San Diego County Water Authority
Cost of Service Study –
CY 2016 Rates & Charges Overview

May 28, 2015
Agenda

- CY 2016 Water Rate & Charges Objectives
- Key Governing Board Policies
- Cost of Service Process Overview
- Questions
Scope of Services

- Comprehensive cost of services study, including an independent review of CY 2016 rates for consistency with AWWA M1 guidelines, Board policy, and legal requirements
- Review the recommendations of the Fiscal Sustainability process
  - Supply Reliability Charge
  - Non-Commodity Allocation
  - TSAWR
- Calculate Proposed CY 2016 water rates and charges
Overview of Cost-of-Service Requirements

- The Water Authority’s rates must adhere to Board Policies:
  - Resolution No. 98-26
    - Established the Infrastructure Access Charge to pay at least 25 percent of the estimated annual fixed costs of the Authority.
  - Ordinance No. Ordinance 2002-03
    - Established Rate Categories: Storage, Customer Service Charges, Transportation, Melded M&I Treatment and Melded M&I Supply.
  - Board Financial Management Policy (August 2006)
    - Set a 1.50x coverage target for senior lien debt service

- The Water Authority’s rates must adhere to California constitutional and statutory requirements:
  - Proposition 26, GC § 50076, GC §54999.7
    - Fees shall not exceed the reasonable cost of providing utility service and consider service characteristics, demand patterns, and other relevant factors
Rates and Charges Determined

- Melded Supply Rate
- Melded Treatment Rate
- Transportation Rate
- Customer Service Charge
- Storage Charge
- Supply Reliability Charge
- Infrastructure Access Charges (IAC)
Rate Definitions Based on Board Policy

- The **Supply Rate** recovers the cost of water supply incurred by the Water Authority, including the purchase of water from MWD, the IID, the Coachella Canal and the All-American Canal, costs of MWD wheeling for non-MWD water supplies.

- The **Transportation Rate** recovers cost of Water Authority’s aqueduct system, including all facilities used to physically transport the water to member agency meters.

- The **Treatment Rate** recovers the costs of treating water, including costs associated with MWD, Helix, Olivenhain.
Rate Definitions Based on Board Policy

- The **Storage Charge** recovers the costs associated with the Emergency Storage Program (ESP).
- The **Customer Service Charge** recovers costs incurred to support the functioning of the Water Authority, to develop policies and to implement programs that benefit the region as a whole.
- The **Supply Reliability Charge** recovers incremental cost of new, reliable water supplies above the cost of MWD supplies (least reliable supplies).
- The **IAC** recovers a set amount of fixed costs and is levied based upon meter size/capacity.
CY 2016 Water Rate and Charge Calculation Process

Revenue Requirement Analysis

• Reviewed the total revenues required to fund operations, capital, debt service and coverage, and policy requirements.

Functional Allocation by Rate Category

• Allocate the revenue requirements and offsetting revenues to the Water Authority's five water rate and charge categories in a fair and equitable manner.

Water Rates and Charges

• Set rates to recover the revenue requirements from member agencies based on water sales projections.

Member Agency Allocation

• Allocate expenditures to each member agency based on water demand patterns and other key metrics.
Revenue Requirement Analysis

- Operating Costs
- Annual Debt Service
- Miscellaneous Cost Recovery
- Coverage and Reserve Driven Needs
- Offsetting Revenues to Reduce Rev Req
  - IAC Allocation, Supply Reliability, Standby Availability Charge, Capacity Charges, Property Tax, Interest Earning, Misc. Revenue Allocation
Functional Allocation

- Melded Supply
- Melded Treatment
- Transportation
- Storage
- Customer Service
- Supply Reliability

Water Rates and Charges
Water Rates and Charges

- Variable Rates
  - Melded Supply
  - Melded Treatment
  - Transportation
- Commodity Based Annual Charges
  - Storage
  - Customer Service
  - Supply Reliability
Member Agency Fixed Charge Allocation

- Based on annual demands
  - Supply
  - Transportation
  - Treatment
- Based on historical 3-yr rolling avg. demands
  - Customer Service Charge allocation includes all deliveries
  - Storage Charge allocation excludes agriculture deliveries
- Based on historical 5-yr rolling avg. demands
  - Supply Reliability Charge allocation excludes agricultural deliveries
Results of Independent Review

- Water Authority’s rates and charges continue to adhere to Board policies, cost of service principles, and California legal requirements
  - Confirm compliance with applicable case law and indirect implications of recent cases
- Validated that the CY 2016 rates and charges incorporate recommendation from Fiscal Sustainability process
  - Supply Reliability Charge
  - Allocation of non-commodity revenues
  - TSAWR
General Manager’s Recommended Budget for Fiscal Years 2016 & 2017

Maureen A. Stapleton, General Manager
Accomplishments Fiscal Years 2014 & 2015

- Master Facilities Plan
- Optimization of Debt Portfolio
- IRWM Grant Administration Web Tool
- Promoted Water Reliability & Quality Stewardship at MWD
- Adopt Positions on 110 Bills
- Award Winning Online Water Ordering
- Colorado River Canal Linings
- Multiple Comprehensive Cost of Service Studies on Rates & Charges
- Won Phase 1 MWD Rate Litigation
- Drought Mgmt. & Response Plan Implementation
- 402K/AF of IID Water
- Updated Business Plan
- Mission Trails Pipeline Tunnel & Vent Demolition
- Advanced Legislation on Potable Reuse
- Fiscal Sustainability Process & Supply Reliability Charge
- Advocated for Robust MWD Financial Policies & Practices
- Investment Portfolio Performance & Diversification
- San Vicente Dam Raise
- San Vicente Dam Raise
Accomplishments Fiscal Years 2014 & 2015

- Second Aqueduct Pipeline – Caltrans Highway 76 Realignment
- 39 Shutdowns
- San Vicente Marina
- Centralized Purchasing
- Labor Agreement
- Successful Audits & IRS/CalPERS/State Dept. of Finance
- $60M IRWM Grant Funds
- 78.5 Miles of Pipeline Assessment
- Oversight of Construction of Carlsbad Desalination Project
- ESP – San Vicente Pumping Facilities
- Two-Year Budgets
- Safe Work Environment
- Kearny Mesa Lighting Retrofit
- Relined 40 Miles of Prestressed Concrete Pipe
- Twin Oaks WTP Desal Modifications
- Platinum Award for Utility Excellence from AWWA
- ESP – Lake Hodges Project
- 2014 Water Bond Passage

