Exhibit to Agenda Item #3

Energy Delivery Costs

Board Finance & Audit Committee and Special SMUD Board of Directors Meeting
Tuesday, March 17, 2020 scheduled to begin at 5:30 p.m.
Auditorium, SMUD Headquarters Building
Purpose – Informational item

➢ Vegetation Management Costs: SB247 Wildfire prevention bill is significantly impacting SMUD’s 2020 vegetation management budget.

➢ Line Construction Cost Impact: SMUD is experiencing a shortage of lineworkers and contract line crews. This is a supply & demand issue that is creating resource constraints and increasing line work costs.
Agenda

➢ Vegetation Management
➢ Line Work
➢ Summary of Impact

Increased Annual Costs

$30M
O&M

$9M
Capital
Vegetation Management
Vegetation Management
(Transmission & Distribution)

Tree Trim
- Tree trimming by contracted services in scheduled areas with planned quantities of 76k trees cut or trimmed each of the next three years (2020-2022).

Tree Removal
- Tree removal along with the associated stump grinding. SMUD also often provides replacement trees that are compatible with our overhead infrastructure (~ 10K per year).

Pole Clearing / Vine Removal
- Clearing of vines growing on and at the base of the poles. A 10 foot diameter is maintained around the base of poles in wildfire areas (~ 2.5k per year).
Impact of Wildfires on Vegetation Management

➢ Court ordered maintenance (PG&E)

➢ Increased / accelerated maintenance and wildfire hardening

➢ Shift to risk based (beyond compliance) approach in high fire areas

➢ California utilities competing for limited number of qualified line clearance tree trimmers
SB247 Wildland Fire Prevention – Intent

Applies to Electric Corporations

➢ Proactively improve vegetation management effectiveness by:
  ➢ Authorizing the Wildfire Safety Division to use independent auditors
  ➢ Auditing electric corporation's completed vegetation management work
  ➢ Wildfire Safety Division can monitor electric corporations spending on vegetation management
  ➢ Tracking remediation of audit findings

Applies to Electric Corporations & SMUD

➢ Increase the overall size of the vegetation management labor force
➢ Line clearance tree trimmers shall be paid no less than the prevailing apprentice lineworker wage
California is proactively making new laws to attract line clearance tree trimmers.

<table>
<thead>
<tr>
<th></th>
<th>Pre-SB247</th>
<th>Post-SB247</th>
<th>% Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tree Trimmer</td>
<td>$32.85</td>
<td>$59.50</td>
<td>+81%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Pre-SB247</th>
<th>Post-SB247</th>
<th>% Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tree Trimming</td>
<td>$102.57</td>
<td>$209.13</td>
<td>+104%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>($298.78 – High Bid)</td>
<td>(+191% High Bid)</td>
</tr>
</tbody>
</table>
Vegetation Management Program - Impact

VEGETATION MANAGEMENT (O&M) $M

Cost Drivers
Quantity Drivers
Planned
Actual $

Non-Planned Expenses


$14.0 $17.2 $16.2 $19.3 $23.7 $22.5

$26.9M $28.1M

Ongoing Costs

Board Finance & Audit Committee and Special SMUD Board of Directors Meeting

March 17, 2020
Line Work
Impact to SMUD – Lineworker Supply & Demand

➢ A substantial number of line work categories are increasing

➢ Unit cost vs. time and materials (T&E)

➢ Internal retention actions / communications

➢ Leadership implications
Line Work Categories – Customer Driven

**Commercial Development**
- Rule 15 & 16 customers and developers who have requested new or upgraded subdivisions, install lighting, residential projects and Service & Meter connections.

**Capacity Projects**
- Customer-driven Rule 15/16 Commercial Projects. These usually involving pole replacements, conductor upgrades, associated transformer upgrades, and/or substation upgrades.

**Residential Subdivision / Meter & Service**
- 3,285 Subdivision lots planned for 2020 with additional 5,700 in queue.
**Line Work Categories - System Hardening**

**Pole Replacement**
- Replacement of poles that have failed inspection and are not candidates for pole reinforcement. Planned quantities in 2020 are 1,200.

**Equipment Replacement**
- Replacement of failed or end-of-life system components, so that electrical service can be either restored or prevent a future outage.

**Cable Replacement**
- Installation of 360k circuit feet targeting worst performing circuits. Decreases future outages, repair costs, and customer impact.

**Supporting Services:**
- Inspections
- Rock Saw
- Boring
- Asphalt
- Concrete
- Landscape Repair
- Crane Services
- Traffic Control
- External Line Crews

March 17, 2020
Board Finance & Audit Committee and Special SMUD Board of Directors Meeting
## Internal Resources

<table>
<thead>
<tr>
<th>Position</th>
<th>Filled</th>
<th>Current Vacancies</th>
<th>Vacancy Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lineworkers</td>
<td>121</td>
<td>12</td>
<td>10%</td>
</tr>
<tr>
<td>Inspectors</td>
<td>21</td>
<td>6</td>
<td>29%</td>
</tr>
<tr>
<td>Supervisors</td>
<td>13</td>
<td>2</td>
<td>15%</td>
</tr>
<tr>
<td>Total</td>
<td>155</td>
<td>20</td>
<td>13%</td>
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</tbody>
</table>

Overtime is Running at 33%

*We plan between 20-25%*
# Summary of Impact – Line Work

## Line Work

<table>
<thead>
<tr>
<th>Category</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pole Replacement</td>
<td>~ $12k per Pole</td>
<td>~ $15.5k per Pole</td>
<td>~ $17k per Pole</td>
</tr>
<tr>
<td>Cable Replacement</td>
<td>$46 per Circuit Feet</td>
<td>$55k per Circuit Feet</td>
<td>$60k per Circuit Feet</td>
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</table>

## Unplanned Capital $M

<table>
<thead>
<tr>
<th>Category</th>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grid Line</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cable Replacement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increases</td>
<td></td>
<td></td>
</tr>
<tr>
<td>O&amp;M</td>
<td>$4.2M</td>
<td>$4.2M</td>
</tr>
<tr>
<td>Grid Line</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pole Replacement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increases</td>
<td></td>
<td></td>
</tr>
<tr>
<td>O&amp;M</td>
<td>$4.4M</td>
<td>$4.4M</td>
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</table>

**Total Unplanned Line Work Capital =** $8.6M $8.6M
Impact Summary

➢ 2020 O&M and Capital Cost Impacted:

➢ SB247 wage mandate
➢ Wildfire hardening
➢ New business work volume
➢ Constrained qualified IBEW lineworker and utility line clearance tree trimmer
  ➢ Line clearance tree trimmer (wage mandate / permanent)
  ➢ Lineworker (supply And demand / variable)

Increased Annual Costs

~ $30M
O&M

$9M
Capital
Questions & Comments