

# Tacoma Power Budget Overview 2019/2020 Biennium

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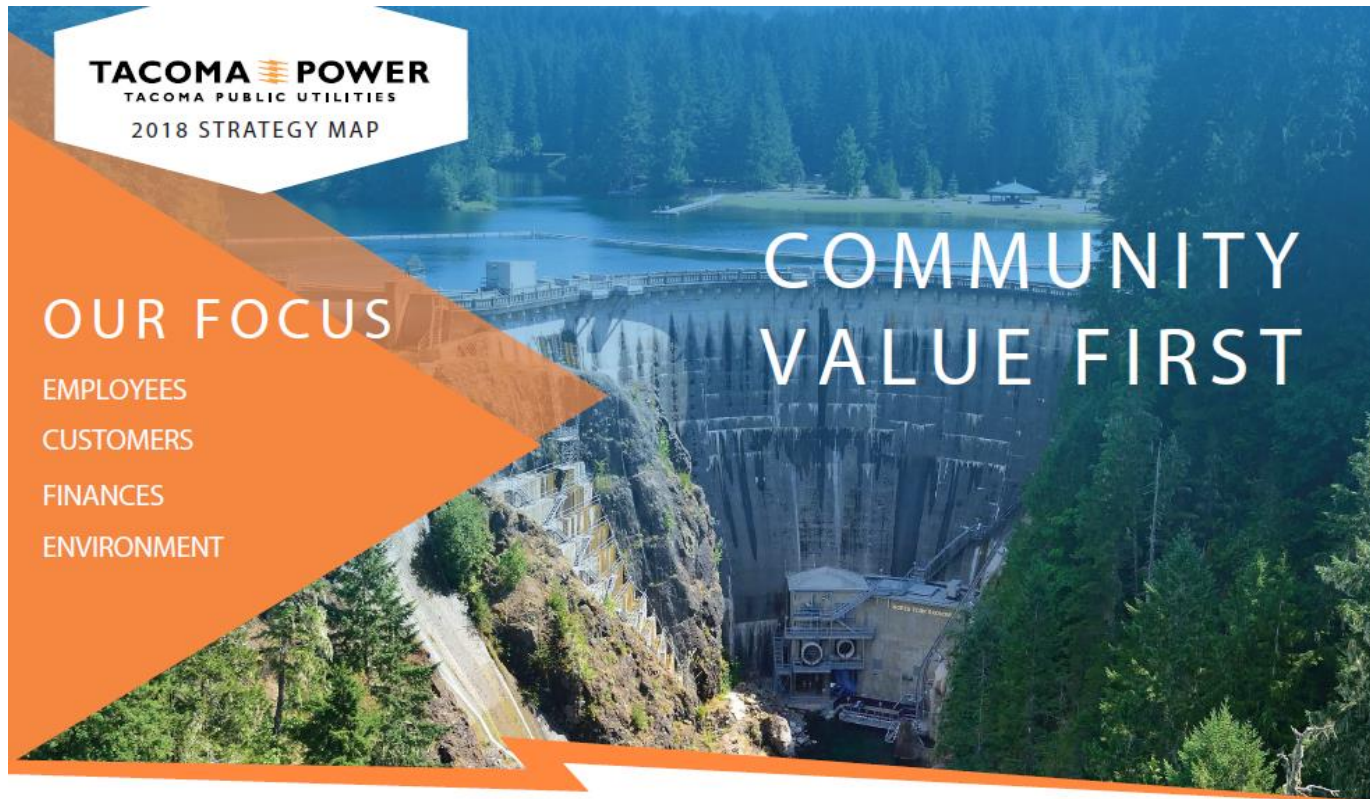
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# Tacoma Power Strategy



## TOP PRIORITIES NOW

Put Safety 100% First | Support Click! Network | Leadership Development  
Listen to our Community Leaders | Participate in New Market Opportunities

# STRATEGIC INITIATIVES

- **Listen to our Community & Customer Focus**
  - Develop a Strategic Communications Plan
  - Develop Digital Engagement Strategy and Roadmap
  - Develop Enhanced Outage Communications
  - AMI Implementation
- **Financial**
  - Modernize Wholesale Tools and Technologies
  - Pursue new Wholesale Products, Services and Customers
  - Implement Asset Management Roadmap
  - Stand up Construction Project PMO
- **Take care of our Environment**
  - Develop a Decarbonization Policy
  - Upgrade Tacoma's Street Lights
  - Evaluate Alternatives and Develop Transportation Electrification Proposals
  - Initiate Cowlitz Salmon Recovery and Restoration Program
- **Employee Focus**
  - Establish Safety Office
  - Develop TPU Administration Complex Master Plan