San Diego County Water Authority
Water Authority’s Roles:
Leader, Partner, Operator

- Master Facilities Plan
- Optimization of Asset Portfolio
- Financial Planning for Infrastructure
- Water Reuse & Recycling
- Advanced Water Quality
- Business Plan
- 2014 Water Bond Passage

- IRWM Grant Administration and Use
- Best Practices for Deferred Compensation/Contributions
- Private Finance Initiative
- Investment Portfolio Performance & Diversification

- Water Authority's Roles:
  Leader, Partner, Operator

- Program Management
- Cost-effective Infrastructure
- Environmental Stewardship
- Mission Critical Infrastructure
- Successful Operations & Maintenance

- San Diego County Water Authority

- Oversight of Construction and Carbon Dioxide Reduction
- Successful Audits & NAFTA/State Dept. of Finance

- Successful Operations & Maintenance
- Prevent Encroachments
- Safe & Clean Environment
- Twin Oaks WTP

- Second Aqueduct Project
- San Vicente Dam
- Kearny Mesa Lighting Retrofit
- MWD Rate Litigation

- 39 Shafter Avenue
- 78.5 Miles of Pipeline Assessment
- Removed 235 Encroachments from the Right of Way
Initiatives and Projects Fiscal Years 2016 & 2017

- Develop 2015 UWMP
- Obtain Favorable MWD Rate Litigation Result
- QSA Policy Facilitation with the State & Fed. Legislators
- Advocate Potable Reuse Criteria
- Camp Pendleton Desal Intake Testing Program
- Engage in Leg. & Regulatory Water Use Efficiency Efforts
- Ensure Long-term Sustainability of MWD
- Ensure San Diego Region Receives Fair Share of Proposition 1 Funding
- Leg. & Regulatory Work to Reduce Energy Costs for New Water Supply Development
- Advocate for Sustainable Bay-Delta Solution
- QSA JPA Advanced Funding Agreement
- LEADER

Initiatives and Projects Fiscal Years 2016 & 2017

- Independent Salton Sea Environmental Analysis
- Obtain $70M IRWM Grant Funds
- Address Colorado River Issues Through Basin States Procedures
- Collaborate on Opposing Imposition of Fees or Public Goods Charges
- Update Long-Range Demand Forecasts
- Broaden Coalition Reach & Strategic Partnerships
- Build State & Fed. Leg. Coalitions to Advance WA & MA’s Objectives
- Ensure Eligibility for San Vicente Hydropower Pumped Storage Within the Renewable/Clean Energy Standard
- Implement Drought Management Actions
- Transfer & Exchange Agreement Extensions
- Evaluate Delivery of Health Insurance Options
- Smooth Rates and Charges for Member Agency Financial Position & Planning
- Partner with City on San Vicente Pumped Storage Study
- Administer NCCP/HCP Permit
- Energy Strategy Development to Reduce Costs to Member Agencies
- Partner

PARTNER

Initiatives and Projects Fiscal Years 2016 & 2017

- Complete 12 Shutdowns
- Carlsbad Desalination Project Implementation
- Remove 240 Encroachments in the Right of Way
- Mission Trails Flow Regulatory Structure
- North County Pump Station
- Upgrade Communications at 37 Facilities
- Pipeline 3 Relining Lake Murray to Spring Street
- Carlsbad 6 Flow Control Facility
- Complete Condition Assessment of 28 miles of Pipeline
- Actuator Replacement at 66 Facilities
- Cost-Effective Business Insurance
- San Vicente Bypass Pipeline

- Integrate Carlsbad Desalinated Water
- Business Network Cybersecurity Assessment
- Comprehensive Records Mgmt. Program
- Asset Management GIS Applications
- San Diego County Water Authority
Factors Impacting the FYs 16&17 Budget

- Challenging Water Conditions
  - Water supply allocations
  - State Water Resources Control Board Imposed Regulations
- Carlsbad desalination deliveries
  - Water Purchase Agreement administration
- Asset Management Program implementation
- Hydroelectric Opportunities Explored
- Continued focus on efficiencies and effectiveness
  - Cost containment
  - Leveraging partnerships
- Proposition 1 Grant Funding Opportunities
Sources of Funds

- Water Sales: $1,162,792 (78%)
- Net Fund Withdraws: $140,231 (9%)
- Infrastructure access charges: $61,295 (4%)
- Build America Bonds and Investment Income: $30,211 (2%)
- Capacity Charges: $30,500 (2%)
- Property Taxes and in-lieu charges: $23,400 (<2%)
- Water Standby availability charges: $22,500 (<2%)
- All Other Revenue Sources: $27,899 (<2%)

Total: $1,498,829 (100%)
## FYs 16&17 Recommended Budget

<table>
<thead>
<tr>
<th>Category</th>
<th>Budget</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Water Purchases &amp; Treatment</td>
<td>$957,526</td>
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<tr>
<td>Debt Service</td>
<td>282,804</td>
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<td>CIP Expenditures</td>
<td>136,825</td>
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<td>Operating Departments</td>
<td>94,143</td>
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<td>Hodges Pumped Storage</td>
<td>4,204</td>
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<td>Equipment Replacement</td>
<td>4,219</td>
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<td>Other and Grant</td>
<td>19,108</td>
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**Total Budget:** $1,498,829

92% of TOTAL BUDGET
Historical Spending

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<tr>
<th>Fiscal Year</th>
<th>Expenses (in Millions $)</th>
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<td></td>
<td>FY00</td>
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<tr>
<td>Cost of Water Sales</td>
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<td>Capital Improvement Program</td>
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<td>Debt Service</td>
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<td>Operating Depts</td>
<td>$20</td>
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<tr>
<td>Other</td>
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</table>

San Diego County Water Authority
Historical CIP

CIP Expenditures (in millions)

Year: 2000-2020

Expenditures:
- 2000: $50
- 2001: $100
- 2002: $150
- 2003: $200
- 2004: $250
- 2005: $300
- 2006: $300
- 2007: $250
- 2008: $200
- 2009: $150
- 2010: $100
- 2011: $50
- 2012: $0
- 2013: $0
- 2014: $0
- 2015: $0
- 2016: $0
- 2017: $0
- 2018: $0
- 2019: $0
- 2020: $0
Historical Debt Service
Paying for Major Infrastructure Investments: Annual Debt Service Payments through 2050

