Amendments to Administrative Code

Administrative and Finance Committee Meeting
August 25, 2016

Mark J. Hattam, General Counsel
PROPOSED CODE CHANGES

There are relatively minor Code changes in four areas:

1. Provision for refunds
2. Small Contractor Outreach and Opportunities Program Committee (SCOOP oversight reorganized)
3. Real Property/Rights of Way changes
4. Certain consultant hiring as specified in Government Code
2014-2019 Business Plan Final Performance Report

Administrative and Finance Committee
August 25, 2016

Maureen A. Stapleton
General Manager
Business Planning Process

- Water Supply
- Water Facilities
- Core Business

Monitor and Communicate Performance

Business Plan

Update every 2 years
Mission: To provide a safe and reliable supply of water to its member agencies serving the San Diego region.

Guiding document to achieve objectives:
- Flexible
- Adaptive
- Accountable
- Continuously improved
- Responsive to change
• 10+ years of proven success
• Awarded 2012 ICMA Certificate of Achievement for Performance Measurement in Strategic Planning

Goal Success Rate

2004: 74%
2008: 63%
2011: 79%
2012: 81%
2013: 84%
2016: 84%
Goal has achieved the overall performance target.

Goal is either on track or ahead of schedule to meet the near-term and overall performance targets by the original target date.

Goal is not on track to meet the near-term and overall performance targets by the original target date.

Goal has been deleted or delayed due to a decision by the Water Authority Board.
Completed Goals: 110

Water Supply

- Carlsbad Desalination Project integration into the Water Authority’s aqueduct system
- 2015 Urban Water Management Plan
- Quantification Settlement Agreement – Federal Court ruling
- Favorable California Ocean Plan amendments for desalination intake and discharge
- Strategy with Member Agencies on potable reuse for public information and regulatory action
- Shortage management actions under the Water Shortage and Drought Response Plan and State Drought Regulations
Completed Goals: 110

Water Facilities

- Inspection and condition assessment of 25 miles of pipelines
- Construction of San Vicente Bypass Pipeline
- 5-year condition assessment and data management plan
- 97% uptime and $2.6 million in revenue for FY2016 at Lake Hodges
Completed Goals: 110

Core Business

- Fiscal sustainability and enhanced fixed costs to fixed revenue ratio
- Debt assessment and optimization and $55M defeased bonds
- Fully funded OPEB liability
- Long-Range Financing Plan
- Water Authority sponsored legislation success
- $100 million in state funding for IRWM
Goals on Track: 48

Water Supply
- Delivery of canal lining and IID water transfers
- 143 gallons per capita per day (GPCD) compared to goal of 174 for the region
- Bay Delta conservation project review and analysis
- Assist member agencies grant funding for potable reuse projects
Water Facilities

- Visual inspection and condition assessment of 35-miles of pipelines
- Construction of Nob Hill Improvements
- 97% uptime in FY17 at Lake Hodges Hydroelectric Facility
Goals on Track: 48

Core Business

- Cybersecurity assessment
- Citizens Water Academy graduation of 125 community influencers annually
- Annual Water Supply Reports
- Habitat restoration projects for San Vicente
Goals Not on Track: 23

- Design of the North County Pump Station
  - Delay in planning, design re-scheduled
- Hydroelectric energy revenue of $900,000 annually at the Rancho Peñasquitos Hydroelectric Plant
  - Result of drought and reduced flows
- Carlsbad Desalination Project intake/discharge system
  - Delay due to completion of State Ocean Plan Amendment
Goals Delayed/ Deleted due to Board Action: 4

- Surface Water Storage and Groundwater Banking
  - With reduced demands, there is currently adequate storage to address peak capacity constraints.

- Design for Pipeline 3 and 4 Conversion
  - Board approval of 2013 Regional Water Facilities Optimization and Master Plan Update deferred timeline.

- San Vicente Pumped Storage Interconnection Application with California Independent System Operator
  - Board deferred submission until selection of project’s business model.

- Tijuana River Valley Wetlands Mitigation Site
  - Board approved reallocation of funds to alternate mitigation efforts due to project’s infeasibility.
Upcoming Business Plan Development

- Preparation of New Business Plan for 2017-2021 - August-September 2016
- Presentation at October 27, 2016 Board Meeting
Construction Contract for the Pipeline 4 Relining at Lake Murray Project

Engineering & Operations Committee Meeting
August 25, 2016
BEGIN PIPELINE 4 RELINING STATION 4362+04

