Statewide Snow Water Equivalents
February 23, 2011

<table>
<thead>
<tr>
<th>Region</th>
<th>Inches</th>
<th>% Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northern Sierra</td>
<td>27</td>
<td>109</td>
</tr>
<tr>
<td>Central Sierra</td>
<td>29</td>
<td>117</td>
</tr>
<tr>
<td>Southern Sierra</td>
<td>29</td>
<td>138</td>
</tr>
<tr>
<td>Statewide</td>
<td>29</td>
<td>121</td>
</tr>
</tbody>
</table>

Data provided by the California Cooperative Snow Surveys
Lake Oroville Conditions
(as of Midnight - February 22, 2011)

Current Level: 2,630,131.8 AF

74% (Total Capacity)  | 106% (Historical Avg.)

Lake Oroville Levels: Various Past Water Years and Current Water Year, Ending At Midnight February 22, 2011

Total Reservoir Capacity: 3,537,600 AF

2,630,131.8 AF

Water Year (October 1 - September 30)

San Luis Conditions
(as of Midnight - February 22, 2011)

Current Level: 1,991,355 AF
98% (Total Capacity) 115% (Historical Avg.)
Colorado River Conditions
February 22, 2011

- Upper Colorado water year 2011 precipitation to date
  - 124% of average

- Current Basin Snowpack
  - 120% of average

- Projected water year 2011 unregulated inflow to Lake Powell
  - 104% of normal
## Local Precipitation

<table>
<thead>
<tr>
<th>Station</th>
<th>July 1, 2010 – Feb 21, 2011</th>
<th>Actual inches</th>
<th>% Normal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lindbergh Field</td>
<td></td>
<td>9.63</td>
<td>139</td>
</tr>
<tr>
<td>Ramona Airport</td>
<td></td>
<td>19.04</td>
<td>184</td>
</tr>
</tbody>
</table>
Total Local Reservoir Storage*

- 2/22/2011: 363,900 AF
- 121% of Average
- ↑56,000 AF from 2/22/2010

*Includes 38 TAF of Water Authority carryover storage
Conclusion

- State Water Project Table A Allocation is 60 percent for CY 2011
- Water supply conditions are at or above average for precipitation, snowpack, and reservoir storage
- La Niña conditions are still present but are likely to transition to neutral conditions in late Spring

Source: National Weather Service
Seawater Desalination Vessel Comparison Study

Water Planning Committee
February 24, 2011
Background

- Water Standard (WS) – a water treatment company that builds and operates Seawater Desalination Vessels
- Seawater Desalination Vessel (SDV) – involves converting an existing ship or barge into a floating desalination plant
- In 2007, WS made a presentation to the Board on its SDV concept
- In 2008, Board authorized entering into a grant agreement with WS paying for $25K study
- RBF retained to conduct study since they were already conducting feasibility study for the land based project
The Land Based Facility
(assumed for comparison)

- An initial 50-mgd seawater RO desalination plant with either a screened open-ocean or subsurface intake system, dual use tunnel, and an ocean outfall for concentrate discharge.
The Seawater Desalination Vessel

- A ship-board 50 mgd seawater RO plant, with seawater intake and concentrate discharge systems, on-board power generators and desalinated water pumps
- The vessel would be moored over 3 miles offshore
Four SDV Delivery Options Studied

- **Option A** – WS delivers water using two 28-inch HDPE seabed pipelines from the SDV to the tunnel terminal structure.
- **Option B** – Water Authority would construct a seabed product water pipeline from the tunnel terminal structure to the SDV.
- **Option C** - Option A plus two seabed power cables from the SDV to provide power for on-shore pumping station.
- **Option D** – Option A except that the Water Authority constructs a 42-inch HDPE below the surf zone in lieu of a tunnel.
Study Results

- Permitting:
  - Similar to land-based
  - SDV could have some potential advantages in that intake and discharge ports can be located mid-water column
  - Pipelines connecting SDV to the shore as well as on-shore receiving facilities fall within definition of development requiring CDP
  - SDV may require air quality permitting due to shipboard power generation operation
Study Results

- **Facility Requirements:**
  - Water treatment component requirements are similar.
  - Both concepts will require a product water conveyance system to deliver and integrate desalinated water into the Water Authority aqueducts.
  - SDV Options A thru C would utilize the large diameter tunnel.
  - SDV Option D would utilize a 42-inch diameter HDPE pipe in lieu of the large diameter tunnel (less costly alternative).
Study Results

- Implementation:
  - SDV could possibly be permitted, constructed and placed into operation more quickly than a land-based facility
  - Critical path still the implementation of the product water conveyance system
## Cost Comparison

