
</tr>
<tr>
<td>Standby Availability Charge⁴,⁵</td>
<td>$10</td>
<td>$10</td>
<td>$10</td>
<td>0%</td>
</tr>
<tr>
<td>System Capacity Charge</td>
<td>$4,681/ME</td>
<td>$4,840/ME</td>
<td>TBD⁶</td>
<td>-</td>
</tr>
<tr>
<td>Treatment Capacity Charge</td>
<td>$119/ME</td>
<td>$123/ME</td>
<td>TBD⁶</td>
<td>-</td>
</tr>
<tr>
<td>MWD Capacity Charge</td>
<td>$10,738,140</td>
<td>$12,406,380</td>
<td>$9,105,600⁷</td>
<td>-26.6%</td>
</tr>
<tr>
<td>MWD Readiness-to-Serve⁵</td>
<td>$25,043,402</td>
<td>$22,145,912</td>
<td>$18,623,577⁷</td>
<td>-15.9%</td>
</tr>
</tbody>
</table>

---

1 Per current Board Policy, TSAWR is set to end Dec. 31, 2020
2 Supply Reliability Charge was effective Jan. 1, 2016
3 ME means meter equivalent as defined in the Resolution establishing the IAC
4 Per parcel or acre, whichever is greater
5 Fiscal Year
6 Charges will be administratively adjusted effective January 2017
7 Pending MWD’s Rate & Charge notification
## Proposed CY 2017 Total Cost of Water Breakdown*

<table>
<thead>
<tr>
<th>Water Rates and Charges ($/AF)</th>
<th>Restated(^1) CY 2016 Rates</th>
<th>Proposed CY 2017 Rates</th>
<th>Proposed CY 2017 Change in Rate</th>
<th>Proposed Year/Year Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melded Supply Rate</td>
<td>$780</td>
<td>$855</td>
<td>$75</td>
<td>9.6%</td>
</tr>
<tr>
<td>Melded Treatment Rate</td>
<td>280</td>
<td>290</td>
<td>10</td>
<td>3.6%</td>
</tr>
<tr>
<td>Transportation</td>
<td>105</td>
<td>110</td>
<td>5</td>
<td>4.8%</td>
</tr>
<tr>
<td>Storage(^2)</td>
<td>165</td>
<td>167</td>
<td>2</td>
<td>1.2%</td>
</tr>
<tr>
<td>Customer Service(^2)</td>
<td>63</td>
<td>61</td>
<td>-2</td>
<td>-3.2%</td>
</tr>
<tr>
<td>Supply Reliability Charge(^2)</td>
<td>67</td>
<td>63</td>
<td>-4</td>
<td>-6.0%</td>
</tr>
<tr>
<td>Treated Water Cost(^*)</td>
<td>$1,460</td>
<td>$1,546</td>
<td>$86</td>
<td>5.9%</td>
</tr>
<tr>
<td>Untreated Water Cost(^*)</td>
<td>$1,180</td>
<td>$1,256</td>
<td>$76</td>
<td>6.4%</td>
</tr>
</tbody>
</table>

\(^*\) Actual member agency increases will vary. Includes water rates and charges and excludes the Water Authority’s IAC and MWD’s RTS and Capacity charges.

\(^1\) Fixed charges on a $/AF basis are restated based on current water sales estimates.

\(^2\) Customer Service, Storage and Supply Reliability Charges converted to $/AF based on sales forecast.
Estimated Breakdown of the CY 2017 Treated Water Rate and Charge Increases*

**Breakdown of $86/AF Increase**
- **Melded Supply Treatment Rate**: $75, 87%
- **Transportation**: $5, 6%
- **Storage**: $2, 3%
- **Customer Service ($2)**: -2%
- **Supply Reliability Charge ($4)**: -5%
- **Melded Supply Reliability Charge**

**Breakdown of the Melded Supply Rate Increase of $75**
- **MWD Impact**: $46, 61%
- **Water Authority Impact**: $29, 39%

*Actual member agency increases will vary. Includes water rates and charges and excludes the Water Authority’s IAC and MWD’s RTS and Capacity charges.*
Proposed Untreated Water Cost*

2015 LFRP High/Low Untreated Water Rates (Lawsuit Win)

Current Restated Cost $1,180

Proposed CY 2017 Untreated Water Cost $1,256 (6.4%)

