Fiscal Years 2018 & 2019
Recommended Budget Overview

Themes

– Security – Cyber & Facilities
– State & Federal Drivers
– Regulatory & legislative leadership
– Energy Program and Energy Services
– Efficiencies through innovation
– Asset management
– Workforce management
Factors Impacting the Fiscal Years 18&19 Budget

- Water Supply & Demand
  - Water Sales/Purchases & Treatment
- Lifting of the drought regulations
- State long-term water use efficiency legislation
- Capital Improvement Program
- Asset Management
- Litigation with Metropolitan Water District
Factors Impacting the Fiscal Years 2018 & 2019 Operating Departments Budget

- Increased complexity of water supply and delivery systems
- CalPERS Employer Contribution Rate Increase
- Health Insurance Premiums
- Utility Costs
- Grant Opportunities
  - $3.5M in Prop. 84 funds to help offset water efficiency program and outreach costs
Historical Spending

Expenses (in Millions $)

Cost of Water Sales  Capital Improvement Program  Debt Service  Operating Depts  Other

FY00  FY01  FY02  FY03  FY04  FY05  FY06  FY07  FY08  FY09  FY10  FY11  FY12  FY13  FY14  FY15  FY16  FY17  FY18  FY19

San Diego County Water Authority
Historical Staffing

<table>
<thead>
<tr>
<th>Fiscal Year (FY)</th>
<th>Full-Time Equivalents (FTEs)</th>
</tr>
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<tbody>
<tr>
<td>FY00</td>
<td>175.00</td>
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<tr>
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<tr>
<td>FY18</td>
<td>295.00</td>
</tr>
<tr>
<td>FY19</td>
<td>295.00</td>
</tr>
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</table>
Managing Staff Resources

- Current budget increased 7.10 FTEs
  - 6 additional FTEs in O&M
  - 1 additional FTE for Grant Support
- 18 positions downgraded

- Since FY10 reduced 34.05 FTEs or 12% of workforce
FYs 2018 & 2019 Sources of Funds

- **Water Sales**: $1,302,329 (82%)
- **Infrastructure Access Charges**: $67,991 (4%)
- **Net Fund Withdraws**: $63,341 (4%)
- **Build America Bonds & Investment Income**: $33,028 (4%)
- **Capacity Charges**: $33,424 (2%)
- **Property Taxes & In-Lieu Charges**: $25,361 (2%)
- **Water Standby Availability Charges**: $22,245 (1%)
- **All Other Revenue Sources**: $36,409 (2%)

**Total**: $1,584,128 (100%)
FYs 2018 & 2019 Recommended Budget

- Water Purchases & Treatment: $1,048,373 (66%)
- Debt Service: 280,945 (18%)
- CIP Expenditures: 118,618 (7%)
- Operating Departments: 103,202 (7%)
- Other & Grants: 28,135 (<2%)
- Equipment Replacement: 4,855 (<1%)

Total: $1,584,128 (100%)

Water Purchases/Treatment = 91% of TOTAL BUDGET
FYs 2018 & 2019 Operating Departments

- Operating Departments
  - 7% of total Water Authority Budget

![Pie chart showing the distribution of operating departments.

- Operations & Maintenance: 38%
- Administrative Services: 7%
- General Manager & Board of Directors: 7%
- Public Outreach & Conservation: 7%
- Water Resources: 8%
- Engineering: 8%
- General Counsel: 9%
- Finance: 11%
- MWD Program: 4%
- Colorado River Program: 3%]
Workshop Schedule

- Overview
- Asset Management
- Capital Improvement Program
- Operating Departments
  - Engineering, Operations & Maintenance
- Cyber Security
- Operating Departments
  - Administrative Services, Finance, Water Resources, Colorado River, MWD Program, Public Outreach & Conservation, General Counsel, General Manager
- Equipment Replacement
- Grants
General Manager’s Recommended Budget for Fiscal Years 2018 & 2019