<table>
<thead>
<tr>
<th>Description</th>
<th>SDV Water Purchase Cost(^1)</th>
<th>Capital Costs(^2)</th>
<th>O&amp;M Costs</th>
<th>First Year Cost (Total)</th>
<th>First Year Cost(^1) ($/AF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land-Based</td>
<td>-</td>
<td>$77,600,000</td>
<td>$45,300,000</td>
<td>$122,900,000</td>
<td>$2,200</td>
</tr>
<tr>
<td>SDV Option A</td>
<td>$99,300,000</td>
<td>$43,100,000</td>
<td>$10,800,000</td>
<td>$153,200,000</td>
<td>$2,740</td>
</tr>
<tr>
<td>SDV Option B</td>
<td>$95,200,000</td>
<td>$44,200,000</td>
<td>$10,800,000</td>
<td>$150,200,000</td>
<td>$2,680</td>
</tr>
<tr>
<td>SDV Option C</td>
<td>$109,800,000</td>
<td>$43,100,000</td>
<td>$4,600,000</td>
<td>$157,500,000</td>
<td>$2,810</td>
</tr>
<tr>
<td>SDV Option D</td>
<td>$99,300,000</td>
<td>$35,000,000</td>
<td>$10,800,000</td>
<td>$145,100,000</td>
<td>$2,590</td>
</tr>
</tbody>
</table>

* Costs provided in 2009 dollars
1. Based on 56,000 acre feet (50 mgd).
2. Based on 40-year bond payments.

The land-based facility is less costly than all of the SDV options, both on a first-year cost basis and a 50-year present value basis.
Conclusions

- SDV concept is viable
- SDV is more costly compared to the land-based facility based on a 50-year project life comparison
- Rapid deployment capability could lend itself to the initial, temporary use of a SDV for a limited time period until a more permanent land-based facility is built
- Staff will continue monitoring deployment of SDV technology worldwide
- Staff plans to further consider the applicability of SDV technology as part of an emergency water supply study planned for this calendar year
Five-Year Rate Forecast

February 24, 2011
Agenda

- Purpose of the forecast
- Key rate drivers
- Forecast assumptions
- 2011 high/low forecast
- Next steps
Purpose of Forecast

- Last high/low provided in January 2009
- Reflect changes over past two years
- Provide updated information to member agencies for planning purposes
Future Uncertainties

- Future MWD rates
- Carlsbad desalination/timing
- Litigation Outcomes
  - QSA
  - MWD
- Water supply constraints
- Economy
KEY RATE DRIVERS
Key Rate Drivers

- Decreasing sales volumes
- Increasing cost of water
  - MWD rate increases
  - IID rate increases
  - Seawater desalination
- Planned debt service payments
Water sales have decreased by 38% since 2007
MWD Rate Increases

![Graph showing rate increases across different years for treated and untreated services and transportation charges.

<table>
<thead>
<tr>
<th>Calendar Year</th>
<th>Treated</th>
<th>Untreated</th>
<th>Transportation Charges</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>5.52%</td>
<td>0.00%</td>
<td>0.00%</td>
</tr>
<tr>
<td>2008</td>
<td>6.28%</td>
<td>6.04%</td>
<td>7.75%</td>
</tr>
<tr>
<td>2009</td>
<td>13.98%</td>
<td>17.38%</td>
<td>0.00%</td>
</tr>
<tr>
<td>2010*</td>
<td>21.07%</td>
<td>17.48%</td>
<td>12.95%</td>
</tr>
<tr>
<td>2011</td>
<td>6.13%</td>
<td>8.88%</td>
<td>18.47%</td>
</tr>
</tbody>
</table>

Five-year increase
- Full Service Treated: 64%
- Full Service Untreated: 59%
- Transportation Charges: 44%

* Rate increase effective 9/1/2009 to 12/31/2010
MWD Rates – Full Service

![Graph showing MWD rates from 2007 to 2011 for treated and untreated water services.]

- Treated:
- Untreated:

* Rate increase effective 9/1/2009 to 12/31/2010

- Does not include RTS, Capacity, or Standby charges
MWD Rates – Transportation

Does not include RTS, Capacity, or Standby charges

* Rate increase effective 9/1/2009 to 12/31/2010
Existing Debt Service

Total Debt Service

Fiscal Year

Existing Debt Service Payments (2009–2016)

Total Debt Service

Fiscal Year


$79 $81 $109 $116 $138 $144 $148 $153

in Millions

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

$200 $250

$200 $250
FORECAST ASSUMPTIONS
Key Variables for High/Low Rate Scenarios

- Water sales forecast
- Local water supply development
- MWD rates and charges
- Capital improvement program (CIP)
- Other financial assumptions
# High/Low Forecast Assumptions