# BUDGET RISKS AND MITIGATION

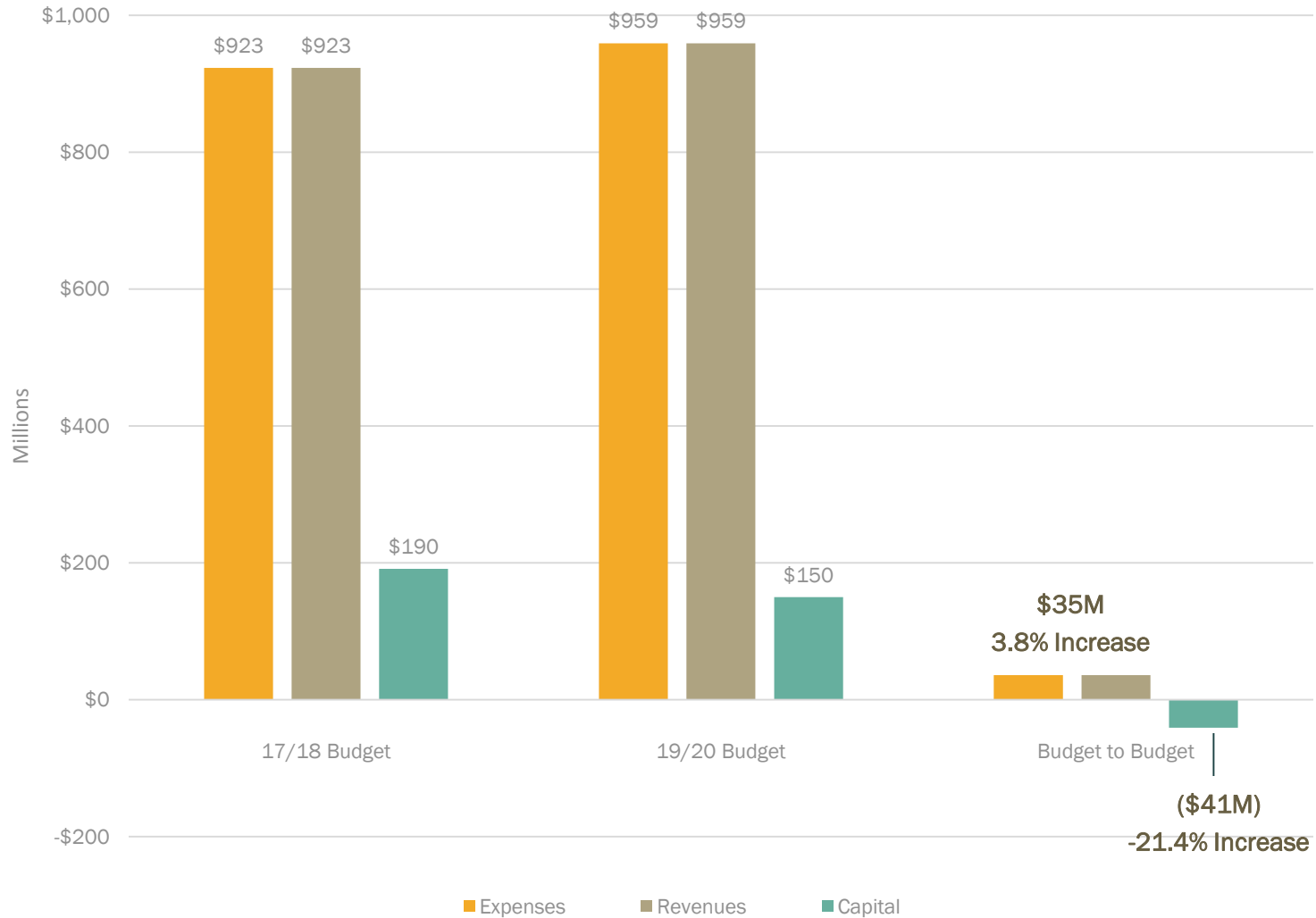
## Risks

- BPA Rate Increase
- Wholesale market power prices
- Weather
  - - Stream flows
  - - Temperature
- New/Expanded Regulatory Mandates