Cost of Water

Robert Yamada, Director of Water Resources
Background - Two Types of Forecasts

- Long Range Demand Forecast
  - Used in water resource planning, facility planning, Environmental Impact Reports and long range financial planning
  - Based on SANDAG Regional Demographic and Economic Forecast
  - Basis for compliance with Growth and Water legislation
  - Updated every five years with Urban Water Management Plan
Background - Two Types of Forecasts

- Short-term Budgetary Forecast
  - Projections used in multi-year budget document and annual rate setting process
  - Basis for near-term operational planning
  - Reflects a “snapshot in time”
    - Considers what's actually occurring and current conditions
  - May vary from the long-term forecast
    - Influenced by multiple current factors
      - Member agency local supplies
      - Hydrology effects
Member Agency
Local Surface Water Use

Water Use (TAF)

Historic  Projected

Historical/Forecasted Water Sales*

- Projections account for long-term impacts of water use regulations, near-term increased levels of local supplies and local supply development.

*Current projections based on the 2015 Urban Water Management Plan
1) Excludes MWD fixed RTS and CRC charges
2) Canal & IID costs exclude debt service for capital projects and recovery of settlement expenditures
3) Desalination costs include Water Authority supply costs only
QSA Costs in Fiscal Years 2018 and 2019

- IID Transfer
  - 260 KAF ($172 M)
- All-American and Coachella Canals
  - 160 KAF ($2 M)
- MWD wheeling costs
  - 418 KAF ($206 M)
Water Purchase Price - Poseidon WPA

* Assumes a 2.5% increase in CPI and SDG&E rates
Twin Oaks Valley Water Treatment Plant

- Slight increase in production levels
  - FY18 typical operating range: 20 to 100 mgd
  - FY19 typical operating range: 20 to 100 mgd

- FY 18 forecasted operating costs ($8.2 million)

- FY 19 forecasted operating costs ($9.3 million)
• Projections account for long-term impacts of water use regulations, near-term increased levels of local supplies and local supply development

* Current projections based on the 2015 Urban Water Management Plan
General Manager’s Recommended Budget for Fiscal Years 2018 & 2019

Debt Service

Lisa Marie Harris, Director of Finance
Capital Financing Plan

- Long-term Target CIP Financing Mix
  - Long-term debt funded (57%)
  - Pay-As-You-Go/Cash Funded (30%)
  - Short-term debt funded (13%)
Senior Lien Coverage Meets Board Policy Target

### Coverage Targets & Requirements

<p>| | |</p>
<table>
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<tr>
<td>Senior Lien Bond Covenant</td>
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<tr>
<td>Total Debt Service Bond Covenant</td>
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</table>

Meeting coverage target is important to maintain AAA/Aa2/AA+ ratings

*Includes subordinate debt (i.e., commercial paper) and excludes super-subordinate Desal Pipeline debt*
Fiscal Year 2018 Debt Portfolio

San Diego County Water Authority Debt Mix*
$2.025 Billion

- Fixed Revenue Bonds, 49% ($991.9M)
- Fixed Taxable Build America Bonds, 26% ($526.1M)
- Variable Commercial Paper, 17% ($345.0M)
- Intermediate Fixed 5-year Fixed Rate Notes, 4% ($87.7M)
- Fixed Certificates of Participation, 4% ($74.7M)
Existing Debt Service*

Decrease in Debt Service due to refundings, $78.3 Million in savings long-term.