<table>
<thead>
<tr>
<th>Foundational Assumption</th>
<th>Scenario Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Water Sales Forecast</strong></td>
<td></td>
</tr>
<tr>
<td>Low Rates</td>
<td>Return to 2010 sales levels by 2013 then to, 20% by 2020</td>
</tr>
<tr>
<td></td>
<td>Phase out of IAWP, transition to SAWR, storage exemption only from 2013</td>
</tr>
<tr>
<td></td>
<td>Beyond 2016 at UWMP goals</td>
</tr>
<tr>
<td>High Rates</td>
<td>Do not return to 2010 sales levels until 2016</td>
</tr>
<tr>
<td></td>
<td>Phase out of IAWP, transition to SAWR, storage exemption only from 2013</td>
</tr>
<tr>
<td></td>
<td>Consecutive years of wet weather to 2015 + beyond 2016 at UWMP goals</td>
</tr>
<tr>
<td><strong>Local Water Supply Development</strong></td>
<td></td>
</tr>
<tr>
<td>Low Rates</td>
<td>Normal year surface water and groundwater supplies</td>
</tr>
<tr>
<td></td>
<td>Carlsbad Desalination WPA-2016</td>
</tr>
<tr>
<td></td>
<td>Only Existing local supply development funding</td>
</tr>
<tr>
<td>High Rates</td>
<td>Wet-year surface water and groundwater supplies</td>
</tr>
<tr>
<td></td>
<td>Carlsbad Desalination WPA – 2014</td>
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<td></td>
<td>Existing and new local supply development funding</td>
</tr>
<tr>
<td></td>
<td>Otay Desalination in 2016</td>
</tr>
<tr>
<td><strong>MWD Rates &amp; Charges</strong></td>
<td></td>
</tr>
<tr>
<td>Low Rates</td>
<td>MWD’s current “expected” rate projections</td>
</tr>
<tr>
<td>High Rates</td>
<td>Water Authority’s high range estimate for MWD’s rates and charges</td>
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<tr>
<td><strong>Capital Improvement Program (CIP)</strong></td>
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<tr>
<td>Low Rates</td>
<td>CRACA CIP assumptions—deferred projects and re-costing</td>
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<td></td>
<td>Unsuccessful outcome of project disputes—SV Pipeline and Lake Hodges projects</td>
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<td><strong>Other Financial Assumptions</strong></td>
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<td>Capacity charges ramp up to “historic” levels in 10 years</td>
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<td>Base assumptions for interest rates, property tax, standby charges and other revenues</td>
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<td>Capacity charges flat at current levels for 5 years, and to “historic” levels in 10 years</td>
</tr>
</tbody>
</table>
Factors Affecting Water Authority Water Sales

- Consumer water use patterns
  - Price response
  - Conservation ethic
- Weather
  - Rainfall
  - Temperature
- Annual fluctuation in member agency local supplies
  - Surface water
  - Groundwater
Total Water Use & Deliveries vs. Local Use Fiscal Years 2007–2011*

* Estimated for remainder of FY11
  - Local use through Jan. 2011.
Total Water Use & Deliveries vs. Rainfall FY’s 2007–2011*

*Estimated for remainder of FY 2011; Rainfall updated through Feb. 16
Total Water Use & Deliveries vs. Temperature FY’s 2007–2011*

* Estimated for remainder of FY 2011
MWD Daily Deliveries

February 10-year average daily deliveries (1999–2009)

February 2011 average daily deliveries (thru 2/21/11)

MWD Deliveries (AF)

Feb 10 yr Avg 1126 AF
Feb 11 Avg 973 AF
Water Sales Projections

2009 CRACA assumed MWD allocation & supply – limited sales forecast
# High/Low Forecast Assumptions

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<tr>
<td></td>
<td>- Capacity charges flat at current levels for 5 years, and to “historic” levels in 10 years</td>
</tr>
</tbody>
</table>
Rate Projections for MWD Supplies & Transportation

MWD Full Service Treated Rate Projections

<table>
<thead>
<tr>
<th>Calendar Year</th>
<th>2012*</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-rate Scenario</td>
<td>7.5%</td>
<td>10.0%</td>
<td>7.5%</td>
<td>7.5%</td>
<td>6.0%</td>
</tr>
<tr>
<td>Low-rate Scenario**</td>
<td>7.5%</td>
<td>5.0%</td>
<td>5.0%</td>
<td>5.0%</td>
<td>5.0%</td>
</tr>
</tbody>
</table>