ALVARADO TREATMENT PLANT
END PIPELINE 4 RELINING STATION 4416+08

Lake Murray

City of San Diego
# Bid Summary

Advertised Bid Range: $7.0 to $8.5 Million

<table>
<thead>
<tr>
<th>NO.</th>
<th>GENERAL CONTRACTOR</th>
<th>BID AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>L.H. Woods &amp; Sons, Inc.</td>
<td>$6,777,000</td>
</tr>
<tr>
<td>2</td>
<td>J.F. Shea Construction, Inc.</td>
<td>$6,956,224</td>
</tr>
<tr>
<td>3</td>
<td>Kiewit Infrastructure West Co.</td>
<td>$7,755,000</td>
</tr>
</tbody>
</table>
Recommendation

Authorize the General Manager to award a construction contract to L.H. Woods and Sons, Inc. in the amount of $6,777,000 for the Pipeline 4 Relining at Lake Murray project.
San Vicente Energy Storage Facility Study Update

Engineering & Operations Committee
August 25, 2016

Michael Hogan, Energy Subcommittee Chair
Kelly Rodgers, Energy Program Manager
Water Authority - City of San Diego Partnership

- Feasibility of a pumped storage facility at San Vicente Reservoir
- Interagency agreement in place
- Co-permittees with Federal Energy Regulatory Commission
- Owners’ advisor conducting study
History of Activities

✓ Board approved original interagency agreement (1998)
✓ Original preliminary permit received (2006)
✓ Board approved Initial Study professional services (Phase 1) (2013)
✓ Initial Study Completed (2014)
✓ Board approved Interagency partnership agreement (2015)
✓ FERC preliminary received (2015)
✓ FERC Pre-application Document submitted (2015)
✓ Board approved Owners’ Advisor professional services (Phase 2) (2015)
✓ Go/no-go and business model recommendation (2016)
Work Deliverables Overview

Task 1 - Preliminary Business Models
Prelim Models

Task 2 - Economic Analysis
Market
Transmission
Cost/ Schedule

Task 3 - Marketability
Outreach Plan

Task 4 - Risk Assessment
Identify → Evaluate → Quantify

Task 5 - Recommended Business Model(s)
Recommended Model(s)

Documents → Meetings
2016 Progress Update Schedule

Jan: HPSC Consultant presents initial progress to date
Feb: E&O, HPSC provides update on work progress
Mar: HESC Consultant presents preliminary results of Economic Analysis
Apr: E&O, HPSC provides update on work progress
May: HESC Consultant presents preliminary results of Economic Analysis
Jun: E&O, HESC provides update on work progress
Jul: E&O Consultant presents Part 1 info.
Aug: E&O, HPSC provides update on work progress
Sep: E&O Workshop Consultant presents Part 2 info.
Oct: E&O Workshop Consultant presents results of Biz Model(s) Analysis
Nov: E&O Staff/ESC recommend Project Go/No-Go & Biz Model(s) for Board Consideration
Dec: E&O Consultant presents initial progress to date

E&O Meeting Consultant presents Part 1 info.
Part 1 Agenda

1. Why study pumped storage?
2. What is the scope, size, and schedule of the proposed project?
3. Why do electric utilities need energy storage?
4. How do electrical utilities determine project value?
5. What risks would the City and Water Authority face?
6. How do the City and Water Authority mitigate key risks?
1. Why study pumped storage?
Would Yield Net Revenues from Power Sales to Electric Utilities

- Storage capacity can be sold
- Dependent on wholesale prices and project costs
- Net revenues fund core goals
Supports City and Water Authority Climate Action Plans
Supports City and Water Authority Energy Plans

- City - 100% renewable energy by 2035
- Water Authority - Energy reliability
- Cost control
2. What is the scope, size, and schedule of the proposed project?
Project Scope - Existing Infrastructure
Project Scope - Proposed Infrastructure
## Project Size

<table>
<thead>
<tr>
<th>Configuration</th>
<th>B1</th>
<th>B2</th>
<th>B3</th>
<th>B4</th>
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</thead>
<tbody>
<tr>
<td>Capacity (MW)</td>
<td>500</td>
<td>340</td>
<td>500</td>
<td>300</td>
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<tr>
<td>Storage (Hours)</td>
<td>5.5</td>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Number of Pump/Turbines</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Transmission Upgrades (miles)</td>
<td>62</td>
<td>62</td>
<td>62</td>
<td>34</td>
</tr>
</tbody>
</table>
Project Schedule

- 2017: CEQA/NEPA, FERC, Land
- 2018: Partner/Off-Taker/Lender Selection
- 2019: Interconnect Study
- 2020: Engineer & Builder Procurement & Design
- 2021: Financing Secured
- 2022: Construction
- 2023: Testing
- 2024: Commercial Operation
- 2025:
3. Why do electric utilities need energy storage?
Who would need this project?