Note: Includes debt service payments, net of capitalized interest, on existing senior and subordinate issuances.
Does not include super-subordinate 2012 Series Desalination Pipeline Bonds.
Historical Staffing

Full-time Equivalents (FTEs)

Reduction of 6.25 FTEs
Budget Hearings

- Tuesday, June 9th and Thursday, June 11th
- Revenues
- Debt
- Capital Improvement Program
- Operating Departments
Proposed Calendar Year 2016
Rates and Charges

Administrative and Finance Committee
May 28, 2015
Lisa Marie Harris, Director of Finance
David Shank, Financial Planning Manager
Agenda

• Overview of CY 2016 rates and charges and fiscal sustainability recommendations
• Cost of Service Report – Carollo Engineers
• Recommended CY 2016 rates and charges
  – Rate and charge drivers/highlights
  – Proposed CY 2016 rates and charges
Summary of Fiscal Sustainability Recommendations

- Created a new fixed charge
  - Supply Reliability Charge
- Allocation of non-commodity revenues to treatment
  - Fully integrated treatment rate into rate and charge structure
- Extension of the Transitional Special Agricultural Water Rate (TSAWR) to December 31, 2020
**CY 2016 Rate and Charge Drivers/Highlights**

- **Highlights**
  - CY 2015 rate and charge increase helped smooth rates
    - Significant Rate Stabilization Fund (RSF) deposit planned – Provides for subsequent draws
  - Debt optimization smoothed rates
    - Lowered senior Lien by $14.8 M in FY 2016
    - Huge savings if coverage is included - $22.2M reduction in revenue requirement

- **Drivers**
  - Cost of desalinated water – full year of deliveries
  - MWD transportation rate – 3.3% impacts all but desal
  - Water sales levels
Independent Rate and Charge Review

- Engaged Carollo Engineers in a multi-year process to be an independent cost of service consultant
  - Fiscal sustainability process recommendations
- Conducted comprehensive cost of service studies
  - Calendar years 2014 and 2016
- Independent review of Board policy and policy implementation related to the cost of desalination
  - Calendar year 2015 rates and charges
CY 2016 Rate and Charge Drivers

- Statewide regulations and water demand uncertainty
  - MWD’s mandatory supply allocations
- Cost of desalinated water
- MWD’s rate and charge increases
Regulations and Demand Uncertainty

- Water Demand forecasting extremely challenging
- SWRCB imposed an average 20% reduction
- Regulation translates to conservation levels ranging from 12% – 36% for retail member agencies

Drought Outlook through June

KEY:
- Drought persists or intensifies
- Drought remains but improves
- Drought removal likely
- Drought development likely

http://go.usa.gov/hHTe
• CY 2016 sales forecast is inline with the water use regulations
Carlsbad Desalination Costs

• Drought proof supply
• Excellent progress on the project
  – Expected to be completed in fall 2015
• Expect delivery of 42K AF in CY 2016
  – Represents 10% of water sales
• Financial Impact in CY 2016:
  – Supply - $34.1M increase
  – Transportation - $5.4M increase
Supply Reliability Charge

- Methodology defined in Fiscal Sustainability recommendations
  - Includes desal supply costs & IID transfer (including wheeling)
- Member Agency Allocation
  - 5-year rolling M&I deliveries
- CY 2016 charge is $26M
  - Based upon average sales $52/AF

### Supply Reliability Charge Calculation

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<tr>
<td>Desal deliveries A/F (thousands)</td>
<td>42.0</td>
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<tr>
<td>IID Transfer deliveries A/F (thousands)</td>
<td>100.0</td>
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<tr>
<td>Desal supply costs ($/AF)</td>
<td>1,905</td>
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<tr>
<td>IID Transfer costs ($/AF)</td>
<td>1,085</td>
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<td>MWD Tier 1 Untreated rate ($/AF)</td>
<td>594</td>
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<tr>
<td>Reliable Water Cost ($M)</td>
<td>188.5</td>
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<tr>
<td>MWD Comparison Cost ($M)</td>
<td>84.3</td>
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<tr>
<td>Differential ($M)</td>
<td>104.2</td>
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<tr>
<td>Supply Reliability charge ($M)</td>
<td>26.0</td>
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<tr>
<td>Projected Supply Reliability Charge $/AF</td>
<td>$52</td>
</tr>
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</table>
Quantification Settlement Agreement

- Colorado River QSA supplies key to supply diversification strategy
- Agreements stabilized cost and supply of water in drought
  - 3.7% increase in transfer costs
  - 42% of projected sales
- By 2021, could represent more than 50% of region’s average year supply

IID and Canal Lining Deliveries 2003-2021

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<td>IID Water Transfer</td>
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Calendar Year

Lining the Coachella Canal
Adopted MWD CY 2016 Rates

<table>
<thead>
<tr>
<th>Adopted MWD</th>
<th>CY 2015</th>
<th>CY 2016</th>
<th>% Change</th>
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<tbody>
<tr>
<td>Tier 1 Supply</td>
<td>$158</td>
<td>$156</td>
<td>-1.3%</td>
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<tr>
<td>System Access</td>
<td>$257</td>
<td>$259</td>
<td>0.8%</td>
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<tr>
<td>Water Stewardship</td>
<td>$41</td>
<td>$41</td>
<td>-</td>
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<tr>
<td>System Power</td>
<td>$126</td>
<td>$138</td>
<td>9.5%</td>
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<tr>
<td>Treatment</td>
<td>$341</td>
<td>$348</td>
<td>2.1%</td>
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<tr>
<td>Tier 1 Untreated</td>
<td>$582</td>
<td>$594</td>
<td>2.1%</td>
</tr>
<tr>
<td>Tier 1 Treated</td>
<td>$923</td>
<td>$942</td>
<td>2.1%</td>
</tr>
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</table>

Transportation increase of 3.3%

- CY 2016 fixed charge decreases
  - Readiness-to-Serve Charge (RTS) - $153M for a decrease of 3.2%
  - Capacity Charge - $10,900/cfs for a decrease of 1.8%
MWD Remains the Largest Share of Water Cost

- MWD Costs: 31.4%
- IID Water Purchases*: 19.7%
- MWD Exchange Agreement Costs: 24.1%
- Desalination: 24.4%
- Canal Water Purchases: 0.3%

MWD Represents 55.5% of the Cost of Water

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
Water Authority’s Treatment Costs