* The 2012 RTS increase of 17% not reflected in full-service treated rate
** Low rate scenario utilizes MWD’s LRFP expected rate forecast
* The 2012 RTS increase of 17% not reflected in full-service treated rate *

** Low rate scenario utilizes MWD’s LRFP expected rate forecast
2011 HIGH/LOW FORECAST
2011 High/Low Projections – Treated

All-in Treated Water Rates

<table>
<thead>
<tr>
<th>Calendar Year</th>
<th>CRACA High-rate</th>
<th>Percent Increase</th>
<th>CRACA Low-rate</th>
<th>Percent Increase</th>
<th>High-rate Scenario</th>
<th>Percent Increase</th>
<th>Low-rate Scenario</th>
<th>Percent Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>$1,133</td>
<td>10.7%</td>
<td>$1,039</td>
<td>10.1%</td>
<td>$1,026</td>
<td>18.2%</td>
<td>$1,026</td>
<td>8.7%</td>
</tr>
<tr>
<td>2012</td>
<td>$1,254</td>
<td>5.6%</td>
<td>$1,144</td>
<td>5.8%</td>
<td>$1,213</td>
<td>7.6%</td>
<td>$1,115</td>
<td>5.4%</td>
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<td>2013</td>
<td>$1,324</td>
<td>4.9%</td>
<td>$1,210</td>
<td>3.7%</td>
<td>$1,305</td>
<td>6.6%</td>
<td>$1,176</td>
<td>4.7%</td>
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<td>2014</td>
<td>$1,389</td>
<td>5.0%</td>
<td>$1,255</td>
<td>4.5%</td>
<td>$1,418</td>
<td>8.6%</td>
<td>$1,231</td>
<td>3.9%</td>
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<tr>
<td>2015</td>
<td>$1,458</td>
<td>4.4%</td>
<td>$1,311</td>
<td>3.4%</td>
<td>$1,559</td>
<td>9.9%</td>
<td>$1,280</td>
<td>9.7%</td>
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<tr>
<td>2016</td>
<td>$1,522</td>
<td></td>
<td>$1,355</td>
<td></td>
<td>$1,648</td>
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</table>
### 2011 Projections Adjusted for Successful MWD Lawsuit – Treated

#### All-in Treated Water Rates Adjusted for Successful MWD Litigation

<table>
<thead>
<tr>
<th>Calendar Year</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
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<tbody>
<tr>
<td>$/AF</td>
<td>$1,026</td>
<td>$1,115</td>
<td>$1,176</td>
<td>$1,231</td>
<td>$1,280</td>
<td>$1,404</td>
</tr>
<tr>
<td>Percent Increase</td>
<td>8.7%</td>
<td>5.4%</td>
<td>4.7%</td>
<td>3.9%</td>
<td>9.7%</td>
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</tr>
<tr>
<td><strong>High-rate Scenario</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percent Increase</td>
<td>18.2%</td>
<td>7.6%</td>
<td>8.6%</td>
<td>9.9%</td>
<td>5.7%</td>
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<tr>
<td><strong>Low-rate Scenario</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percent Increase</td>
<td>12.7%</td>
<td>7.2%</td>
<td>8.7%</td>
<td>10.1%</td>
<td>5.8%</td>
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<tr>
<td><strong>Litigation High-rate Scenario</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Percent Increase</td>
<td>27%</td>
<td>18.7%</td>
<td>8.7%</td>
<td>5.8%</td>
<td>3.9%</td>
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<tr>
<td><strong>Litigation Low-rate Scenario</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percent Increase</td>
<td>3.2%</td>
<td>4.9%</td>
<td>4.5%</td>
<td>3.7%</td>
<td>9.9%</td>
<td></td>
</tr>
</tbody>
</table>

- Litigation savings based on sensitivity presented to the Board in June 2010

---
Debt Service Coverage Ratio

Senior Lien Debt Service Coverage Ratio

Fiscal Year


Coverage Ratio (x)

1.55
1.53
1.51
1.49
1.47
1.45
1.43
1.41
1.39
1.37
1.35

High-rate Scenario
Low-rate Scenario
Estimating Wholesale Rate Impacts on Residential Consumer

- Not a 1% to 1% impact on retail customers
- Varies by member agency, average customer use
- Wholesale costs make up less of the total bill for member agencies purchasing untreated water
  - Not subject to treated water surcharge
  - Treatment costs are a retail operating cost
- Retail water bills have two major components
  - Fixed Charge (monthly or bi-monthly)
  - Commodity charge (HCF unit or per 1000 gallons)
Composite Average Monthly Residential Bill 5 Large M&I Agencies