- Electric utilities are our customers
- Electric utilities are members of the California Independent System Operator (CAISO)
- CAISO operates the region’s electric grid
Increasing Renewable Portfolio Standard Requirements

- Must achieve 50% renewables by 2030 (Senate Bill 350)
- Constantly balance generation and demand
- Most renewable resources are intermittent
- Variability causes reliability problems

Source: www.caiso.com
Supply and Demand Issues

Neck of the Duck (rapid response)

Belly of the Duck (over supply)

Source: www.caiso.com
Energy Supply Exceeds Demand

CAISO forecasts 822 instances of over supply in the year 2024

Source: www.caiso.com
Value of Storage

- Integration of Renewables to Meet 50% RPS
  - Store for later use rather than shutting off generation
  - Avoid paying for lost energy when generation is shut off
  - Reduce need to build additional renewable projects

- Reduced System Operating Costs
  - Less cycling and fuel costs (coal and gas)

- Reduced Transmission Congestion
  - Renewables generated in the east and being delivered west
Value of Storage (continued)

- **Flexibility to Adapt to Market Changes**
  - Change Project operating profile if the market changes:
    - Change from day ahead to hour ahead scheduling

- **Participate in Future New/Evolving Markets**
  - CAISO system moving toward intra-hour balancing of supply and demand
  - Greater volatility and storage value
# Pumped Storage Provides Unique Benefits

<table>
<thead>
<tr>
<th>Technology</th>
<th>Ramps Quickly (Neck &amp; Tail)</th>
<th>Provides Storage (Belly)</th>
<th>Is a Proven Technology</th>
<th>Provides Bulk Storage</th>
<th>Minimizes Environmental Footprint</th>
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</thead>
<tbody>
<tr>
<td>Gas-Fired/Coal Plants</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storage (ie. Batteries)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>?</td>
</tr>
<tr>
<td>Pumped Storage</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
4. How do electrical utilities determine project value?
Resulting Net Value to Electric Utilities Must be Positive

Note: Net value must be greater than other options available to the electrical utility
Project Value

- The Project provides various services that electric utilities need
- Power market forecasting helps determine the value of these services
Types of Value Provided By Project

- **Energy** = Selling stored energy
  - **Real-Time Energy** is from 5 minute ahead energy market
  - **Energy** is from day ahead energy market

- **Ancillary Services (A/ S)** = Ramping up and down to balance energy supply and demand

- **Resource Adequacy** = Reserving power to meet peak demands

- **Value of Storage** = Storage provides unique benefits to the power system
Addressing Power Market Uncertainty

- What will the energy market look like in future?
- How will it influence project value?
- Modeling four scenarios

- Increased Solar
- Decreased Solar/More Wind
- Low Gas Prices
Project Price

- The capacity price must cover all project fixed costs
- The financial analysis determines the required capacity price the electric utility must pay
5. What risks would the City and Water Authority face?
Technical Risk is not Significant

- Technology is proven
- No land acquisition fatal flaws
- Permitting and FERC licensing are straightforward
- Geology is advantageous
- Water quality impacts not likely
Power Market Risk

- Power sales must be negotiated
  - Price competition against other projects
  - Value of storage is “new” and not priced in the market
  - No regulatory mandate to acquire/build bulk storage
  - Utilities may be unwilling to pay required prices

Source: www.cec.com
Transmission Cost/ Schedule Risk

Transmission network upgrades
- Varies by project size
- Refundable over 5 years with interest by electrical utilities

Upgrades are dotted line
Regulatory Risk

- Project under FERC jurisdiction
- License “Municipal Preference”
- Poses restrictions to partnership arrangements
Competing Technologies Risk

- Uncertainty over storage costs
  - Battery storage improving and getting cheaper
  - Uncertainty over life, disposal, and replacements costs
- Demand response and time of use rates getting smarter

Source: www.energystoragereport.info
Source: www.SCE.com
Source: www.energystorage-report.info
## Competing Technologies Risk

- The Project would provide bulk storage at a cost competitive with other technologies