- **Total Cost = $47.3M**
  - MWD’s 2.1% treatment rate increase mitigated
Meeting Goals and Objectives

• Smooth and predictable rates
  – Mitigating the rate impact of mandatory water use regulations
  – First full year of desalination costs
  – Meeting the RSF target
    • Essential tool for rate and charge smoothing
    • RSF target increases significantly as revenues become more subject to volatility
## Proposed CY 2016 Rates & Charges

<table>
<thead>
<tr>
<th>Water Authority Rates and Charges</th>
<th>CY 2014 Previous</th>
<th>CY 2015 Current</th>
<th>CY 2016 Proposed</th>
<th>% Change</th>
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<tbody>
<tr>
<td><strong>Variable Rates</strong></td>
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<tr>
<td>Melded Supply Rate ($/AF)</td>
<td>$732</td>
<td>$764</td>
<td>$780</td>
<td>2.1%</td>
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<tr>
<td>Melded Treatment Rate ($/AF)</td>
<td>$274</td>
<td>$278</td>
<td>$280</td>
<td>0.7%</td>
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<tr>
<td>Transportation Rate ($/AF)</td>
<td>$97</td>
<td>$101</td>
<td>$105</td>
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<td><strong>Fixed Charges</strong></td>
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<tr>
<td>Storage Charge (millions)</td>
<td>$63.2</td>
<td>$63.2</td>
<td>$63.2</td>
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<tr>
<td>Customer Service Charge (millions)</td>
<td>$26.4</td>
<td>$26.4</td>
<td>$26.4</td>
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<tr>
<td>Supply Reliability Charge (millions)</td>
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<td>-</td>
<td>$26.0</td>
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<td><strong>Other Rates and Charges</strong></td>
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<tr>
<td>Untreated Special Agricultural Water Rate ($/AF)</td>
<td>$593</td>
<td>$582</td>
<td>$594</td>
<td>2.1%</td>
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<td>Treated Special Agricultural Water Rate ($/AF)</td>
<td>$867</td>
<td>$860</td>
<td>$874</td>
<td>1.6%</td>
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<tr>
<td>IAC</td>
<td>$2.68/ME¹</td>
<td>$2.76/ME</td>
<td>$2.76/ME</td>
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<tr>
<td>Standby Availability Charge² per parcel or acre, whichever is greater</td>
<td>$10</td>
<td>$10</td>
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<td>System Capacity Charge³</td>
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<tr>
<td>Treatment Capacity Charge³</td>
<td>$119/ME</td>
<td>$119/ME</td>
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</table>

¹ ME means meter equivalent as defined in the resolution establishing the Infrastructure Access Charge
² Fiscal year charge
³ Charges will be administratively adjusted effective January 2016.
# Proposed CY 2016 M&I Water Rate Breakdown

## Rates and Charges ($/AF)

<table>
<thead>
<tr>
<th>Rates and Charges ($/AF)</th>
<th>Restated CY 2015 Rates</th>
<th>Proposed CY 2016 Rates</th>
<th>Proposed CY 2016 Change in Rate</th>
<th>Percent Change</th>
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<tr>
<td>Melded Supply Rate</td>
<td>$764</td>
<td>$780</td>
<td>16</td>
<td>2.1%</td>
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<tr>
<td>Melded Treatment Rate</td>
<td>278</td>
<td>280</td>
<td>2</td>
<td>0.7%</td>
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<td>Transportation</td>
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<td>105</td>
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<td>Storage*</td>
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<td>0%</td>
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<tr>
<td>Customer Service*</td>
<td>61</td>
<td>61</td>
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<tr>
<td>Supply Reliability Charge*</td>
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<td>52</td>
<td>52</td>
<td>NA</td>
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<tr>
<td>Total Cost of Treated Water</td>
<td>$1,365</td>
<td>$1,439</td>
<td>74</td>
<td>5.4%</td>
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<tr>
<td>Total Cost of Untreated Water</td>
<td>$1,087</td>
<td>$1,159</td>
<td>72</td>
<td>6.6%</td>
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</table>

Excludes the Water Authority’s IAC and MWD’s RTS and Capacity charges.

* Customer Service, Storage and Supply Reliability Charges converted to $/AF based on sales forecast
Estimated Breakdown of the CY 2016 Treated Water Rate and Charge Increases

Increase Breakdown*
$74/AF

<table>
<thead>
<tr>
<th>Breakdown of the 5.4% Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply Reliability 70% ($52)</td>
</tr>
<tr>
<td>Melded Supply Rate 22% ($16)</td>
</tr>
<tr>
<td>Melded Treatment Rate 3% ($2)</td>
</tr>
<tr>
<td>Transportation 5% ($4)</td>
</tr>
</tbody>
</table>

*Excludes Water Authority meter charge and MWD pass-through costs.
Customer Service and Storage Charges converted to $/AF based on sales forecast
# Proposed CY 2016 Rate and Charge Summary

<table>
<thead>
<tr>
<th>Rates and Charges ($/AF)</th>
<th>Restated CY 2015 Rates</th>
<th>Proposed CY 2016 Rates</th>
<th>Proposed CY 2016 Change in Rate</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melded Supply Rate</td>
<td>$764</td>
<td>$780</td>
<td>16</td>
<td>2.1%</td>
</tr>
<tr>
<td>Melded Treatment Rate</td>
<td>278</td>
<td>280</td>
<td>2</td>
<td>0.7%</td>
</tr>
<tr>
<td>Transportation</td>
<td>101</td>
<td>105</td>
<td>4</td>
<td>4.0%</td>
</tr>
<tr>
<td>Storage(^1)</td>
<td>161</td>
<td>161</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Customer Service(^1)</td>
<td>61</td>
<td>61</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Supply Reliability Charge(^1)</td>
<td>52</td>
<td>52</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Total Cost of Treated Water</strong></td>
<td>$1,365</td>
<td>$1,439</td>
<td>74</td>
<td>5.4%</td>
</tr>
<tr>
<td><strong>Total Cost of Untreated Water</strong></td>
<td>$1,087</td>
<td>$1,159</td>
<td>72</td>
<td>6.6%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rates and Charges</th>
<th>Adopted CY 2015 Rates</th>
<th>Proposed CY 2016 Rates</th>
<th>Proposed CY 2016 Change in Rate</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>IAC</td>
<td>$2.76/ME/Month</td>
<td>$2.76/ME/Month</td>
<td>$0</td>
<td>0%</td>
</tr>
<tr>
<td>Standby Availability(^2)</td>
<td>$10/acre or parcel less than 1 acre</td>
<td>$10/acre or parcel less than 1 acre</td>
<td>$0</td>
<td>0%</td>
</tr>
<tr>
<td>MWD Capacity Charge(^3)</td>
<td>$10,738,140</td>
<td>$12,406,380</td>
<td>$1,668,240</td>
<td>15.5%</td>
</tr>
<tr>
<td>MWD Readiness-to-Serve(^2,3)</td>
<td>$25,043,402</td>
<td>$22,145,912</td>
<td>($2,897,490)</td>
<td>-11.6%</td>
</tr>
</tbody>
</table>