- Five agencies represent 70% of M&I water use
- All have tiered rate structures and fixed charges
- 2011 water use and rates weighted by total water use
  - Use: 15.4 HCF
  - Fixed Charge: $19.50 monthly
  - Commodity Charge: $50.25
  - Composite Monthly Residential Bill: $69.75
5 Retail Agency Average Composite Cost
- Fixed Charge: $19.50 monthly
- Commodity Charge: $50.25
- Composite Monthly Residential Bill: $69.75

<table>
<thead>
<tr>
<th>Wholesale Charges</th>
<th>Low Rate Monthly Retail Cost</th>
<th>High Rates Monthly Retail Cost</th>
<th>Percent Retail Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Untreated</td>
<td>$2.75</td>
<td>$5.12</td>
<td>3.9%–7.3%</td>
</tr>
<tr>
<td>Treated</td>
<td>$3.17</td>
<td>$6.64</td>
<td>4.5%–9.5%</td>
</tr>
</tbody>
</table>
Forecast Observations

- Despite significant changes, near-term forecast is consistent with prior guidance
  - CY 2012 and CY 2013 at/below 2009 CRACA
- Greater uncertainty beyond 2013
  - Water sales volumes
  - MWD rates and charges
  - Carlsbad desalination
  - 2012 master facilities plan
Next Steps

- Sales volume assumptions will drive CY 2012 rates and charges
- Additional data will require several months
  - Completion of the majority of the water year
  - Amount/use of Member Agency local supplies
  - Water use patterns
  - MWD allocation/Water Authority DMP
- Will keep Board and MA Staff apprised of developments
San Vicente Dam Raise
Package 3 Roller Compacted Concrete Dam Raise

Engineering & Operations Committee Meeting

February 24, 2011
Agenda

- Construction Update
- Quality Assurance
- Change Orders
- Recommendation
Construction Packaging

- Package 1 – Test Quarry (Complete)
- **Package 2 – Foundation/Dam Preparation/Marina Fill (Complete)**
- Package 2B - Vegetation and Erosion Control (Complete)
- **Package 3 – Dam Raise (Underway)**
- Package 4 – Bypass Pipeline (In Design)
- Package 5 – Marina Facilities (In Design)
- Package 6 – Habitat Restoration (Planning)
Package 3 Focus Areas

1. Foundation Grouting

2. RCC Production Facility
San Vicente Grout Curtains

LEGEND
- Ground Surface
- Existing Grout Curtain Holes
- Existing Dam
- Check Grout Holes
- Raised Dam
- New Grout Curtain Holes
Olivenhain RCC Placement

- Dump
- U/S Forms
- Roll
- Spread
- Joints
- D/S Forms
- Water
Quality Assurance

- Division of Safety of Dams
- City of San Diego Review
- Board of Senior Consultants
- Lessons Learned
Change Orders

- Administrative Modifications
  - Office Equipment Deleted
  - Inclement Weather Delays

- Unit Price Modifications
  - Foundation Excavation
  - Access Road Excavation
  - Foundation Grouting
Recommendation

Accept Shimmick/Obayashi Joint Venture Change Orders 1 through 4 for $380,229; increasing the contract amount from $140,206,050 to $140,586,279.
Update on MWD’s Blue Ribbon Committee

Imported Water Committee
February 24, 2011
Background and Purpose

- 2010 MWD then-Chairman Brick announced the formation of a new Blue Ribbon Committee to project a vision of MWD’s business model in 2060
- 27 Member Committee
  - Julie Meier-Wright – San Diego EDC
  - Ruben Barrales – San Diego Regional Chamber of Commerce
  - John Lorman – Procopio, Cory, Hargreaves & Savitch, LLP
- Consider trends and uncertainties over the next 50 years that may affect MWD
- Consider whether the present business model would be reliable, resilient, and robust under a wide range of future conditions
How the BRC developed its Recommendations

- BRC members met 12 times from March 2010 to February 2011
- BRC divided into 6 working groups in summer of 2010
  - Based on corresponding 6 key focus areas
  - 5 of the 6 produced written reports
  - Separate group formed to discuss vision and mission of MWD in 2060
- Non-BRC members were interviewed individually
  - Maureen A. Stapleton participated
Breakdowns in the Process

- First draft released at the end of November 2010
  - Many BRC members were unhappy with the report
  - Discussions to refuse to sign onto report began to emerge
  - Draft did not include “choice approach” but was status-quo – members unhappy new ideas were not included
- RAND consultants replaced with new Project Managers
- Report deadline was moved to March 2011 and recently moved to April 2011.
- Recent draft of Report released on February 14, 2011
MWD in 2060