<table>
<thead>
<tr>
<th>Technology</th>
<th>Capacity (MW)</th>
<th>Duration (Hours)</th>
<th>Capital Cost (2016 $/kwh Storage Capacity)</th>
<th>Annual Cost (2025 $/kwh Storage Capacity)*</th>
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<tbody>
<tr>
<td>Flow Battery</td>
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<td>4</td>
<td>$580</td>
<td>$90</td>
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<tr>
<td>Advanced Lead-Acid Battery</td>
<td>500</td>
<td>4</td>
<td>$960</td>
<td>$240</td>
</tr>
<tr>
<td>Lithium Ion Battery</td>
<td>500</td>
<td>4</td>
<td>$540</td>
<td>$90</td>
</tr>
<tr>
<td>Compressed Air Energy Storage **</td>
<td>500</td>
<td>24</td>
<td>$70</td>
<td>$30</td>
</tr>
<tr>
<td>Sodium Metal Halide Battery</td>
<td>500</td>
<td>4</td>
<td>$980</td>
<td>$170</td>
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<tr>
<td>NaS Batteries</td>
<td>500</td>
<td>6</td>
<td>$690</td>
<td>$130</td>
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<tr>
<td>San Vicente ESF</td>
<td>500</td>
<td>8</td>
<td>$410</td>
<td>$50</td>
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</table>

* Levelized over 30 years, unescalated, assuming utility ownership  
** Annual cost includes natural gas fuel cost
<table>
<thead>
<tr>
<th>Risk Type</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
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</thead>
<tbody>
<tr>
<td>Power Market Risk</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td>Competing Technology Risk</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td>Cost/ Schedule Risk</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td>Regulatory Risk</td>
<td>Low</td>
<td>Medium</td>
<td>Low</td>
</tr>
</tbody>
</table>
6. How do the City and Water Authority mitigate key risks?
Risk Mitigation
Power Market

Implement the project as a separate business

Partner with someone who will accept the risk such as a developer experienced with similar projects and California market

Achieve low project costs and competitive prices such as through low cost financing options and incentives
Risk Mitigation
Competing Technologies

Ensure that utilities and regulators recognize the uncertainty of battery storage lifecycle costs

Ensure that utilities and regulators recognize the advantages of the Project and pumped storage
**Risk Mitigation**

**Regulatory**

- Ensure FERC license conditions are reasonable
- Manage municipal preference restrictions by discussing options with potential partners and engaging legal counsel as necessary
- Continue regulatory engagement at state and federal level such as commenting on CPUC storage proceedings
Risk Mitigation
Transmission Cost and Schedule

Submit CAISO interconnection request early to secure position earlier in the queue

Engage early with CAISO and electrical utility to ensure reasonable study and costing assumptions

Integrate marketability feedback on project size and schedule
Part 2 Agenda - September 8, 2016
Special E&O Committee Workshop

1. What business models could work?

2. What net revenues can the City and Water Authority expect?

3. Who are the potential partners and what do they think?

4. What are the next steps?
Colorado River Hydrology for 2017/2018

Imported Water Committee
August 25, 2016
Hydrology Projections - 2017

Lake Powell
- Equalization
- Upper Elevation Balancing
- Mid Elevation Release
- Lower Elevation Balancing

Lake Mead
- Surplus
- Normal/ICS Surplus
- Shortage - 1st Level
- Shortage - 2nd Level
- Shortage - 3rd Level
Hydrology Projections - 2017

Lake Powell
- Equalization
- Upper Elevation Balancing
- Mid Elevation Release
- Lower Elevation Balancing

Lake Mead
- Surplus
- Normal/ICS Surplus
- Shortage - 1st Level
- Shortage - 2nd Level
- Shortage - 3rd Level

Water Authority
Hydrology Projections - 2017

Lake Powell

- Equalization
- Upper Elevation Balancing 3,605.8 ft
  - Release 9.0 MAF
- Lower Elevation Balancing

Lake Mead

- Surplus
- Normal/ICS Surplus
- Shortage - 3rd Level

Full Annual Allocations
# Percent Chance of Lower Basin Shortage

<table>
<thead>
<tr>
<th>Shortage Condition</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Level (<em>Elevation 1,075 to 1,050 ft</em>)</td>
<td>0</td>
<td>48</td>
<td>50</td>
<td>41</td>
<td>33</td>
</tr>
<tr>
<td>2nd Level (<em>Elevation 1,050 to 1,025 ft</em>)</td>
<td>0</td>
<td>0</td>
<td>10</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>3rd Level (<em>Elevation below 1,025 ft</em>)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>7</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Surplus Condition</th>
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</thead>
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<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>8</td>
<td>14</td>
</tr>
</tbody>
</table>

| Normal/ICS Surplus Condition             | 100  | 52   | 35   | 32   | 30   |

Based on Bureau of Reclamation data from August 2016
Drought Contingency Planning Efforts

- Ongoing Lower Basin and CA discussions
- Assured that WA supplies will not be impacted
- Negotiation of Minute 32X with Mexico
- Staff will continue to provide updates in coming months
Voluntary Shortage Agreement Issues

ICS put and take below 1,075 feet

Agricultural storage in Lake Mead for greater flexibility

Voluntary agreement to augment 2007 Interim Guidelines
Metropolitan Water District Integrated Water Resources Plan Update and Long-Term Planning Issues