## Mitigation

- Adverse Water Planning
- Regular monitoring and reporting of revenue and expenses with adjustments as needed
- Wholesale Energy Risk Management program
- Use of Reserves
  - - Current Fund balance
  - - Rate Stabilization Fund
- Additional Financing
  - - Line of Credit in lieu of bond financing
- Additional Rate Adjustments

# BUDGET COMPARISONS

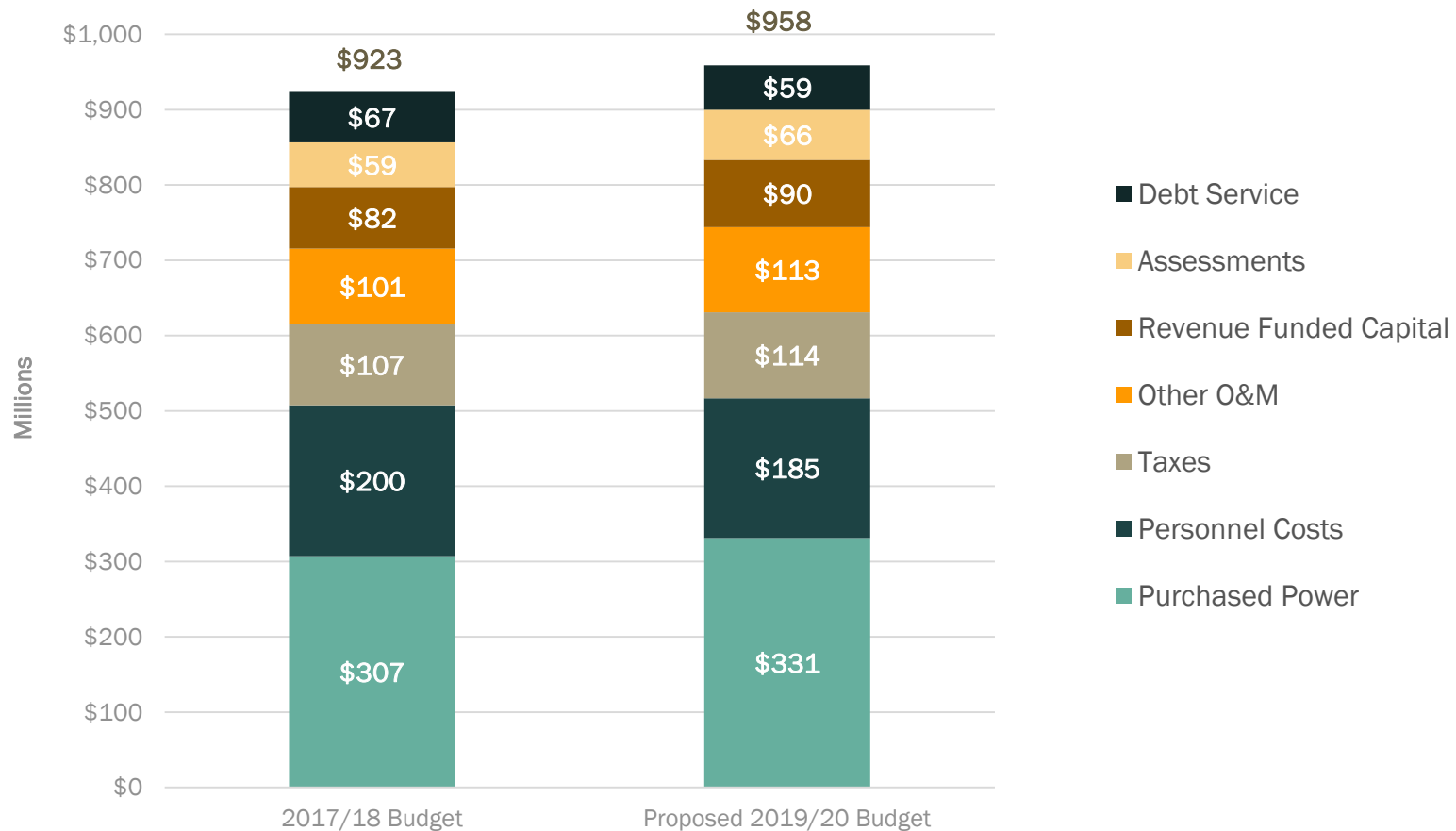


01

# Preliminary O&M Budget

- + *Purchased Power*
- + *Personnel*
- + *FTEs*
- + *Taxes*
- + *Other O&M*
- + *Revenue Funded Capital*
- + *Assessments*
- + *Capital Projects*