<table>
<thead>
<tr>
<th>Calendar Year</th>
<th>High Rate Scenario</th>
<th>Low Rate Scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>1,213</td>
<td>1,158</td>
</tr>
<tr>
<td>2017</td>
<td>1,332</td>
<td>1,242</td>
</tr>
<tr>
<td>2018</td>
<td>1,249</td>
<td>1,119</td>
</tr>
<tr>
<td>2019</td>
<td>1,334</td>
<td>1,127</td>
</tr>
<tr>
<td>2020</td>
<td>1,415</td>
<td>1,170</td>
</tr>
<tr>
<td>2021</td>
<td>1,469</td>
<td>1,192</td>
</tr>
</tbody>
</table>

*Includes water rates and charges and excludes the Water Authority’s IAC and MWD’s RTS and Capacity charges.
Proposed Treated Water Costs*

2015 LFRP High/Low Treated Water Rates (Lawsuit Win)

Current Restated Cost
$1,460

Proposed CY 2017 Treated Water Cost
$1,546 (5.9%)

<table>
<thead>
<tr>
<th>Calendar Year</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Rate Scenario</td>
<td>1,493</td>
<td>1,674</td>
<td>1,647</td>
<td>1,766</td>
<td>1,841</td>
<td>1,929</td>
</tr>
<tr>
<td>Low Rate Scenario</td>
<td>1,438</td>
<td>1,528</td>
<td>1,406</td>
<td>1,410</td>
<td>1,458</td>
<td>1,493</td>
</tr>
</tbody>
</table>

*Includes water rates and charges and excludes the Water Authority’s IAC and MWD’s RTS and Capacity charges.
### Financial Performance Metrics – Debt Service Coverage Ratios

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Senior Lien Debt Service Coverage</th>
<th>Overall Debt Service Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>1.50</td>
<td>1.42</td>
</tr>
<tr>
<td>2018</td>
<td>1.50</td>
<td>1.41</td>
</tr>
<tr>
<td>2019</td>
<td>1.50</td>
<td>1.36</td>
</tr>
<tr>
<td>2020</td>
<td>1.50</td>
<td>1.37</td>
</tr>
<tr>
<td>2021</td>
<td>1.50</td>
<td>1.36</td>
</tr>
</tbody>
</table>

1. Coverage requirement for senior debt service is 1.20x.
2. Overall coverage requirement is 1.00x. Overall debt service coverage includes subordinate lien debt such as the commercial paper program and medium term notes.

- Achieves the Board’s policy target of 1.50x in FYs 2017 – 2021
Financial Performance Metrics

RSF Fund Balance Requirements

(Current Board Policy)

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Rate Stabilization Fund</th>
<th>Target Ending Balance</th>
<th>Maximum Allowable Ending Balance</th>
<th>(Deposit)/Draw</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>122.2</td>
<td>83.4</td>
<td>122.9</td>
<td>(6.2)</td>
</tr>
<tr>
<td>2017</td>
<td>103.2</td>
<td>89.1</td>
<td>136.4</td>
<td>20.1</td>
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<tr>
<td>2018</td>
<td>87.3</td>
<td>105.3</td>
<td>155.7</td>
<td>17.0</td>
</tr>
<tr>
<td>2019</td>
<td>91.0</td>
<td>118.6</td>
<td>167.2</td>
<td>(2.6)</td>
</tr>
<tr>
<td>2020</td>
<td>100.9</td>
<td>125.4</td>
<td>175.0</td>
<td>(8.7)</td>
</tr>
<tr>
<td>2021</td>
<td>112.5</td>
<td>122.2</td>
<td>172.6</td>
<td>(10.1)</td>
</tr>
</tbody>
</table>
• PAYGO funds are projected to be utilized to pay for the CIP
Impact of CY 2017 Rate Increase on Composite Monthly Residential Bill

• 5 Retail Agency Average Composite Cost (CY 2017)
  – Fixed Charge: $23.01 monthly
  – Commodity Charge: $62.56
  – Composite Monthly Residential Bill: $85.57

<table>
<thead>
<tr>
<th>Wholesale Charges</th>
<th>Proposed Rates Monthly Retail Cost</th>
<th>Percent Retail Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Untreated</td>
<td>$2.73</td>
<td>3.2%</td>
</tr>
<tr>
<td>Treated</td>
<td>$3.07</td>
<td>3.6%</td>
</tr>
</tbody>
</table>

Actual rate impact will vary by member agency

Notes:
1. Analysis based on retail rates for the City of Carlsbad, Helix Water District, the City of San Diego, Sweetwater Authority, and Otay Water District.
2. Tier 1 and Tier 2 pricing blocks vary by member agency.
3. Historic water demand used to calculate member agency specific weighting factors.
4. Individual member agency commodity charge calculated using its average single family residential water use (hcf).
5. Composite commodity charge is the sum of the individual member agency’s commodity charge times its weighting factor.
Wholesale Monthly Household Cost