IMPORTED WATER COMMITTEE
AUGUST 25, 2016
Agenda

Part I: MWD IRP update
  ◦ MWD Board process

Part II: Foundational facts relating to long term planning issues
  ◦ Water Authority Board process
Part I: IRP Update
Background

- MWD adopted staff’s 2015 IRP in January 2016
- Water Authority Delegates opposed
  - Process
  - Content
- “Policy Implementation” in “Phase 2”
Update

- Since IRP adoption, held three IRP committee meetings focusing on history and Board Retreat

- April 26 - 27: Board Retreat
  - Theme: MWD is the lead agency in regional water management
  - WaterFix discussion dominated Retreat
Water Authority’s Major Concerns with IRP

- Self-declared expansion of MWD’s role – and related proposed multi-billion dollar spending of regional ratepayer dollars
  - Rates and legal theory already rejected by trial court
- Risk of stranded investments due to failure to assess current facts
  - Assumes implementation of only 10% of planned local water supply projects, and 50% MWELO compliance
Water Authority’s Major Concerns with IRP (cont.)

- Affordability of MWD water
  - Existing Board policy guidelines require analysis of cost and affordability
  - IRP had no discussion of these issues

- Recent unsuccessful effort to impose fixed treatment charge after costs are incurred is instructive
Evolving WaterFix Uncertainties

- Regulatory challenges
  - SWRCB hearing on change in points of diversion
  - Formal consultation with regulatory agencies began in August

- Legal challenges
  - Invalidation of the Delta Plan

- Contractor participation uncertain

- State and Federal audits on WaterFix planning costs

- Supply benefits
  - Reinitiation of biological assessment for existing SWP
What are the water supply benefits of major proposed investments?

- WaterFix - $15+ Billion
- LACSD - $3.5+ Billion

WaterFix
- How will the total costs be shared among state and federal contractors?
- Or, is MWD saying it is willing to pay for 100% of WaterFix?
  - Delta islands and other reports have raised concerns
  - This would raise several additional legal and financial issues
MWD Key Questions (cont.)

- How will MWD finance WaterFix?
  - Current rates illegally assign supply costs to transportation
  - Shifting to property taxpayers?

- Will MWD review IRP to avoid stranded investments?

- When will MWD change rates to make them lawful under cost of service law?
SDCWA does not need more MWD supplies

- Water Authority’s 2015 UWMP assumes MWD has only 1.4 MAF of dry-year supplies
- MWD’s 2015 UWMP shows its existing dry-year supply capability exceeds 1.5 MAF
- Water Authority’s projected MWD demand does not require additional MWD supply investments
Next Steps – continued advocacy at MWD

- How it will pay for supply investments
  - What is driving need for MWD supply investments
  - Set rates and charges accordingly based on cost causation

- Planning to prevent stranded assets
  - Embrace real adaptive management approach

- Eliminate illegal WSR subsidies and set reasonable rates and fixed charges before it spends billions more dollars
  - Agencies may not support projects if they know they will have to pay for them, e.g., treatment
Part II: Foundational facts related to long-term planning
Purpose

- Provide historical data and foundational facts in key issue areas
  - MWD water supply and demand over time
  - SDCWA water supply and demand over time
  - Cost considerations
  - Additional context for long term planning decisions
Timeline of Major Events

- **1933 Construction**
- **1941 Deliveries**
- **1946 SDCWA Annexation**
- **1960 Construction**
- **1972 Deliveries**
- **1992 East Branch Deliveries**
- **2000 MWD Storage**
- **2003 QSA**

- **CRA 1.2maf**
- **SWP 2maf**

**Financials**

- **CRA dollars**: $190 million (1933$)
- **SWP dollars**: $2.2 billion: MWD Share (since 1959)
- **MWD Storage**: $3.7 billion
- **LACSD**: $3.5 billion
- **$15 billion ++ MWD Share?**
- **25% WaterFix**

- **Laguna Declaration**: 1952
- **AZ v.CA**: 1962-63
- **LA v. MWD**: 1975-77
- **Tax Limitation**: 1984
- **LADWP Mono Lake**: 1979-94
- **Wanger 2007**
- **SDCWA v. MWD 2010-Present**

**Legal Cases**

- **LA v. MWD**
- **AZ v.CA**
- **LA v. MWD**
- **LADWP Mono Lake**
- **Wanger 2007**
- **SDCWA v. MWD 2010-Present**
MWD Available Supplies and Demands

Calendar Year

Acre-Feet

CRA supply availability
SWP
MWD Demands
MWD allocation

SWP Data
1972 – 1995: Delivered Supplies
1996 – 2015: Approved Table A Allocation
LADWP's Growing Dependence on MWD