*Excludes the Series 2012 Desalination Pipeline Bonds.
Financial Performance Metrics

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

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Equipment Replacement Fund</th>
<th>Pay As You Go Fund</th>
<th>Stored Water Fund</th>
<th>Rate Stabilization Fund Ending Balance</th>
<th>Operating Fund Summary</th>
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<td>3</td>
<td>170</td>
<td>0</td>
<td>120</td>
<td>96</td>
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<td>2018</td>
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<td>117</td>
<td>106</td>
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<td>2019</td>
<td>3</td>
<td>99</td>
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<td>114</td>
<td>108</td>
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<tr>
<td>2020</td>
<td>3</td>
<td>78</td>
<td>0</td>
<td>109</td>
<td>121</td>
</tr>
<tr>
<td>2021</td>
<td>3</td>
<td>86</td>
<td>0</td>
<td>112</td>
<td>115</td>
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<tr>
<td>2022</td>
<td>3</td>
<td>83</td>
<td>0</td>
<td>122</td>
<td>121</td>
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</table>

- PAYGO funds are projected to be utilized to pay for the CIP
CIP Spending

Capital Improvement Program Financing Mix*

*Excludes reimbursable capital expenditures
General Manager’s Recommended Budget for Fiscal Years 2018 and 2019

Asset Management

Jim Fisher, Director of Operations and Maintenance
What is Asset Management?

- Monitoring/Maintaining Something of Value
- Physical Asset Management
  - Optimum time
  - Prioritize needs
- Benefits
  - Increased efficiency (planned vs. reactive)
  - Extend useful life
  - Reduce rate impacts

Assets – Valves, Meters and Pipes
Water Authority Asset Management

1947: Initial infrastructure construction

1982: Early Prestressed Concrete Cylinder Pipe (PCCP) Rehabilitation

1992: Aqueduct Protection Program established

1999: Remote Field Eddy Current

2006: Monitoring of PCCP (Acoustic Fiber Optics)

2009: Formal Asset Management Program

2011: Magnetic Flux Leakage

2017: Remote Field Technology

Infrastructure Development

Asset Management
Step 1 – Condition Assessment

- Gather Data
- Inspect
  - Pipelines – Visual and Technology
  - Facilities – Visual
- Plan (5 year rolling)
Step 2 - Prioritization

Probability of Failure

Consequence of Failure

San Diego County Water Authority
Step 3 – Priority Project Review

- Evaluate resources to execute projects
- Determine scheduling of potential projects
- Project Managers establish project budget

Multi-Departmental Review

- Approve budgets and schedule
- Review overall forecast
- Recommend projects to be included in CIP

Executive Review

- Board approval
- Infrastructure Rehabilitation (Q0100)
- Relining and Pipe Replacement Program (R0200)

Recommended GM Budget
Supporting Activities

- Long Term Projections
  - Rehabilitation needs
  - Pipelines and Facilities
  - Estimated to 2035
  - Coordination with Planning
  - Incorporated into 2015 Long Range Financing Plan

- Scorecard
  - Program Performance
  - Letter Grade (A-F)
  - 6 key areas
Fiscal Years 2016 & 2017 Accomplishments

- **Pipeline Inspection**
  - Remote Field Technology (5 miles)
  - Magnetic Flux Leakage (13 miles)
  - Visual (61 miles)

- **Pipeline Repairs**
  - Pipeline 3 (one section)
  - La Mesa Sweetwater Extension (one section)

- **Facility Inspections** (300)
Fiscal Years 2018 & 2019 Activities

- Inspection with Technology
  - Pipeline 3 1980’s Reline (5 miles)
  - 1st Aqueduct (5 miles)

- Pipeline Visual Inspections (45 miles)

- Facility Inspections (340 facilities)
  - Air Valves/Air Release (130), Blow-offs/Pump Wells (132), Manholes (52), and Miscellaneous Structure (26)
General Manager’s Recommended Budget for Fiscal Years 2018 and 2019

Capital Improvement Program

Jerry Reed, Director of Engineering

Budget Document Pages 107-161
Agenda

- FYs 2016 & 2017 Accomplishments
- Changes to the CIP
- Managing the CIP Going Forward
Completed 18 Miles of Pipeline Inspection