Estimated CY 2017
Wholesale Costs per Household*

- MWD Costs: $27.81
- IID/QSA & Desalination Supply costs: $14.56
- Water Authority Capital Costs: $23.01
- Water Authority Operating Costs: $5.24

TOTAL: $70.62/month

*Based upon 0.5 AF of consumption a year and includes meter charges and MWD pass-through costs

- Cost of water purchases is 60% of the wholesale cost of water
- The remaining 40% or $28.25/month is for the Water Authority to:
  - Deliver water and maintain the system
  - Rapidly diversify the region’s water supplies
  - Provide in-region emergency water storage
  - Develop in-region water storage capacity
  - Administer conservation and demand management programs
Summary

• Rate and Charge Drivers
  – MWD rate and charge increases
    • Untreated water rate increases of 12.1%
    – Persistent low sales environment
    – Smoothing the rate impact of desalinated water costs

• Proactive financial management
  – Highlights how essential the Rate Stabilization Fund is to rate and charge smoothing

• Rate and charge increases inline with guidance
  – Treated increase 5.9%
  – Untreated increase 6.4%

• Overall rate and charge increase will vary by member agency depending upon the fixed charge allocations
Today’s Actions

Adopt Resolution Number 2016-__ setting the time and place for a public hearing on June 23, 2016, at or after 9:00 a.m., or as soon thereafter as may practicably be heard, during the Administrative and Finance Committee meeting, to receive comments regarding proposed rates and charges to be effective January 1, 2017.
Update on Water Supply Conditions

Water Planning Committee
May 26, 2016

Presentation by:
Jeff Stephenson, Principal Water Resources Specialist
Northern Sierra Precipitation
8-Station Index

Accumulated Precipitation (in)

1-Oct 1-Nov 1-Dec 1-Jan 1-Feb 1-Mar 1-Apr 1-May 1-Jun 1-Jul 1-Aug 1-Sep

Normal WY 2015 WY 2016

119% of Normal (May 24, 2016)

Source: Department of Water Resources
Northern Sierra Snowpack
Water Year 2016

29% of Normal
(May 24, 2016)

Source: Department of Water Resources
Lake Oroville Storage Volume
Major Reservoir State Water Project System

Historical Average

SWP allocation at 60%

<table>
<thead>
<tr>
<th>1-Oct</th>
<th>1-Nov</th>
<th>1-Dec</th>
<th>1-Jan</th>
<th>1-Feb</th>
<th>1-Mar</th>
<th>1-Apr</th>
<th>1-May</th>
<th>1-Jun</th>
<th>1-Jul</th>
<th>1-Aug</th>
<th>1-Sep</th>
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</tbody>
</table>

Source: Department of Water Resources
Water Year 2016 forecasted inflow into Lake Powell = 85% of normal
Approval of Drought Management Actions

Water Planning Committee
May 26, 2016

Presentation by:
Jeff Stephenson, Principal Water Resources Specialist
Previous Drought Management Actions

- February 2014 – Water Authority implements Stage 1, Voluntary Supply Management, of Water Shortage and Drought Response Plan (WSDRP)
  - Provides guidance and tools to manage temporary drought conditions

- July 2014 – Water Authority implements Regional Drought Response Level 2 Drought Alert condition
  - Mandatory water use restrictions

- April 2015 – MWD implements Water Supply Allocation Plan Regional Shortage Level 3
  - 15% supply cutback
  - Effective July 2015 - June 2016
Previous Drought Management Actions

• May 2015 - Water Authority adopts Ordinance No. 2015-02
  • Implements Mandatory Cutbacks
    • Requires municipal and industrial allocations
    • Requires allocations for participants in Transitional Special Agricultural Water Rate program
  • Effective July 2015 - June 2016

• March 2016 – Water Authority adopts Ordinance No. 2016-01
  • Rescinds Ordinance No. 2015-02 (May 2015)
  • Rescinds Regional Drought Response Level 2 Drought Alert
  • Maintains Mandatory Supply Cutback Stage

• May 2016 – MWD rescinds Condition 3 – Water Supply Allocation
  • Declares Condition 2 – Water Supply Alert
  • Continues conservation activities
Governor’s Executive Order (B-37-16)

• Issued May 9, 2016
• Four areas of action:
  1. Use Water More Wisely
     • Permanent monthly reporting
     • Develop new water use efficiency targets
     •Modify SWRCB’s emergency regulation (May 18 action)
     • Develop water restrictions for 2017, if needed
  2. Eliminate Water Waste
     • Permanently prohibit wasteful practices
     • Minimize water system leaks
Governor’s Executive Order (B-37-16)