![Graph showing LADWP's purchases from MWD from 1931 to 2015. The data is from 1931-2010 provided by MWD Finance Department and 2011-2016 from MWD's Table A WINS Report.](image)

* Data sources: 1931-2010 provided by MWD Finance Department and 2011-2016 from MWD's Table A WINS Report.
SDCWA's Reduced Dependence on MWD since 1990

* Data sources: 1931-2010 provided by MWD Finance Department and 2011-2016 from MWD's Table A WINS Report
MWD’s pending supply costs

California WaterFix: $15 billion+
  ◦ Supply benefits and cost to Water Authority: unknown

Regional Recycling Project (aka LA Sanitation District Recycled Project): $3.5 billion+
  ◦ Supply benefits to Water Authority: none
  ◦ Cost to Water Authority: unknown
San Diego County’s Water Supply Diversification

1991

- 28 TAF (5%)
- Total = 550 TAF (95%)

Total = 578 TAF

2015

- 80 TAF (15%)
- 100 TAF (19%)
- 305 TAF (57%)

Total = 533 TAF

2020*

- 80 TAF (14%)
- 126 TAF (21%)
- 190 TAF (32%)

Total = 588 TAF

2035*

- 80 TAF (12%)
- 88 TAF (13%)
- 110 TAF (16%)

Total = 694 TAF

* Includes verifiable and additional planned local supply projects from 2015 UWMP

TAF = Thousand Acre-Feet
### Comparing Melded Rates and Reliability (2016$)

#### WA Supply

<table>
<thead>
<tr>
<th>WA Supply</th>
<th>Quantity (Acre-Feet per Year)</th>
<th>Cost ($ per Acre-Foot)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IID Transfer</td>
<td>100,000</td>
<td>$630</td>
</tr>
<tr>
<td>Canal Lining (O&amp;M)</td>
<td>80,000</td>
<td>$15</td>
</tr>
<tr>
<td>MWD Wheeling</td>
<td>180,000</td>
<td>$179</td>
</tr>
<tr>
<td>Desalination</td>
<td>50,000</td>
<td>$2,088</td>
</tr>
</tbody>
</table>

#### MWD Supply

<table>
<thead>
<tr>
<th>MWD Supply</th>
<th>Quantity (Acre-Feet per Year)</th>
<th>Cost ($ per Acre-Foot)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tier 1</td>
<td>230,000</td>
<td>$718</td>
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<tr>
<td>Tier 2</td>
<td></td>
<td>$852</td>
</tr>
</tbody>
</table>

- **QSA Supplies: $535/AF**
- **QSA Supplies & Desal: $904/AF**
- **Local Controlled Reliable Supplies**
- Subject to Hydrologic Conditions and Cutback
Recently announced it will initiate a review of California special districts

August 25: First scheduled hearing
- Overview of special districts
- Healthcare and fire protection districts
- Role of local agency formation commissions
- Special district property taxes and reserves
  - Michael Coleman – CaliforniaCityFinance.com
  - Jon Coupal – Howard Jarvis Taxpayers’ Association
Previous LHC Action Regarding Special Districts

- 1999–2000: LHC study and report
  - *Special Districts: Relics of the Past or Resources for the Future*
  - Focus on special district:
    - Reserves
    - Property tax revenue
    - Transparency
    - Accountability
    - Financial practices
    - Board member compensation and benefits

- Many legislative efforts relating to property tax revenue redistribution and local government finance in subsequent years
Howard Jarvis Taxpayers’ Association

“It should be noted that during the recession of 2008–2012, reserve fund balances continued to climb across most districts. On paper at least, the economic slowdown appears to not have hampered those districts with the largest reserves. One would think they would have taken advantage of the weak economy to invest in capital improvements (when construction labor is less expensive) or perhaps return that money to ratepayers struggling with double-digit unemployment.”

“In San Diego, property tax revenues jumped from $4 million to $12 million for the county water authority while the fund equity increased by over $900 million to $1.5 billion.”
Next Steps

- Evaluate LHC scope of work and direction, based on August 25 hearing
- Briefing for Scott Barnett, LHC Commissioner
  - San Diego representative – appointed by former Speaker Toni Atkins
  - Former Exec Dir of SD Taxpayers’ Association
  - Founder – Scott Barnett, LLC – a public advocacy company
- Next hearing – October 27
Claude “Bud” Lewis Carlsbad Desalination Plant
Intake and Discharge Modifications

Water Planning Committee
August 25, 2016

Presentation by:
Bob Yamada, Director of Water Resources
Mary Putnam, Principal Water Resources Specialist
Items for Consideration Today

- Approval of a Supplemental Environmental Impact Report (SEIR) for the Intake and Discharge Modifications
- Approval of a Contract Administration Memorandum (CAM) on implementation of the Modifications
Expected closure of NRG Encina Power Station by December 2017 requires new stand-alone intake for CDP.