- Exploit economies of scale for import infrastructure and help members exploit regional efficiencies and risk sharing
- Meet growing demand through co-development of diverse mix of water
- Moderate demands through pricing and direct investment in efficiency programs
- Increase MWD investment in some local production
  - More regional groundwater and small scale surface storage
MWD in 2060 con’d

- Facilitate trading
- Finance conservation and local production
- Facilitate of regional technology development
- Better Alignment of revenues with fixed and variable costs
- Price to incentivize conservation and local production
- Revenues from trading and investments in local production
- Substantial increase in visibility and role in technology development
Reactions from “others”

- 21 Member Agency Managers signed a letter on February 16, 2011 commenting on the most recent draft of the report.
- A letter from one of the BRC members submitted strongly encouraging input from agency managers.
- General Manager from Upper San Gabriel discussed their concerns during public comment period on February 17, 2011.
Discussion of Key Issues and Recommendations

- Development of local sources
  - Does not support the IRP
- Trading Concept
  - Concerned with trading preferential rights
  - Creates inequities
- Pricing Options
  - “Disadvantages “associated with fee for service
Water Authority Concerns and Issues

- BRC Report remains very “MWD-centric”
  - “Integrator”, “Investor”, “Manager”
- Draft Recommendations are too near-term; not visionary
- Contradictory statements - describes MWD’s incentives going away, yet asks MWD to pay for local development
- Centers on IRP, yet does not include cost implications nor conduct analyses on the need of new supplies
  - Assumptions are “back of the envelope”
- Process dominated by MWD, its hired consultants, and now “hi-jacked” by 21 Member Agency Managers
Next Steps

- Comments due on February 14, 2011 draft by February 25, 2011
- Revised document to be returned by March 3, 2011
- Next Meeting March 10, 2011
- Presented to MWD Board for its consideration at April Board meeting
MWD Financial Policies

Imported Water Committee
February 24, 2011
Long Range Finance Plan

- Policies to be considered under the 2010 LRFP
  - Setting revenues to meet costs to provide services and maintain minimum reserve levels.
  - Setting PAYGo at $125 million per year to fund Replacement and Refurbishment projects; helping to meet revenue bond coverage target and fixed coverage target.
Revenue Bond Debt Service Coverage

DSC = \[ \frac{\text{Available Revenues from Rates} - \text{Operating Expenditures}}{\text{Annual Revenue Bond Debt Service}} \]

- Ratio gives an indication of MWD’s ability to meet annual principal and interest revenue debt requirements.
- MWD’s Revenue Bond DSC Target is > 2.0x.
- Due to drop in revenues, DSC has not met board established target; MWD forecasts it will from 2012 and beyond.
  - Assumes higher water deliveries of about 2.0 maf.
- MWD’s DSC bond obligation is 1.0x.
  - To issue additional bonds, bond documents require DSC of 1.2x.
  - Fieldman Rolapp & Associates questioned need to keep DCS at 2.0x.
Fixed Charge Coverage

FCC = \[
\frac{\text{Available Revenues from Rates - Operating Expenditures}}{\text{(Revenue Bond Debt Service + Parity Bond Obligations + SWP Capital Payments + Debt Service Costs)}}
\]

- FCC measures how much cash flow MWD has available to make its debt service and fixed SWP obligations.
- MWD’s FCC Target is ≥1.2x.
  - If the FCC is ≥ 1.0x, the margin represents funds available for PAYGo funded capital, financial reserves or other.
  - If the FCC is <1.0x, MWD would use reserves to meet its obligations.
MWD Discretionary Reserves

- Stabilization funds (use to minimize volatile rate increases)
  - Revenue Remainder Fund
    - Maintains adequate funds to provide 18-months of lower than expected sales.
  - Water Rate Stabilization Fund
    - Based on two additional years of revenue shortfall.
  - MWD has exceeded Maximum Reserve Level in the past, resulting in paying down debts or refunds to the Member Agency.

- Replacement and Refurbishment (formerly Pay-As-You-Go)
  - Capped at $95 million.
### 2010 LRFP Financial Metrics