# 2019/20 Preliminary O&M Budget





## Preliminary O&M Budget

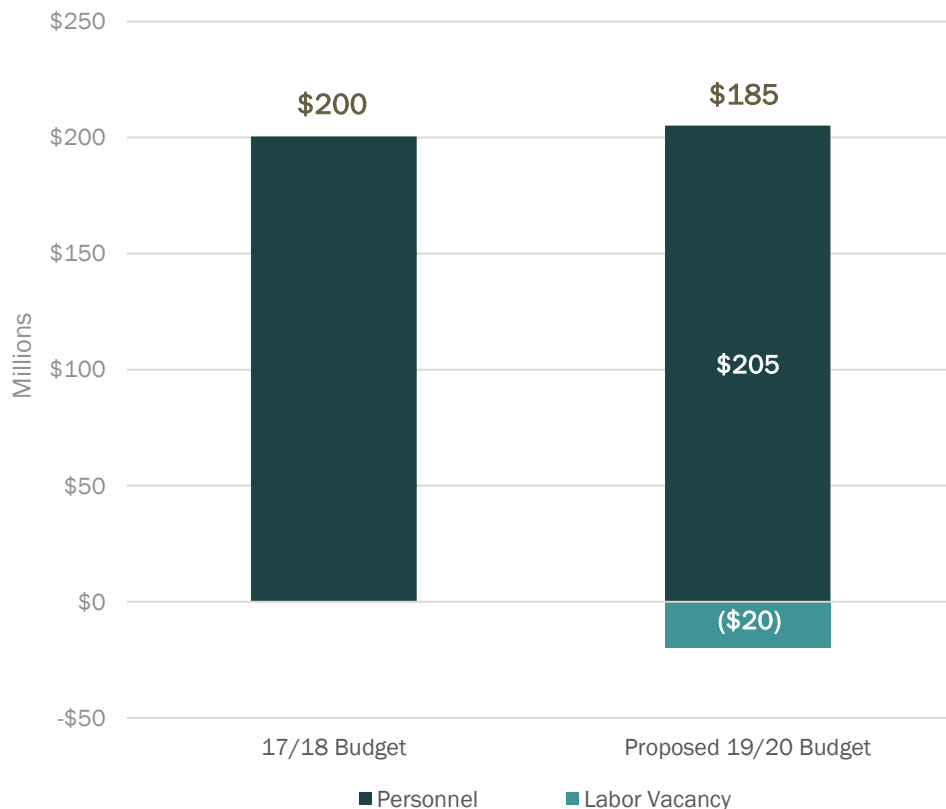
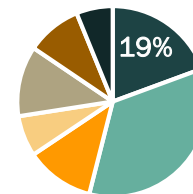
# Expense Components: Purchased Power

- Anticipating 4% BPA Power rate increase
- Anticipating 7% BPA Transmission rate increase
- New transmission purchases for wholesale sales into CA markets
- RPS compliance requirement increases REC's increase from 9% to 15% in 2020

| Purchased Power              | 17/18 Budget         | 19/20 Budget         | Budget to Budget    | % Change    |
|------------------------------|----------------------|----------------------|---------------------|-------------|
| BPA Power                    | \$235,019,650        | \$244,745,737        | \$9,726,087         | 4.1%        |
| BPA Transmission             | 36,851,686           | 46,617,820           | 9,766,134           | 26.5%       |
| Other Power Contract Costs   | 13,140,208           | 15,030,651           | 1,890,443           | 14.4%       |
| Portfolio Purchases          | 18,257,989           | 17,729,860           | (528,129)           | -2.9%       |
| RECs                         | 3,807,504            | 7,166,866            | 3,359,362           | 88.2%       |
| <b>Total Purchased Power</b> | <b>\$307,077,037</b> | <b>\$331,290,934</b> | <b>\$24,213,897</b> | <b>7.9%</b> |