Closure was anticipated in Water Purchase Agreement between the Water Authority and Poseidon

Plant intake and discharge must also now comply with 2015 Ocean Plan Amendments.
Water Purchase Agreement

- Approved by the Board in November 2012
  - Risk transfer to the private sector

- Provides contractual provisions for purchase of desalinated water by Water Authority

- Anticipates power plant closure
  - Includes cost caps for capital and operating costs of improvements
  - Lays out framework for implementation

- Provides for regulatory changes such as Ocean Plan Amendment Compliance
  - Water Authority and Poseidon worked together to ensure that OPA recognized uniqueness of Carlsbad plant
Current Intake and Discharge Configuration

[Diagram showing the current configuration of water intake and discharge, with labels and arrows indicating the flow process.]
Power Plant Closure Modifications Only

Conventional Pumps
9.5 mm Screen
Est. Costs $24.4M
Capped at $22.7M

Inclusion of Ocean Plan-related Compliance Modifications

Larger Finer (1 mm) Screen
Fish Friendly Pumps
Larger Footprint
Est. $13.2M Increased Cost
## Estimated Modifications Costs

<table>
<thead>
<tr>
<th>Capital Costs (PP Closure)</th>
<th>Capital Costs (OP compliance)</th>
<th>Total Capital Costs</th>
<th>Total WA cost responsibility</th>
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</thead>
<tbody>
<tr>
<td>$24.4M</td>
<td>$13.2M</td>
<td>$37.6M</td>
<td>$35.9M</td>
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<tr>
<td>(WA Capped cost of $22.7M)</td>
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</table>

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<tr>
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<tr>
<td>$2,951,750</td>
<td>$688,200</td>
<td>$3,639,950</td>
<td>$3,563,410</td>
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<tr>
<td>(WA Capped cost of $2,875,210)</td>
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</table>

**Total Desal Unit Price increase estimated at 6.5%**
Purpose of CAM

- Summarize and clarify key provisions of the Water Purchase Agreement that relate to implementation of the Modifications
- Provide a roadmap for coordination between the Water Authority and Poseidon regarding implementation of the Modifications

Does NOT renegotiate the Water Purchase Agreement
Does NOT alter the fundamental risk transfer
CAM Overview

Cooperation between parties
Schedule
Definition of Modifications
Risk Allocation
Governmental Approvals
Procurement and Subcontractors
Financing
Construction and Acceptance Testing
Operation and Maintenance
Adjustments to Desal Unit Price
Key WPA/CAM Operative Provisions

- Poseidon is responsible for the design, construction, financing and operation of the Modifications
  - Same debt and equity percentages as Plant (82%/18%)
  - Fixed Design-Build price (Poseidon will be responsible for any cost overruns)
  - Water Authority engagement in financing
  - Water Authority approval of contractors

- The Water Authority is responsible to make payments only upon acceptance of the Modifications.
**Issues/Milestones Moving Forward**

**Costs**
- Allocate Closure and Compliance Costs
- Finalize Firm Fixed Design Price

**Financing**
- Sources and Uses of Funds
- Bond Sizing
- Adjustments to Desal Unit Price

**Approvals**
- Water Authority Board-WPA Supplement
- Permitting
Next Steps

- October 2016: Select Underwriter
- November 2016: Complete 30% Design
- February 2017: Select Design-Build Contractor
- Spring 2017: Return to Board with WPA Supplement and final adjustments to Desal Unit Price
- Late 2018: Complete Construction, Adjustment to Desal Unit Price becomes effective
CEQA Compliance Background

- 2006: City of Carlsbad certified Final EIR for the “Precise Development Plan and Seawater Desalination Plant Project”
- 2009: City of Carlsbad approved a First Addendum to FEIR
- 2012: Water Authority approved a Second Addendum to FEIR
- 2013: Water Authority approved a Third Addendum to FEIR
- 2014: Water Authority approved a Fourth Addendum to FEIR
CEQA Compliance:

- Proposed modifications analyzed in SEIR as only minor additions necessary to make previous EIR adequately apply to the changed project
- Water Authority is CEQA Lead Agency and considered the environmental impacts as described in the Final SEIR as well as original FEIR and Addenda
**Project Covered by SEIR**