\(^1\) Fixed Charge  
\(^2\) Fiscal Year Charge  
\(^3\) Adopted by the MWD Board on May 12, 2015
### Proposed Untreated Water Rate

#### Untreated Water Rate

- **2011 Rate Forecast High Rate Scenario**: $1,334
- **2011 Rate Forecast Low Rate Scenario**: $1,210
- **Current Restated Rate**: $1,087
- **Proposed CY 2016 Untreated Water Rate**: $1,159 (6.6%)

- **$986** (2014)
- **$1,033** (2015)
- **$1,146** (2016)
- **$1,210** (2017)
- **$1,273** (2018)
- **$1,334** (2019)

**Calendar Year**

- 2014
- 2015
- 2016
- 2017

**Proposed CY 2016 Untreated Water Rate $1,159 (6.6%)**
Proposed Treated Water Rate

Treated Water Rate

Proposed CY 2016
Treated Water Rate
$1,439 (5.4%)

Current Restated Rate
$1,365

2011 Rate Forecast
High Rate Scenario

2011 Rate Forecast Low
Rate Scenario

$1,418
$1,559
$1,648
$1,717

$1,231
$1,280
$1,404
$1,530

$1,200
$1,250
$1,300
$1,350
$1,400
$1,450
$1,500
$1,550
$1,600
$1,650
$1,700
$1,750
$1,800

$/AF

Calendar Year

2014 2015 2016 2017
# History of Rate Increases

## Board Adopted Treated and Untreated Rate Increases

<table>
<thead>
<tr>
<th>Calendar Year</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treated Water Rate Increase (%)</td>
<td>8.1%</td>
<td>15.0%</td>
<td>15.4%</td>
<td>14.7%</td>
<td>7.5%</td>
<td>7.7%</td>
<td>9.6%</td>
<td>9.7%</td>
<td>6.6%</td>
</tr>
<tr>
<td>Untreated Water Rate Increase (%)</td>
<td>8.9%</td>
<td>12.0%</td>
<td>11.3%</td>
<td>18.1%</td>
<td>2.6%</td>
<td>2.9%</td>
<td>3.5%</td>
<td>2.6%</td>
<td>5.4%</td>
</tr>
</tbody>
</table>

### Notes:
- **2009-2011 MWD Allocations**
- **July 2015 MWD Allocations**
- **Proposed CY 2016**
Financial Performance Metrics – Debt Service Coverage Ratios

• Achieves the Board’s policy target of 1.50x in FYs 2016 – 2020
Financial Performance Metrics

Current Board Policy - RSF Fund Balance Requirements

Fiscal Year

- 2016
- 2017
- 2018
- 2019
- 2020

Millions

- $0
- $50
- $100
- $150
- $200
- $250

- Rate Stabilization Fund
- RSF Target Ending Balance
- RSF Maximum Allowable Ending Balance
Financial Performance Metrics

Current Board Policy - Cash Balances by Fund
(Excludes Debt-Related Funds)

- Significant withdrawals from the PAYGO fund are projected
Impact of CY 2016 Rate Increase on Composite Monthly Residential Bill

- 5 Retail Agency Average Composite Cost (CY 2015)
  - Fixed Charge: $21.29 monthly
  - Commodity Charge: $58.05
  - Composite Monthly Residential Bill: $79.34

<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>$2.48</td>
<td>3.1%</td>
</tr>
<tr>
<td>Treated</td>
<td>$2.55</td>
<td>3.2%</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

- Cost of water purchases is 63% of the wholesale cost of water.
- The remaining 37% or $24.75/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

Estimated CY 2016 Wholesale Costs per Household*

- MWD Costs: $27.22
- IID/QSA & Desalination Supply costs: $14.10
- Water Authority Capital Costs: $19.83
- Water Authority Operating Costs: $4.92

TOTAL: $66.07/month

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

• Extraordinary pressures
  – Mandatory SWRCB water use regulations – 20% average reduction in water usage
  – First full year of desalinated water deliveries
  – MWD rate and charge increases

• Proactive financial management
  – Debt defeasance and restructuring provided significant rate and charge relief
  – Level of rate increases reflect better preparation for this drought
  – Highlights how essential the Rate Stabilization Fund is to rate and charge smoothing

• Rate and charge increases inline with guidance
  – Treated increase 5.4%
  – Untreated increase 6.6%

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

a) Adopt Resolution Number 2015-__ setting the time and place for a public hearing on June 25, 2015, 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, 2016.
Raising Awareness of New Rules, Actions

State actions May 5

Water Authority actions May 14
• New phase under way through June

LEAKS CAN WASTE UP TO 30 GALLONS A DAY

CALIFORNIA IS IN A SEVERE DROUGHT
STATE-ORDERED WATER USE CUTS ARE IN EFFECT

TV

Let your lawn get a tan.

Online
When in Drought

Save every day, every way.
The Governor Has Ordered
Water Use Cuts

Severe Drought
Your efforts to save add up!
- Water yards no more than 2 days a week
- Fix all leaks immediately
- Shorten showers

For conservation tips, programs and local restrictions go to whenindrought.org

San Diego County Water Authority
Supported by the San Diego County Water Authority and its 24 member agencies. Partial funding for the When in Drought campaign provided by a grant from the Department of Water Resources.

