

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

SB247 Wildland Fire Prevention – Impact

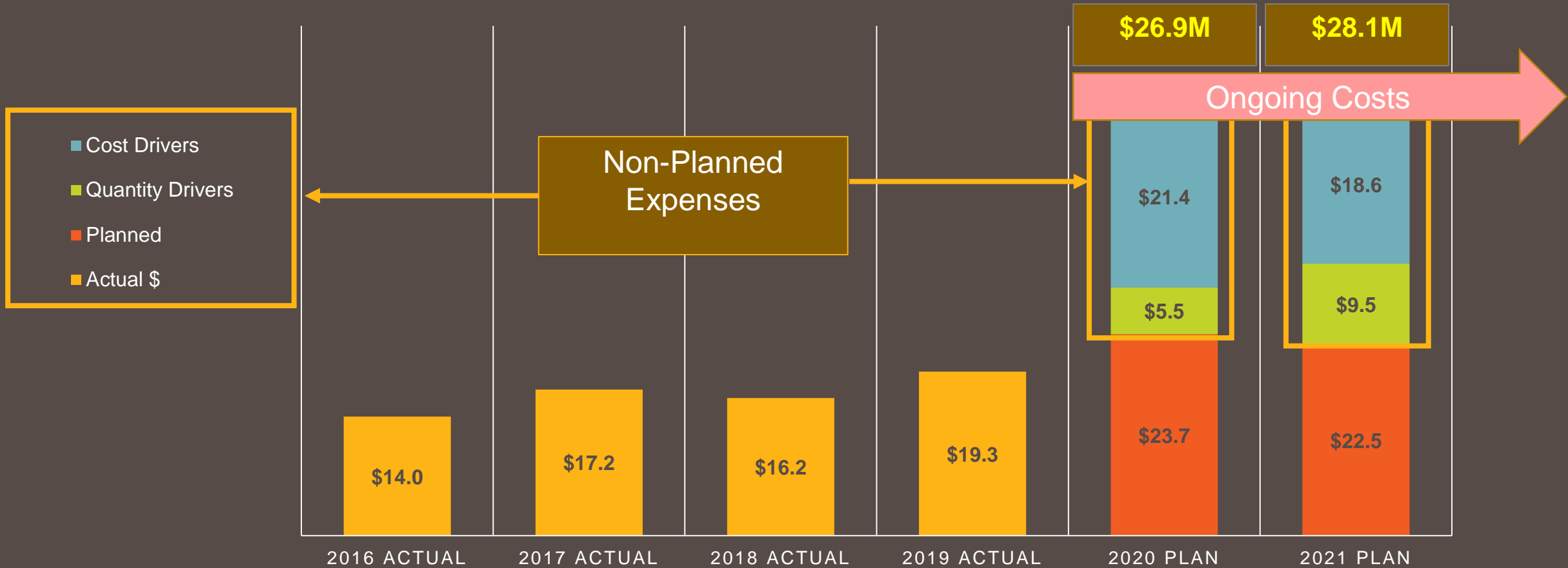
California is proactively making new laws to attract line clearance tree trimmers.

Hourly Rates			
	Pre-SB247	Post-SB247	% Increase
Tree Trimmer	\$32.85	\$59.50	+81%
Unit Cost Impact			
	Pre-SB247	Post-SB247	% Increase
Tree Trimming	\$102.57	\$209.13 (\$298.78 – High Bid)	+104% (+191% High Bid)

Vegetation Management Program - Impact

VEGETATION MANAGEMENT (O&M)

\$M



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

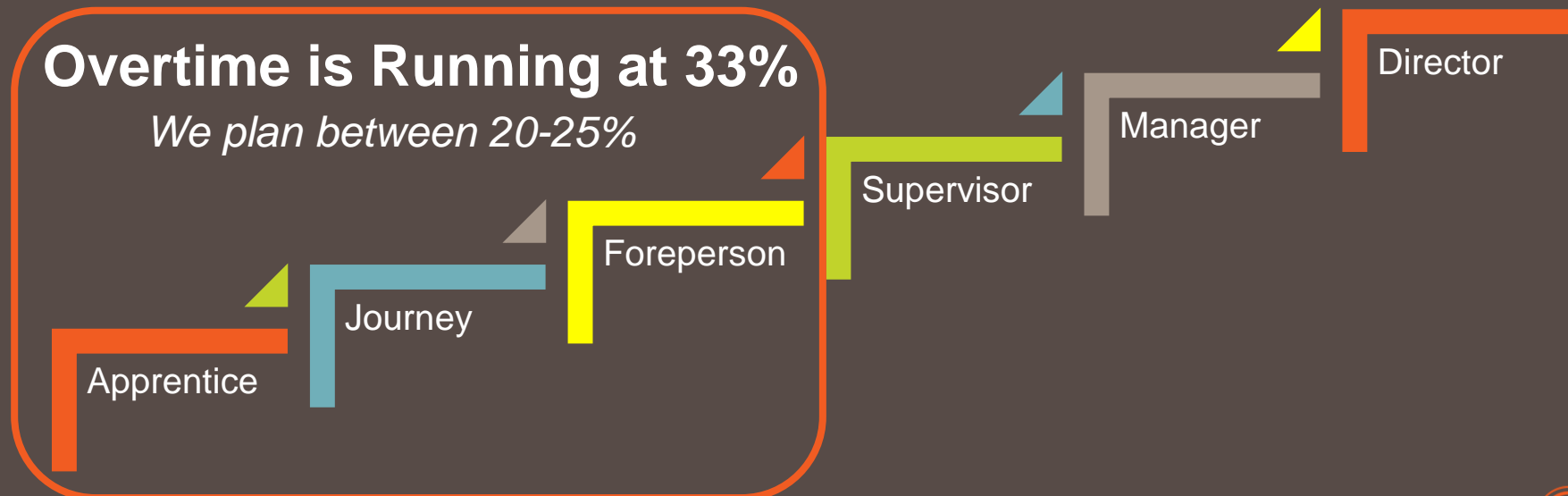
- Installation of 360k circuit feet targeting worst performing circuits. Decreases future outages, repair costs, and customer impact.

Supporting Services:

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

Internal Resources

Position	Filled	Current Vacancies	Vacancy Rate
Lineworkers	121	12	10%
Inspectors	21	6	29%
Supervisors	13	2	15%
Total =	155	20	13%



Summary of Impact – Line Work

Line Work			
Category	2018	2019	2020
Pole Replacement	~ \$12k per Pole	~ \$15.5k per Pole	~ \$17k per Pole
Cable Replacement	\$ 46 per Circuit Feet	\$ 55k per Circuit Feet	\$60k per Circuit Feet

Unplanned Capital \$M			2020	2021
Grid Line	Cable Replacement Increases	O&M	\$4.2M	\$4.2M
Grid Line	Pole Replacement Increases	O&M	\$4.4M	\$4.4M
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