#### Reserves

<table>
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</thead>
<tbody>
<tr>
<td>PAYGO, $M (Actual)</td>
<td>88</td>
<td>95</td>
<td>43</td>
<td>30</td>
<td>37</td>
<td>45</td>
<td>125</td>
<td>125</td>
<td>125</td>
<td>125</td>
<td>125</td>
<td>125</td>
<td>125</td>
<td>125</td>
<td>125</td>
</tr>
<tr>
<td>PAYGO, $M (Budgeted/2010 LRFP)</td>
<td>95</td>
<td>95</td>
<td>85</td>
<td>95</td>
<td>37</td>
<td>95</td>
<td>125</td>
<td>125</td>
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<td>125</td>
<td>125</td>
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<td>125</td>
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<tr>
<td>Rev. Bond Cvg</td>
<td>1.8</td>
<td>2.2</td>
<td>1.8</td>
<td>1.8</td>
<td>1.6</td>
<td>1.5</td>
<td>2.2</td>
<td>2.1</td>
<td>2.1</td>
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<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.1</td>
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<tr>
<td>Fixed Chg Cvg</td>
<td>1.3</td>
<td>1.7</td>
<td>1.3</td>
<td>1.3</td>
<td>1.1</td>
<td>1.0</td>
<td>1.5</td>
<td>1.4</td>
<td>1.3</td>
<td>1.2</td>
<td>1.2</td>
<td>1.2</td>
<td>1.2</td>
<td>1.2</td>
<td>1.3</td>
</tr>
</tbody>
</table>

#### Financial Metrics

- **Ave Rate Increase**:
  - 2%
  - 3%
  - 6%
  - 14%
  - 20%
  - 7.5%
  - 7.5%
  - 5%

- **REV. BOND COVERAGE (REV.)**:
  - 2.2
  - 1.8
  - 1.8
  - 1.6
  - 1.5
  - 2.2
  - 2.1
  - 2.1
  - 2.0
  - 2.0
  - 2.0
  - 2.1

- **FIXED CHG COVERAGE (FIX.)**:
  - 1.3
  - 1.7
  - 1.3
  - 1.3
  - 1.1
  - 1.0
  - 1.5
  - 1.4
  - 1.3
  - 1.2
  - 1.2
  - 1.2
  - 1.3
Pay-As-You-Go Funding Trend

**Table: Pay-As-You-Go Funding Trend**

<table>
<thead>
<tr>
<th>Fiscal Year Ending</th>
<th>Average Rate Increase</th>
<th>PAYGO, $M (Actual)</th>
<th>PAYGO, $M (Budgeted / 2010 LRFP)</th>
<th>Rev. Bond Cvg</th>
<th>Fixed Chg Cvg</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2% 3% 6% 14% 20% 7.5% 7.5% 5% 5% 5% 6%</td>
<td>88 95 43 30 37 45 75 90 125 125 125</td>
<td>95 95 85 95 37 95 125 125 125 125 125</td>
<td>1.8 2.2 1.8 1.8 1.6 1.5 1.8 1.9 2.3 2.1 2.1</td>
<td>1.3 1.7 1.3 1.3 1.1 1.0 1.2 1.3 1.5 1.4 1.3</td>
</tr>
</tbody>
</table>
Conclusion

- Draft 2010 LRFP forecasts meeting its DSC and FCC targets.
  - Review of assumptions show that changes in MWD's revenues could easily affect forecasts.
- Setting revenues to meet costs of service.
  - Good practice, but should not be set in stone.
- Setting PAYGo at $125M/yr to fund R&R.
  - Too rigid – PAYGo funding should be proportional to entire CIP.
Colorado River Basin Water Supply and Demand Study

Imported Water Committee
February 24, 2011
Purpose of Study

– To project Colorado River Basin water demands and supplies through 2060.
– To identify imbalances between supplies and demands
– To recommend adaptation and mitigation strategies that address imbalances
Colorado River Basin

Key Characteristics

- Variable hydrology
- 60 million acre-feet of storage capacity
- System operated on a tight margin
Study Partnership

• Participants include Reclamation and seven Colorado River Basin states
• $2 million cost, divided equally between federal and non-federal partners
• Begun in January 2010
Study Phases and Tasks

Phase 1: Water Supply

1.1 – Select Methods to Estimate Current Supply
1.2 – Select Methods to Project Future Supply
1.3 – Conduct Assessment of Current Supply
1.4 – Conduct Assessment of Future Supply

Formulate Approach to Include Uncertainty

Phase 2: Water Demand Assessment

2.1 – Select Methods to Estimate Current Demand
2.2 – Select Methods to Project Future Demand
2.3 – Conduct Assessment of Current Demand
2.4 – Conduct Assessment of Future Demand

Phase 3: System Reliability Analysis

3.1 – Identify Reliability Metrics
3.2 – Estimate Baseline System Reliability
3.3 – Project Future System Reliability
3.3.5-3.3.8 – Project Future Reliability with Opportunities

Phase 4: Development & Evaluation of Opportunities

4.1 – Develop Opportunities
4.2 – Evaluate and Refine Opportunities
4.3 – Finalize Opportunities
## 50 Years of Change