Electronic Remote Field Technology

Magnetic Flux Leakage
Completed Miramar Pump Station Rehabilitation
Completed Pipeline 4 Relining Lake Murray Interconnect to Alvarado
Commissioned the Carlsbad Desalination Project
Completed Nob Hill Improvements Project
Completed Twin Oaks Valley Water Treatment Plant
Expanded Service Area Project
(i.e., Valley Center Pump Station)
Pipeline 3 Relining
Lake Murray to Sweetwater Reservoir Project
DSOD Certification for the San Vicente Dam Raise Project
San Vicente Bypass Pipeline
San Vicente Marina Facilities
Outstanding Civil Engineering Achievement

Emergency & Carryover Storage Project
San Diego, CA
Agenda

- FYs 2016 & 2017 Accomplishments
- Changes to the CIP
- Managing the CIP Going Forward
## Changes to the CIP

<table>
<thead>
<tr>
<th>FYs 18 &amp; 19 Lifetime Project Budget Adjustments (in thousands)*</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>New Projects (6)</td>
<td>$16,272</td>
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<tr>
<td>Adjustments to Existing Projects (13)</td>
<td>-$12,281</td>
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<tr>
<td>Completed Projects (7)</td>
<td>-$6,652</td>
</tr>
<tr>
<td>Total Net Change</td>
<td>-$2,661</td>
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</table>

*From Table 2: Recommended budget changes by project (p.119).*
Changes to the CIP

CIP Lifetime Budget

<table>
<thead>
<tr>
<th>FYs 16 &amp; 17</th>
<th>Reduction</th>
<th>FYs 18 &amp; 19</th>
</tr>
</thead>
<tbody>
<tr>
<td>$2,767.0 million</td>
<td>-$314.5 million</td>
<td>$2,452.5 million</td>
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</tbody>
</table>

- Expended on *near-term* projects (thru FY2017) $1,035.3 million
- Long Range Forecast Projects $847.9 million
- Remaining to be spent on *near-term* projects $569.3 million*

*Includes FYs 18&19 appropriation of $118.6 million*
FYs 2018 & 2019 Appropriation
$118.6 Million

- **Asset Management**: $85.2M (56 Projects)
- **New Facilities**: $17.9M (11 Projects)
- **Master Plan**: $7.7M (5 Projects)
- **ESP**: $4.7M (12 Projects)
- **Other Total**: $3.1M (15 Projects)

Total Projects: 99
FYs 2018 & 2019 Asset Management Relining Program

- 6 Projects (Planning/Design/Construction)
- 6 Miles of Construction
- $47 million planned to be spent
- 40% of FY2018/2019 Appropriation
FYs 2018 & 2019 Asset Management
Infrastructure Rehabilitation

Typical Flow Control Facility

Structure Rehabilitation

Alvarado Hydroelectric Facility
FYs 2018 & 2019 New Facilities

Hauck Mesa Reservoir

Aqueduct Communication System

Canal Lining Projects - Mitigation

Mission Trails FRS II/ Lake Murray Control Valve
FYs 2018 & 2019
Master Planning and Studies

Camp Pendleton Testing Program

San Vicente Energy Facility Storage Study

Typical Power Storage

Low-cost energy (e.g. excess wind & solar energy) is used to pump water uphill for later use.
FYs 2018 & 2019 Emergency Storage Program

ESP – North County Pump Stations

ESP – Post Construction Activities (Environmental Mitigation)
FYs 2018 & 2019 Other

Environmental Mitigation (Non-ESP)

Kearny Mesa Roof

Integrated Project Controls

Billing Applications
Agenda

- FYs 2016 & 2017 Accomplishments
- Changes to the CIP
- Managing the CIP Going Forward
Best Management Practices Used to Manage the CIP

- “Right-sizing” Staff Levels
CIP Spending (FYs 2000-2019)
Peak CIP Execution (FYs 2006-2010)

- Twin Oaks Valley Water Treatment Plant
- All American & Coachella Canal Lining
- ESP – San Vicente Pipeline
- ESP - Lake Hodges Pump Station
- ESP - San Vicente Dam Raise and Carryover Storage
- Relining & Pipe Replacement Program
CIP Staffing (FYs 2000-2019)