## Preliminary O&M Budget

# Expense Components: Personnel



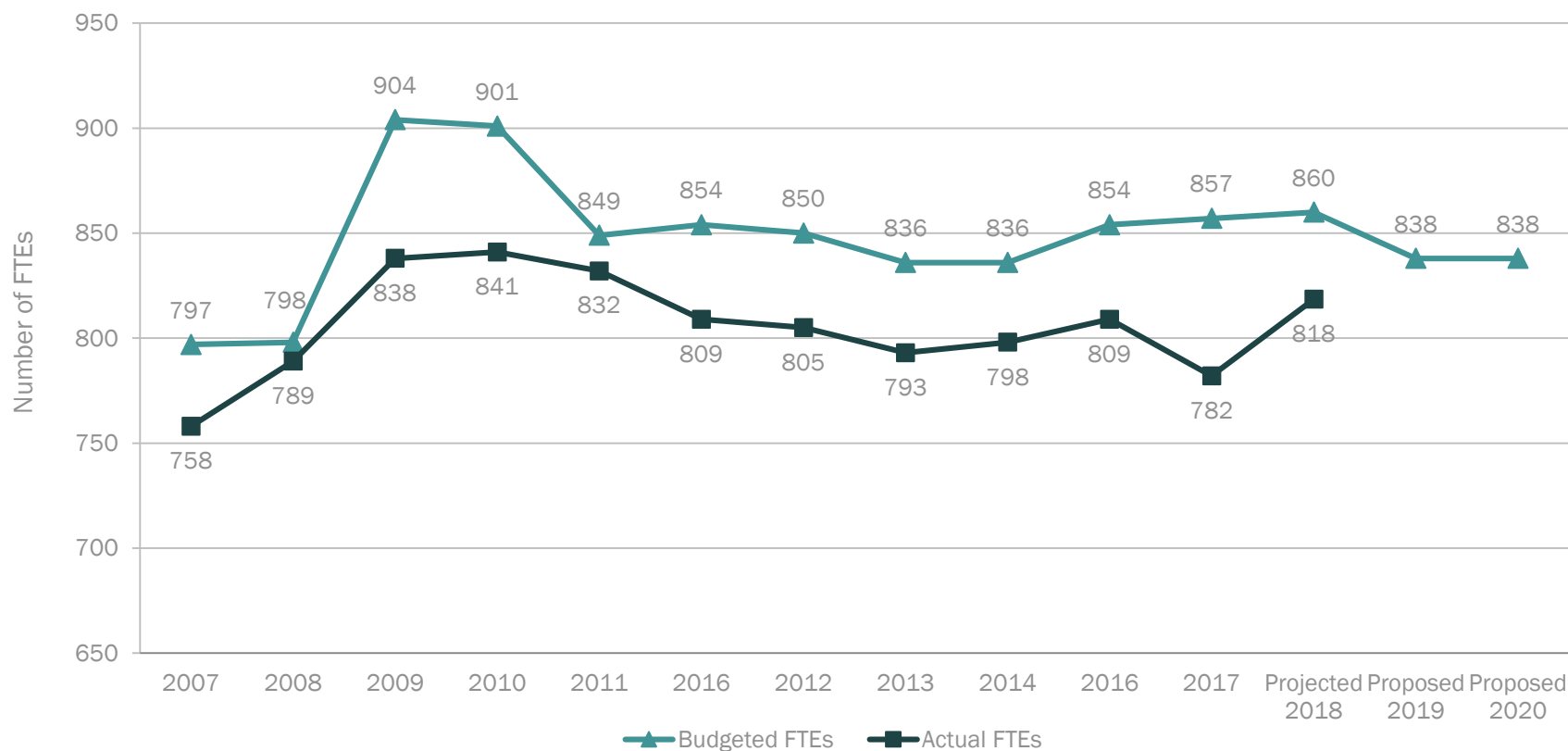
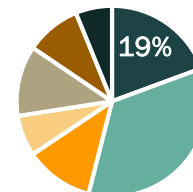
## Personnel Reductions

- Assumed 8% Vacancy Rate ~(\$20M) for 19/20 budget and Revenue Requirement (RR)
- ~(\$10M) Vacancy Rate only assumed for 17/18 RR
- 19/20 budget lower than 17/18 budget by (\$15M)
- Overall reduction of approximately (20) FTEs for 19/20