<table>
<thead>
<tr>
<th>Demographics / Land Use</th>
<th>1960</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Population served</td>
<td>12 million</td>
<td>30 million</td>
</tr>
<tr>
<td>• Acres irrigated</td>
<td>&lt; 3 million</td>
<td>3 million</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Physical System</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Storage capacity</td>
<td>30 maf</td>
<td>67 maf</td>
</tr>
<tr>
<td>• Hydropower generation capacity</td>
<td>6,700 GW</td>
<td>12,400 GW</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Natural System</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Annual mean natural flow at L.F.</td>
<td>15.5 maf</td>
<td>14.4 maf</td>
</tr>
<tr>
<td>• Lowest 10-yr average flow at L.F.</td>
<td>12.5 maf (1931-1940)</td>
<td>12.0 maf (2001-2010)</td>
</tr>
</tbody>
</table>

* 50-year period ending in year shown

<table>
<thead>
<tr>
<th>Legal</th>
<th>Colorado River Compact, Boulder Canyon Project Act, Upper Colorado River Basin Compact</th>
<th>AZ v. CA, NEPA, ESA, QSA, ICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Acts, agreements, etc</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Annual Colorado River Supply and Use

10-Year Running Average of Historical and Projected Future Supply and Demand

Volume (million acre-feet)

Calendar Year

Historical

Projected

DRAFT – SUBJECT TO REVISION
(FOR ILLUSTRATION PURPOSES)

Demand and Supply Scenarios in Development

10-YEAR RUNNING AVERAGE BASIN WATER USE
10-YEAR RUNNING AVERAGE BASIN WATER SUPPLY
Projected Use - 2007 Depletion Schedule
Climate Projection - Median
Climate Projection - 10th Percentile
Climate Projection - 90th Percentile
Observed - Median
Analysis To Quantify Range of Imbalances
Schedule

• Interim Report No. 1 by summer 2011
  – Contains: scenario development, water demand and supply assessment, system reliability metrics

• Begin evaluation of opportunities after publication of Interim Report No. 1
  – Extensive public outreach for development and evaluation of opportunities

• Completed study to include recommendations for addressing supply and demand imbalances
  – Expected to be completed by mid-2012
AB 134 (Dickinson) SRCSD

- Appropriative rights for Sacramento wastewater stream
- SWRCB must grant
- SRCSD may change without SWRCB approval
- Recommend Oppose
Water Authority Sponsored Bills

- Artificial Turf
  - Common Interest Developments: artificial turf
  - Prevents HOAs from prohibiting use of artificial turf
  - Allows HOAs to implement design guidelines
  - Vetoed by Governor last year
Water Authority Sponsored Bills

- AB 1048 (Harkey)
- Fluoride Standards
  - Require that fluoride standards for recycled water and wastewater be no less than mandated fluoride standards for drinking water.
AB 134 (Dickinson) SRCSD

- Appropriative rights for Sacramento wastewater stream
- SWRCB must grant
- SRCSD may change without SWRCB approval
- Recommend Oppose
Introduced Bills

- **AB 19** (Fong)
  - Requires Department of HCD to develop building standards for submeters.
  - Failed passage in the Legislature last year.
  - Water districts and tenants’ rights groups had concerns
Introduced Bills

- **AB 54** (Solorio)
  - Drinking Water
  - Safe Drinking Water Revolving Fund
  - Consolidation of mutual water companies with special districts
  - LAFCO review of safety of drinking water supplies
Introduced Bills

- **AB 83** (Jeffries)
- CEQA Exemption: recycled water pipeline
- Under improved street, highway, or right of way
Introduced Bills

- **AB 157 (Jeffries)**
- Reduces 2012 water bond by 25 percent across the board
Introduced Bills

- AB 246 (Wieckowski)
- Allows district attorneys and city attorneys in large urban areas to file suit to enforce water quality standards
- Currently, only the Attorney General may file suit
Introduced Bills

- **AB 275** (Solorio)
- Rainwater Capture Act of 2011
- Authorizes property owners to install and operate rainwater capture systems for landscape irrigation and some indoor purposes
- Authorizes licensed landscape contractors to install systems
Introduced Bills

- SB 34 (Simitian)
- Water Infrastructure Fee
- Spot bill
- Relates to CPUC recommendation of a “public goods charge” for public water supplies
Introduced Bills

- SB 52 (Steinberg)
- Sacramento Regional Wastewater Treatment Plant upgrade
- Would appropriate $50 million from existing water bonds to help with upgrade
- Prop 1E and Prop 84
Introduced Bills

- **SB 200 (Wolk)**
  - Would impose additional conditions on the construction of an alternative conveyance system in the Delta
  - Would require the state to consider whether SWP water could be delivered to cities and counties adjacent to the Delta