- Professional Service Consultants: (225)
- Limited Duration Employees: (75)
- Water Authority Staff: (46)
Best Management Practices Used to Manage the CIP

- “Right-sizing” Staff Levels
- Project Risk Management
Project Risk Management

“Effective Project Management is Effective Risk Management”

Manage Risks During All Project Phases

- Identify
- Update
- Analyze
- Monitor
- Mitigate
Project Risk Management

Potential Site Flooding During Construction
Best Management Practices Used to Manage the CIP

- “Right-sizing” Staff Levels
- Project Risk Management
- Quality Control/Quality Assurance (Gate Process)
Gate Process

Planning
- Gate 1: Project Initiation (21 deliverables)

Design
- Gate 2: Design Initiation (7 deliverables)
- Gate 3: Preliminary Design (6 deliverables)
- Gate 4: Mid-Point Design (11 deliverables)
- Gate 5: Final Design (14 deliverables)

Construction
- Gate 6: Beneficial Occupancy (7 deliverables)
- Gate 7: Approval - Go to Board for NOC (11 deliverables)

Post-Construction
- Gate 8: Project Closeout (15 deliverables)
Gate Process

Before proceeding to next Gate:

- All deliverables must be complete
- All project team members must sign off that the Gate has been satisfied
- A Senior Manager must sign off that the Gate has been satisfied
- Gates must be approved by the Gate Committee
Best Management Practices Used to Manage the CIP

- “Right-sizing” Staff Levels
- Project Risk Management
- Quality Control/Quality Assurance (Gate Process)
- CIP Policy and Process Documents
CIP Policy and Process Documents

- Standard Contract Documents ensure Consistent Business Practices
Public Outreach Process

Community Group Meeting

Online Invite
Tools to Connect with the Community

Video & Slide Sharing
- YouTube: youtube.com/SDCWAvideo
- SlideShare: slideshare.net/waterauthority

Mobile App
- sdcwa.org/mobile-news-app

Social Media
- Facebook: facebook.com/SanDiegoCountyWaterAuthority
- Twitter: @sdcwa @mwdfacts
- RSS: sdcwa.org/rss
Best Management Practices Used to Manage the CIP

- “Right-sizing” Staff Levels
- Project Risk Management
- Quality Control/Quality Assurance (Gate Process)
- CIP Policy and Process Documents
- Construction Cost Estimating
Construction Cost Estimating

Following the Association for the Advancement of Cost Engineering (AACE) International’s Recommended Practices
Best Management Practices Used to Manage the CIP

- “Right-sizing” Staff Levels
- Project Risk Management
- Quality Control/Quality Assurance (Gate Process)
- CIP Policy and Process Documents
- Construction Cost Estimating
- Project Controls Reporting
Project Controls Reporting

CIP Change Order Percentage

Target: Less than or equal to 5% of construction contract amount

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<th>Actual</th>
<th>Target</th>
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<tbody>
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<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>FY21</td>
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CIP Schedule Performance

Target: 90% of CIP Projects

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<thead>
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<th>Year</th>
<th>Actual</th>
<th>Target</th>
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<tbody>
<tr>
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<td>84%</td>
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<tr>
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<td>FY21</td>
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Best Management Practices Used to Manage the CIP

- “Right-sizing” Staff Levels
- Project Risk Management
- Quality Control/Quality Assurance (Gate Process)
- CIP Policy and Process Documents
- Construction Cost Estimating
- Project Controls Reporting
- Use of Latest Technology
Best Management Practices Used to Manage the CIP

- “Right-sizing” Staff Levels
- Project Risk Management
- Quality Control/Quality Assurance (Gate Process)
- CIP Policy and Process Documents
- Construction Cost Estimating
- Project Controls Reporting
- Use of Latest Technology