Online/outdoor

Social media

Radio/
Pandora
Landscaper Outreach

• WaterSmart workshops
  • May 13-14
  • Target: landscape professionals, master gardeners
  • Adjusting to drought conditions
  • High demand

• Additional training in development

May 13 workshop – 100+ attendees
Partnerships

- New materials for restaurants/bars

- Water Awareness Month campaign

UCSD Sustainability @SustainUCSD - May 4
Happy #WaterAwarenessMonth. Shorten showers, report leaks, and turn off water while brushing your teeth. For more #waystosavewater @sdcwa
Partnerships

- San Diego Housing Commission
- I Love a Clean San Diego
Events

San Diego County Taxpayers Association awards

San Diego County Fair
Whenindrought.org

- Reorganized to:
  - Respond to public’s requests
  - Reflect state mandates
  - Recognize partners

The governor has ordered mandatory cuts in water use to start June 1. Your efforts to save more water do add up, so start saving now! Limit outdoor watering to NO MORE than twice a week, shorten your shower, and fix all indoor and outdoor leaks right away. We’re all in this together! Saving every day, every way protects our economy and quality of life as the drought continues.

Find out what you can do to save water!

- Local Restrictions, Programs & Rebates
- State Restrictions
- WaterSmart Tips
- Drought Information
- Regional Water Supply Investments
- WaterSmart Website – Incentives, Tools & More
- Water-Saving Superstars & Partners
- Campaign Ads & Messages
- Get Your Drought Freebies!

When in Drought Campaign Partners

San Diego Botanic Garden

San Diego Community College District
Next Steps

- Enhancing ad buys from June through summer
- Planning additional research
  - High-water users
  - Young adults
  - Hispanics
- Developing new landscape efficiency educational tools
  - Homeowners
  - Professionals
Update on Supply Conditions and Drought Response Activities

Lake Oroville

Water Planning Committee
May 28, 2015 Meeting

Presentation by:
Dana Friehauf, Water Resources Manager
State Water Project
Lake Oroville Storage

Current Year
45% Capacity

Last Year

Record Low

(as of May 26, 2015)

Total Reservoir Capacity: 3,537,577 AF

San Diego County Water Authority
San Luis Reservoir Storage

Current Year
55% Capacity

Last Year

(as of May 26, 2015)
Eastern Sierra Snowpack Conditions
(as of March 30, 2015)

Mammoth Pass Snowpack

Source: City of Los Angeles Department of Water and Power
Temperature Outlook: Above Normal
June 2015 – August 2015

THREE-MONTH OUTLOOK
TEMPERATURE PROBABILITY
0.5 MONTH LEAD
VALID JJA 2015
MADE 21 MAY 2015

EC MEANS EQUAL
CHANCES FOR A, N, B
A MEANS ABOVE
N MEANS NORMAL
B MEANS BELOW
NOAA Climate Prediction Center
El Niño Intensifies

- By early May “weak-to-moderate” El Niño conditions were reflected by above-average sea surface temperatures across the equatorial Pacific
- Approximately 90% chance El Niño will continue through summer 2015
- 80% or greater chance conditions will persist through 2015
- Too early to know if strong El Niño will develop and last into rainy season
- Very strong El Niño could bring substantial precipitation
Implementation
SWRCB Emergency Regulations

1. End-user Restrictions
   - Prohibitions apply immediately
   - Building Standards Commission hearing May 29 to approve regulations for irrigation outside new homes and buildings

2. Requirements for Urban Water Suppliers
   - Compliance with conservation standards
   - Effective June 1, 2015
   - Agricultural water use exclusion requirements
     - Certify commercial agricultural
     - Agency establish conservation standard
     - Prepare Agricultural Water Management Plan by Feb. 2016

Regulations became effective May 18, 2015

No irrigation of grass medians with potable water
Implementation
May 14, 2015 Board Actions

• Supply allocations
  • Monthly informational tracking (July 2015 – June 2016)
    • Water use compared to allocation
  • Establish estimated monthly water use pattern based on allocation and historical use
  • First report to Board August 2015

• Up to 2-day/week potable watering requirement
  • Gathering information on member agency actions
  • Formal report to Board by July 2015

• Investigate potential demand offset framework
  • Forming member agency workgroup
San Vicente Pumped Storage Study

Engineering and Operations Committee Meeting

May 28, 2015
Agenda

- Project Update/Phase 1 Work Status
- Recommended Phase 2 Work
Focus Areas of the Hydropower Subcommittee

1. FERC Process
2. Water Authority and City Agreement
3. City Pure Water Project/SVPS Compatibility
4. Owners’ Advisor Team Scope
5. Energy Legislative/Regulatory Environment
FERC Process

- April 7, 2015 - Filed the amended permit application with FERC with Water Authority and City as co-applicants

- May 14, 2015 - FERC issued preliminary permit to co-applicants

- July 31, 2015 - Deadline to file pre-licensing application document/notice of intent with FERC
Water Authority/City Agreement

- Principles approved by the Board on February 26, 2015
  - Roles and responsibilities
  - Cost sharing
  - FERC license
  - Owners’ advisor team role
  - Other coordination protocol

- Timeline
  - May 20, 2015 - City Council Environment Committee approved agreement
  - May 28, 2015 - Board (Action)
  - June 2015 - City Council (Action)
Phase 1 Work

- Phase 1 Work approved by the Board on February 26, 2015
  - Reservoir Modeling and Inlet/Outlet Study
    - Evaluate compatibility of Pure Water and Pumped Storage project
  - Preliminary Application Document/Notice of Intent preparation
    - Respond to the FERC order to submit to FERC by July 2015
Phase 1 - Reservoir Modeling Status

- Initial modeling runs complete
  - Pumped storage project overview
  - Modeling results
- Discussion on compatibility of existing and potential future reservoir uses
- Next steps
  - Continued dialogue with State Board Division of Drinking Water reservoir augmentation criteria
  - Continued modeling as necessary
Phase 1 - FERC License Pre-Application Document/Notice of Intent Status

- Prepare package to submit to FERC, includes:
  - Environmental, geotechnical and engineering studies
  - Upper reservoir alternatives screening (reduce number of alternatives)
  - Initial stakeholder outreach efforts
  - Proposed study plan and schedule
  - Preliminary Licensing Proposal (Selection of licensing track)

- On track for filing PAD/NOI with FERC in July
Agenda

- Project Update/Phase 1 Work Status
- Recommended Phase 2 Work
Phase 2 - Owners’ Advisor Team

- Represent Water Authority and City
- Experienced multidisciplinary team of advisors
  - Power market, financial, legal, and technical experts
  - Collaborate with Water Authority and City staff
- Perform work that will determine the recommended Project Business Model including:
  - Economic Analysis (Power and financial)
  - Marketability Study
  - Risk/Revenue Analysis
  - Business Model/Partnership Structure Evaluation
  - Neither Water Authority or City staff would recommend being the builder and/or operator of the Pumped Storage Project
Recommended Phase 2 Work