- Modifications to intake and discharge to replace once through cooling and comply with the Ocean Plan
  - SEIR serves as environmental documentation for formal consultation with RWQCB and CCC permit amendments:
    - Determination that key project components are consistent with Ocean Plan
  - Potential increase in Plant Capacity of 6 MGD to take advantage of RO membrane efficiency improvements
Environmental Impacts

- Air Quality
  √ Less than significant
- Biological Resources
  √ Less than significant
- Greenhouse Gas
  √ Less than significant
- Hydrology and Water Quality
  √ Less than significant
- Energy
  √ Less than significant
- Growth Inducement
  √ Less than significant
Cumulative Air Quality Impacts

- Unavoidable Cumulative Air Quality Impacts
  - Related to indirect emissions from energy production
  - Region already exceeds air quality standards

- Consistent with 2006 FEIR Findings
  - Statement of Overriding Considerations required
Public Comment

• May 26, 2016 public hearing

• Fourteen written comment letters received:
  • Seven public agencies
  • Six community groups/private organizations
  • One Native American Tribe

• Substantive regulatory agency comments:
  • Biological issues
  • Ocean Water Quality
Final SEIR Includes

- Comment Letters & Response to Comments
- Associated Updates to the SEIR text
- Environmental Findings
- Statement of Overriding Considerations
- Mitigation, Monitoring and Reporting Program
Regional Board Letter

- Water Authority received this letter yesterday at 4:38 pm
- Letter responds to changes in SEIR:
  - Time to review changes: *Water Authority complied with CEQA notice requirements*
  - Terminology on alternative mixing zone: *Corrections provided to Board*
  - 200 meter mixing zone requirement: *Permit issue, no CEQA changes needed*
  - Use of Encina outfall: *Permit issue, no CEQA changes needed*
  - Use of wedgewire screen: *Permit issue, no CEQA changes needed*
Staff Recommendation #1

It is recommended the Board adopt a Resolution that:

• Certifies the Final SEIR has been completed in compliance with CEQA and State CEQA Guidelines, and reflects the independent judgment of the Board;

• Concurrently adopts the Environmental Findings of Fact, Statement of Overriding Consideration and a Mitigation Monitoring and Reporting Program;

• Authorizes the filing of a Notice of Determination
Staff Recommendation #2

- Authorize the General Manager to execute this Water Purchase Agreement Contract Administration Memorandum between the Water Authority and Poseidon Resources (Channelside) LP for implementation of the intake and discharge modifications (Modifications) for the Lewis Carlsbad Desalination Plant.
Update on May 2016 Executive Order and New Water Use Efficiency Targets

Water Planning Committee Meeting
Chair’s Report
August 25, 2016

Presentation by:
Dana Friehauf, Water Resources Manager
Governor’s May 2016 Executive Order
Overview of Directives

• Eliminate water waste
• Strengthen local drought resilience
• Improve agricultural water use efficiency and drought planning
• Use water more wisely
• Reporting, compliance & enforcement
State Staff is Proposing Single Option: Efficiency Standard Approach

New water use targets based on efficiency standards for:

1. Indoor residential
2. Outdoor landscape
3. Commercial, industrial, institutional water use
4. Water lost through leaks
# TENTATIVE Schedule

Framework on New Water Use Efficiency Targets and Improved Shortage Contingency Plans

<table>
<thead>
<tr>
<th>Activity</th>
<th>TENTATIVE Date</th>
</tr>
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<tbody>
<tr>
<td>Urban Advisory Group Meeting #1</td>
<td>Aug 15, 2016</td>
</tr>
<tr>
<td>Technical Workshop Shortage Contingency Plans</td>
<td>Aug 31 (Sacramento)</td>
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<td>Sept 1 (Orange Co)</td>
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<tr>
<td>Technical Workshops Water Use Efficiency Targets</td>
<td>Sept 6 (Northern CA)</td>
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<td>Sept 8 (Southern CA)</td>
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<tr>
<td>Urban Advisory Group Meeting #2</td>
<td>Sept 19 &amp; 20 (MWD office)</td>
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### **TENTATIVE** Schedule (cont.)

Framework on New Water Use Efficiency Targets and Improved Shortage Contingency Plans

<table>
<thead>
<tr>
<th>Activity</th>
<th>TENTATIVE Date</th>
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<tbody>
<tr>
<td>Urban Advisory Group Meeting #3</td>
<td>Oct 20</td>
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<tr>
<td>Public Draft Release and Workshop</td>
<td>Oct 28</td>
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<tr>
<td>Public Comments Due</td>
<td>Nov 7</td>
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<tr>
<td>UAG and AAG Webinar</td>
<td>Nov 18</td>
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<tr>
<td>Final Report and Public Workshop</td>
<td>Jan 10, 2017</td>
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