**Biennial Decrease: -7.5%**

## Preliminary O&M Budget

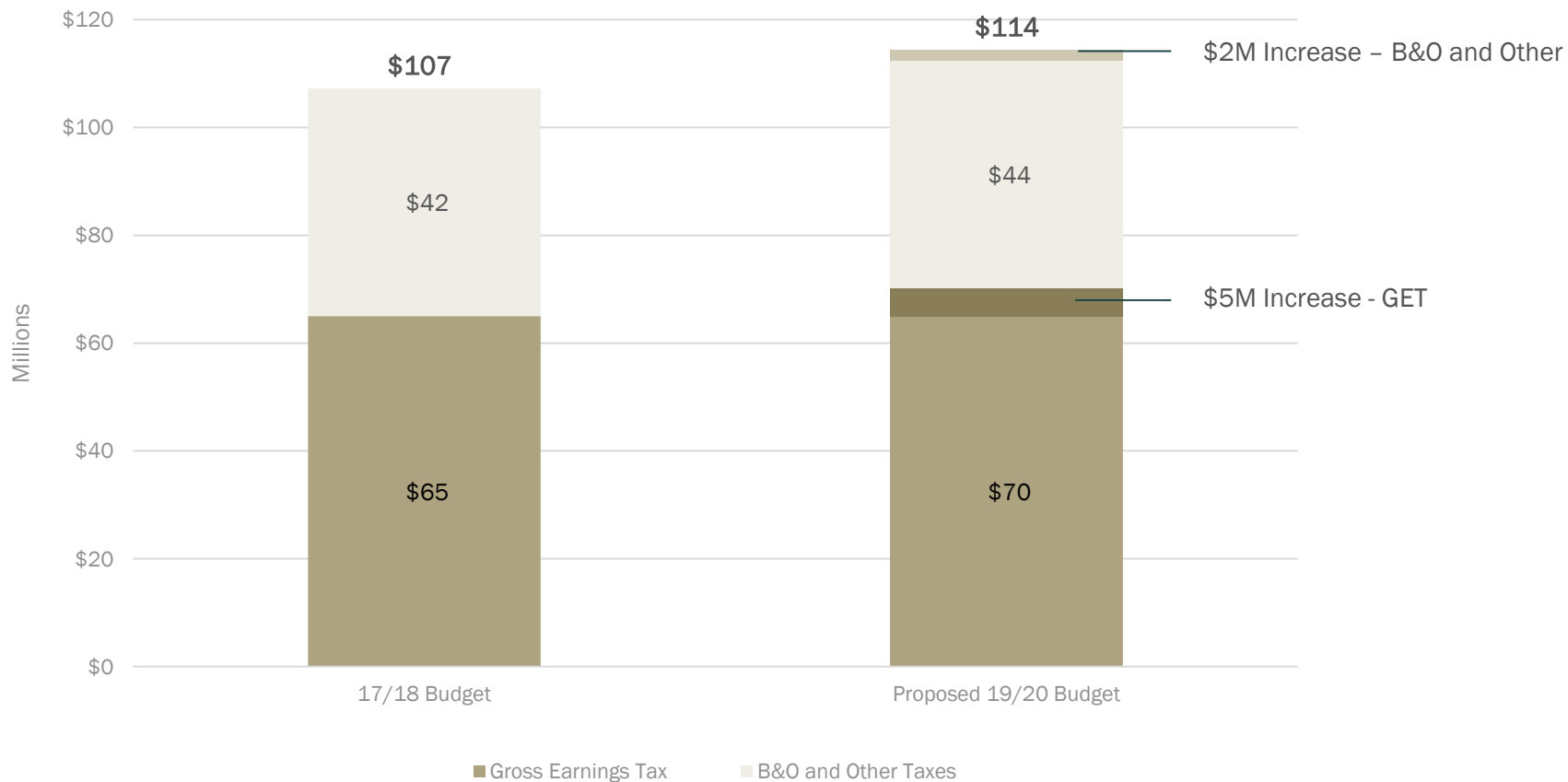
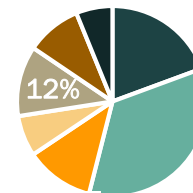
# Expense Components: FTEs