- Professional Services
  - Costs shared equally by Water Authority and City
    - Owners’ Advisor Team
    - Additional reservoir modeling as necessary

- Project administration, FERC licensing advice, and other expenses
  - Water Authority and City fund their respective costs for these items
## Phase 2 Work Cost Breakdown

<table>
<thead>
<tr>
<th>Item</th>
<th>Total</th>
<th>WA Share</th>
<th>City Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owners’ Advisor Team</td>
<td>$1,500,000</td>
<td>$750,000</td>
<td>$750,000</td>
</tr>
<tr>
<td>City Reservoir Modeling (Total Cost $300K)</td>
<td>$150,000</td>
<td>$150,000</td>
<td>$150,000</td>
</tr>
<tr>
<td><strong>Subtotal (Shared Equally by Water Authority and City)</strong></td>
<td>$1,650,000</td>
<td>$900,000</td>
<td>$900,000</td>
</tr>
<tr>
<td>FERC Attorney (PAD/NOI advisement)</td>
<td>$125,000</td>
<td>$125,000</td>
<td></td>
</tr>
<tr>
<td>Right of Way Services (Surveying, title, etc.)</td>
<td>$50,000</td>
<td>$50,000</td>
<td></td>
</tr>
<tr>
<td>Stakeholder, interested parties, and potential partner outreach, printing, postage, supplies</td>
<td>$100,000</td>
<td>$100,000</td>
<td></td>
</tr>
<tr>
<td>Regulatory coordination (CAISO, FERC, CPUC)</td>
<td>$35,000</td>
<td>$35,000</td>
<td></td>
</tr>
<tr>
<td>Project Planning/Administration (Daily project management, project deliverable reviews, interagency coordination, HPSC, Board, Council meetings, etc.)</td>
<td>$550,000</td>
<td>$550,000</td>
<td></td>
</tr>
</tbody>
</table>

City is funding its own legal services, independent reviews, project planning/administration, etc.
Key Milestones and Off Ramps

May 2015
- Received Preliminary Permit

June 2015
- Go to Phase 2

July 2015
- PAD/NOI to FERC

Oct/ Nov 2015
- Go to Phase 2

Mid/ late 2016
- Go to Phase 3

Regular updates to HPSC and E&O Committee

Board and Council consider approval of: (1) WA/City Agreement, (2) PAD/NOI, & (3) Phase 2 Work

Board and Council consider approval of: (1) FY 16 Project Budget

Board and Council consider award of an Owners’ Advisor Team Professional services contract

Board and Council consider (1) recommended project business model and (2) next steps

Stop

Stop

Stop

Stop

Stop
May 2015 Recommended Board Actions

- Authorize the General Manager to execute an Agreement between the City of San Diego and the San Diego County Water Authority for the Joint Development of the San Vicente Pumped Storage Project.

- Approve the submittal of the Preliminary Application Document/Notice of Intent to the Federal Energy Regulatory Commission.

- Approve starting the process for procuring an Owners’ Advisor Team to provide professional services for recommending a business model.
Carlsbad Desal Project Update

Engineering & Operations Committee
May 28, 2015
## Project Elements

<table>
<thead>
<tr>
<th>Project Element</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>San Marcos Vent</td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Pipeline 3 Relining</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Twin Oaks Plant Modifications</td>
<td></td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conveyance Pipeline</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carlsbad Treatment Plant</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>System Commissioning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Conveyance Pipeline Progress to Date

- Safety: (368,000 work-hours) Two lost time injuries.
- Design: Over 100% complete
- Amount of pipe installed 48,000 to 51,200 feet (out of 53,000)
- Current work areas
  - Macario Tunnel (tunneling from Cannon Road and Faraday Avenue is complete, installation of pipe commenced)
  - Restoration and structure work- Multiple locations (Carlsbad, Vista and San Marcos)
  - Work continues on pipeline interconnect facility
  - Fiber Optic installation continues
Desalination Plant

Conveyance Pipeline
10 miles of new 54-inch Pipe

Pipeline 3 Relining

Agua Hedionda

Current Plant Tunnel
Trench Work

Current Work

Aqueduct Connection Facilities
Progress on Macario Tunnel

Desalination Plant

Current Plant Tunnel Trench Work

Agua Hedionda

Pacific Ocean

San Diego County Water Authority
Macario Tunnel
Pipeline Interconnect Facility (PIF)

- Complete installing 54-inch piping, 11 valves, and appurtenances.
- Blockwork began - Late April
- Electrical installation started
- Pre-commissioning - Early June
- SCADA testing at PIF
- Introduce water – June/July
Desalination Flow Control/Interconnect Facilities
Desalination Plant Progress

- Safety: (449,253 man hours) Two lost time injuries
- Total working on project: 287,270
- Amount of concrete poured: 37,500-38,000 Cubic yards (97%) (99%)
- Amount of reinforcement steel: 3,875-3,880 tons (99%) (100%)
- Amount of conduit/pipe placed: 80,394-89,080 feet (86%) (96%)
- Design is 100% complete
- Overall: 83% (91%) complete
Reverse Osmosis Building

- High Pressure Pipe Welding – Complete April 13
- Stainless steel pipe welding – will be complete early June
- Load R.O. membranes in July (3 weeks)
  - (arriving from Minnesota)
- NRG planning to remove 2 tanks (4 weeks/tank)
  - Begin July 20th
- Hydrotesting of piping (is ongoing)
  - High pressure piping passed hydrotest
- Loop testing is ongoing
## Commissioning Schedule