3. Strengthen Local Drought Resilience
   • Improve Water Shortage Contingency Plans
   • Plan for five-year droughts
   • Create common statewide standards

4. Improve Agricultural Water Use Efficiency & Drought Planning
   • AWMPs should identify and quantify measures to achieve water use efficiency
   • Lower threshold for AWMPs to 10,000 acres (vs 25,000 acres)

   • Next step - Participate in stakeholder process
Emergency Conservation Regulation Changes

• Amended at May 18, 2016, SWRCB meeting

• Individualized conservation (if any) standard based on unique supply and demand conditions
  • In effect June 2016 through January 2017
  • No conservation standard “floor”

• Determined by projecting supplies and demands for 2017, 2018, 2019
  • Supply projections based on hydrology in 2013, 2014, 2015
  • Demand projections based on potable use in 2013, 2014

• Conservation standard based on shortage, if any, in 2019
Emergency Conservation Regulation Changes

- Compliance analysis option for wholesalers to certify for region if all retailers agree
  - Requires a “Legally Binding” document
  - Member agency conference call on May 25 indicated broad support for regional supply sufficiency certification
  - Member agencies still required to report monthly water use

- Self-certifications due June 22

- Current conservation standard remains in effect if no certification submitted
State Water Board Emergency Regulation
Regional Supply Sufficiency Calculation Example

\[
\text{Member Agency CY 2013} \& \text{ CY 2014 Average Potable Water Use} \textcolor{gold}{- (Water Authority Available Supplies} + \textcolor{blue}{Member Agency Local Supplies} + \textcolor{green}{Water Authority Stored Water} \right) \textcolor{red}{=} \text{0\% Mandatory Conservation Standard (June 2016 – January 2017)}
\]
Today’s Action

1. Rescind Water Authority Mandatory Supply Cutback
2. Foster continued community focus on drought and water use efficiency

Next Steps

1. Pursue regional supply sufficiency compliance option
2. Staff to engage in stakeholder workgroups formed to address Executive Order
Staff Recommendation

• In response to MWD’s May 10, 2016, Board action to rescind the “Condition 3 – Water Supply Allocation” and declare a “Condition 2 – Water Supply Alert,” staff is recommending that the Water Authority Board:

  • Rescind Ordinance No. 2016-01, *An Ordinance of the Board of Directors of the San Diego County Water Authority Allocating Water Pursuant to the Water Authority’s Drought Management Plan and Establishing Penalties for Violations of Allocations*, and

  • Establish A Drought Awareness effort to ensure continued community focus on drought awareness and commitment to water use efficiency across the service area
Water Authority’s Draft 2015
Urban Water Management Plan
Public Hearing

Water Planning Committee Meeting
May 26, 2016

Presentation by:
Bob Yamada, Director of Water Resources
Water Authority’s 2015 UWMP

- Update required by law every 5 years
- Purpose and importance has grown since first required 30 years ago
- Identifies the projected water resources mix for the San Diego region
- Foundational document for other Water Authority planning efforts
  - Facilities master plan, long-range finance plan and integrated regional water management plan
- Utilized as supporting document in preparation of water supply assessments/verifications under SBs 610/221
- Coordination with member agencies critical element
Land–Use and Water Supply Coordination in the San Diego Region

- Cities/County General Plans
- SANDAG’s Regional Growth Forecast
- Projected Water Demands
- Urban Water Management Plan
  - SANDAG Regional Plan
  - Water Assessment (SB 610) Written Verification (SB 221)
  - Cities/County Plans & Policies
What’s Changed from Water Authority 2010 UWMP to 2015 UWMP

- SANDAG Regional Growth Forecasts
  - Lower population estimates due to 2010 Census
  - Slower near-term economic growth resulting from “Great Recession”

- New Regional Resources On-Line
  - Lewis Carlsbad Desalination Plant
  - SV Carryover Storage (currently 90,000 AF in storage)
What’s Changed from Water Authority 2010 UWMP to 2015 UWMP

Emergence of Potable Reuse as a significant new planned local supply for the region
• Greater volumes and more certainty vs. 2010 UWMP

Conservation Savings
• Bottom-up modeling approach
• Savings not limited to SBX 7–7 compliance level
2015 Urban Water Management Plan
Six Main Elements

Demand Forecast
- Econometric Model utilizing SANDAG Regional Growth Forecast

Water-Use Efficiency
- Include passive and active savings
- Ensure retail compliance with SBX7-7

Water Supplies
- Water Authority and member agency supplies

Water Resource Mix
- Resource mix to meet demands in normal and dry water years

Scenario Planning
- Process to manage supply uncertainties associated with resource mix