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-commissioning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dry/Wet Commissioning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall Plant Commissioning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>System Commissioning</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Commercial Operation</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project Completion</td>
<td></td>
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<td></td>
<td></td>
<td>*</td>
</tr>
</tbody>
</table>
Carlsbad Desalination Plant
<table>
<thead>
<tr>
<th>Contract Administration Memoranda Number/Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Credit: San Marcos Street Improvements not required</td>
<td>($190,000)</td>
</tr>
<tr>
<td>2. Credit: Department of Public Health cutoff wall and monitoring wells not required</td>
<td>($125,000)</td>
</tr>
<tr>
<td>3. Delete: Property for air release and vacuum valve structures</td>
<td>$100,000</td>
</tr>
<tr>
<td>4. Add: Costs to permit and develop Macario tunnel design</td>
<td>$225,000</td>
</tr>
<tr>
<td>5. Administrative: Schedule of Values</td>
<td>No Cost</td>
</tr>
<tr>
<td>6. Add: Carlsbad Valve Vault (Reimbursable)</td>
<td>$29,300</td>
</tr>
<tr>
<td>7. Add: Vallecitos 9 Flow Control (Reimbursable)</td>
<td>$219,300</td>
</tr>
<tr>
<td>8. Credit: Reimbursement for Review of Over-pressurized Pipe</td>
<td>($17,390)</td>
</tr>
<tr>
<td>9-12 Add: Flow Meter Test, Pipeline 4 mods, Ammonia analyzer</td>
<td>$145,000</td>
</tr>
<tr>
<td>13. Add: Additional Carlsbad paving (Reimbursable)</td>
<td>$975,000</td>
</tr>
<tr>
<td>14. Add: Changes to Pipeline Interconnect Facility.</td>
<td>?</td>
</tr>
<tr>
<td>Contract Administration Memoranda Number/Description</td>
<td>Value</td>
</tr>
<tr>
<td>------------------------------------------------------------------------------------------------------------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>Allowance for measures to handle pipeline pressure</td>
<td>$10,000,000</td>
</tr>
<tr>
<td>• Final Modification Cost (Pipe Thickness, Radiographic Testing, Pipe Coating, Surge Protection)</td>
<td>$6,781,046</td>
</tr>
<tr>
<td>Credit to Project</td>
<td>$3,218,954</td>
</tr>
<tr>
<td>Task/Activity</td>
<td>Lifetime Budget ($ Millions)</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>------------------------------</td>
</tr>
<tr>
<td>Desalination Plant Water Purchase Agreement</td>
<td>$4.33</td>
</tr>
<tr>
<td>Desalination Product Water Conveyance Pipeline</td>
<td>$11.74</td>
</tr>
<tr>
<td>Pipeline 3 Desalination Relining</td>
<td>$30.42</td>
</tr>
<tr>
<td>San Marcos Vent Desalination Modifications</td>
<td>$2.57</td>
</tr>
<tr>
<td>Twin Oaks Treatment Plant Modifications</td>
<td>$17.39</td>
</tr>
<tr>
<td>Carlsbad and Vallecitos Reimbursables</td>
<td>$2.24</td>
</tr>
<tr>
<td>Desalination Intake Upgrade</td>
<td>$0.44</td>
</tr>
<tr>
<td>Warranty</td>
<td>$0.52</td>
</tr>
<tr>
<td>Carlsbad Desalination Project Contingencies</td>
<td>$4.02</td>
</tr>
<tr>
<td>De-appropriated</td>
<td>$6.3</td>
</tr>
<tr>
<td>Total</td>
<td>$80.0</td>
</tr>
<tr>
<td>Proposition 50 Grant</td>
<td>$4.73</td>
</tr>
</tbody>
</table>
Carlsbad Desalination - Intake Upgrade

- Required as part of permit renewal
- Contemplated under the WPA
- CA Ocean Plan Amendment adopted on May 6, 2015
  - New, statewide regulations to address desalination facility intakes and discharges
    - Most protective in the world
  - Water Authority concerns satisfactorily addressed
  - Provides flexibility and a clear path forward for Carlsbad Project compliance and permit renewal
Intake Upgrade – Next Steps

- With adoption of Ocean Plan Amendment, Notice of Preparation for the Supplemental EI R set to proceed
  - Public scoping meeting to be held in Carlsbad
  - Complete EI R by early 2016; Permitting through mid-2016

- Complete construction by end of 2017
  - Schedule tied to Encina Power Plant shutdown
Potential Capacity Expansion

- Driven by available RO system capacity
  - Technology improved along the way

- What we know:
  - No technical fatal flaws
  - Can utilize expansion capability of existing systems
  - Would increase max. production rate by 6 mgd (approx. 4,800 afy)
  - Would make use of redundant systems
  - Need to purchase and store new redundant equipment (pumps and motors)
  - Some new equipment required on-site

- What needs to be evaluated:
  - Impact to Cost of Water
  - Impact to Cost of New Intake Facility
  - Energy Impacts
  - Plant availability impacts
  - Schedule for implementation
Right of Way and Tree Management

Engineering & Operations Committee
May 28, 2015
Right of Way Facts

- 168 miles of dedicated right of way
- 98 + % of right of way is easement
- Right of Way patrolled weekly
- 5,000–6,000 Dig Alert Requests Annually
- 45–55 Permits/Agreements Annually
- 45–50 Violation Notices Annually
Right of Way Management Goals

- Prevent damage to the aqueducts
- Preserve direct access for operation and maintenance
- Preserve Easement Rights
- Ensure use by property owner consistent with Water Authority Admin. Code
Integrated Right of Way Management Program

- Regular Inspection
- Significant Encroachments
- Plan Review
- For Sale
Unauthorized Encroachment Prioritization

- Inventory/Categorize Encroachments

- Encroachment Factors –
  - Operational Flexibility
  - Hazardous Materials
  - Health and Safety
  - Impact to Access
  - Proximity to pipelines
Before: Bad “Hangover”
After: Hangover “Cure”
Before: A “Pile” of Trouble
After: All Clear
Ongoing Challenge: Trees

- Generally not allowed by easement
- Impairs Access
- Tree Roots
- Tree removal a significant issue for property owners
- Emergency Response
Before: The Dark Forest
After: Light Shining Through
Tree Root Study

- Concern about pipe – root interaction
  - Pipe joints
  - Roots in trench zone
  - Mortar coating

- No published research available
“Root” of the Problem
Conclusion: No tree root impact on pipelines
Conclusions of tree root study

- No damage to pipelines or pipeline joints
- Most trees shallow rooted gaining nutrients in upper 4 feet; WA pipelines typically 5 to 7 feet deep
- WA pipelines under pressure with water tight pipe joints – not water source for trees
- Review of prior projects – no impacts
- Proactively remove trees that impair access for maintenance or projects
Tree Plan and FY 2015 progress

- Identify which trees to remove for CIP and Asset Management Projects
- Remove trees consistent with environmental requirements
- Remove dead and dangerous trees
- Keep interested stakeholders informed
- 313 trees removed in FY 2015