Shortage Planning
- Contingency analysis to address shortages due to drought, catastrophe or other event
Development of Projected Water Resources Mix

Projected Resource Mixes

- Member Agency Local Supplies “Verifiable”
- MWD Supplies (Normal & Allocation Years)
- Conservation Savings (Active & Passive)
- SDCWA Supplies (Colorado River Transfers, Carlsbad Desal)
Local Supply Project Categorization

- Supply projects categorized into three groups
- Critical to identify “Verifiable” supplies
  - Projects included in Water Reliability Assessment
  - Utilized in compliance reports for laws linking land-use approval and supply sufficiency (SBs 610/221)
- Identification of “Additional Planned” projects provides for comprehensive long-term reliability planning

<table>
<thead>
<tr>
<th>Project Category</th>
<th>General Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verifiable</td>
<td>Adequate documentation on implementation: CEQA certification, permits satisfied, contracts executed</td>
</tr>
<tr>
<td>Additional Planned</td>
<td>Actively being pursued and planning effort currently being funded</td>
</tr>
<tr>
<td>Conceptual</td>
<td>Project in conceptual, pre-feasibility phase</td>
</tr>
</tbody>
</table>
Decrease in Water Authority
Long-Range Demand Demand Forecast

![Graph showing demand reduction from 2010 UWMP to Draft 2015 UWMP with a 393 TAF reduction between 2020 and 2040.](image)

- 2010 UWMP
- Draft 2015 UWMP

Demand (TAF)
# Draft Water Reliability Assessment
(Normal Year)

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long-Range Demand Forecast</td>
<td>583,183</td>
<td>631,853</td>
<td>653,600</td>
<td>672,324</td>
<td>697,635</td>
</tr>
<tr>
<td>Member Agency Verifiable Supplies</td>
<td>132,086</td>
<td>136,798</td>
<td>139,822</td>
<td>140,082</td>
<td>140,722</td>
</tr>
<tr>
<td>Water Authority Verifiable Supplies</td>
<td>320,200</td>
<td>330,200</td>
<td>330,200</td>
<td>330,200</td>
<td>330,200</td>
</tr>
<tr>
<td>MWD Water Purchases</td>
<td>130,897</td>
<td>164,855</td>
<td>183,578</td>
<td>202,042</td>
<td>226,713</td>
</tr>
</tbody>
</table>
Water Authority Demand on MWD* (Normal Year)

*Source: 2015 UWMP Public Review draft, excludes MCB Camp Pendleton Desalination Plant
Scenario Planning – Managing an Uncertain Future

- Growth
- SWP Reliability
- Recurring Droughts
- Local Projects
- Development Risk
- Climate Change
Major Steps in Scenario Planning Process

Projected Resources Mix
- Develop in coordination with member agencies

Uncertainty Scenarios
- Based on critical uncertainties
- Risk assessment of resources mix
- Identify “supply gap”

Potential Strategies
- Qualitative and quantitative
- Manage uncertainties
- Fill potential “supply gap”

Key Tracking Metrics
- Metrics to track implementation of resource mix and potential need for strategies
- Avoid over investment
Scenario Planning – “Testing Resilience”

2035 Supply Gap Analysis

MWD Available Supplies

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Available Supplies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal Year 2035</td>
<td>1.5 MAF</td>
</tr>
<tr>
<td>Drought</td>
<td>1.3 MAF</td>
</tr>
<tr>
<td>Drought with Further MWD Limitations</td>
<td>1.1 MAF</td>
</tr>
<tr>
<td>Drought with MWD &amp; Local Agency Limitations</td>
<td>1.1 MAF</td>
</tr>
</tbody>
</table>
## UWMP Remaining Schedule

<table>
<thead>
<tr>
<th>Date</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>April 29, 2016</td>
<td>Released 2015 UWMP public review draft to Board and general public</td>
</tr>
<tr>
<td>May 26, 2016</td>
<td>Public hearing on draft 2015 UWMP <em>(SDCWA Board meeting)</em></td>
</tr>
<tr>
<td>June 6, 2016</td>
<td>Deadline for comments on 2015 UWMP public review draft</td>
</tr>
<tr>
<td>June 15, 2016</td>
<td>Provide draft of final 2015 UWMP to Board</td>
</tr>
<tr>
<td>June 23, 2016</td>
<td>Board adoption of 2015 UWMP <em>(SDCWA Board meeting)</em></td>
</tr>
<tr>
<td>By July 1, 2016</td>
<td>Submit adopted 2015 UWMP to DWR</td>
</tr>
</tbody>
</table>