- 8% Vacancy Rate over last 7 years
- (\$19.7 million) vacancy rate included in 2019/20 budget

## Preliminary O&M Budget

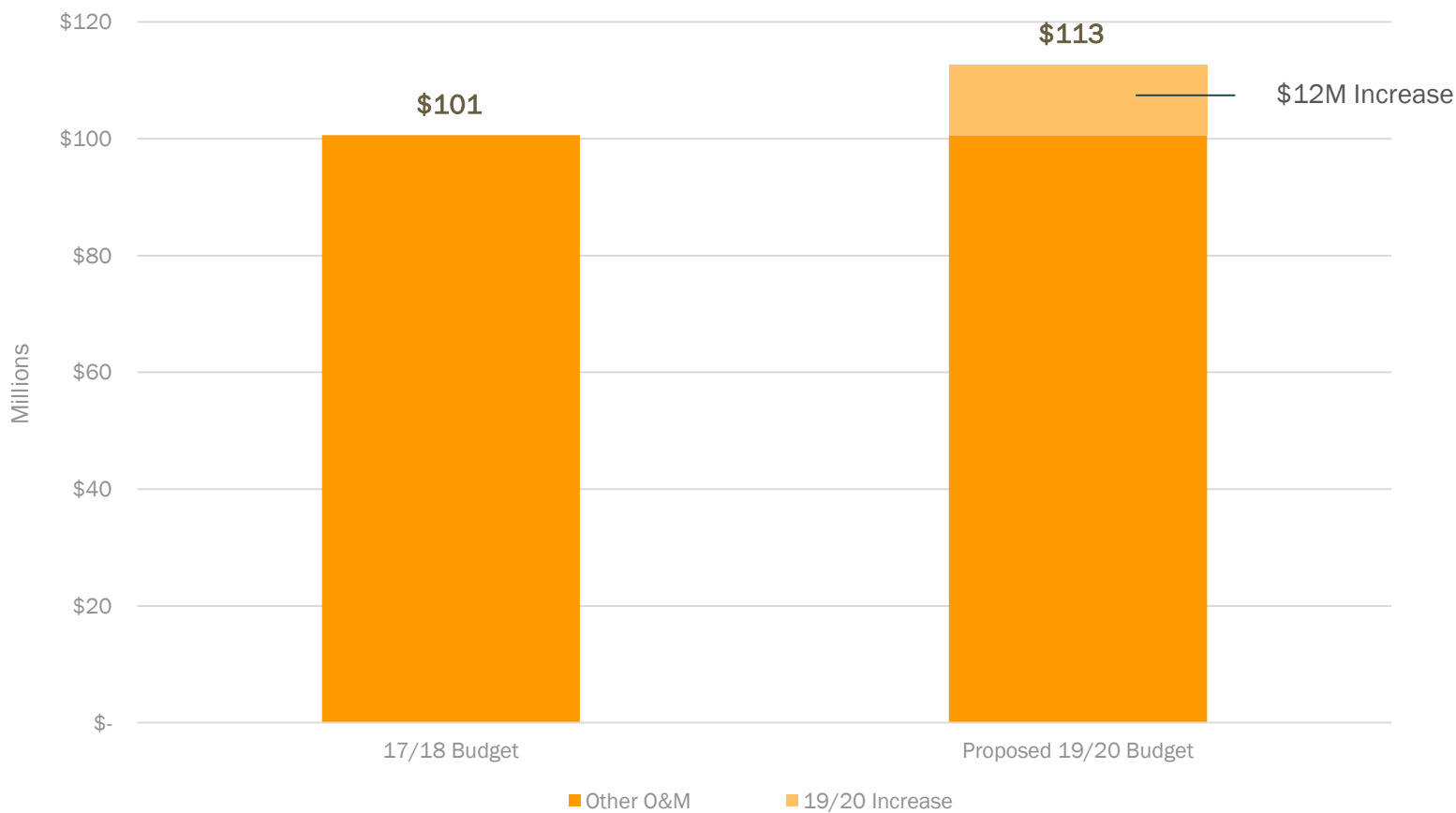
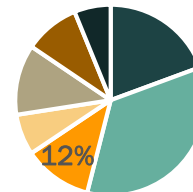
# Expense Components: Taxes



**Biennial Increase: 6.7%**

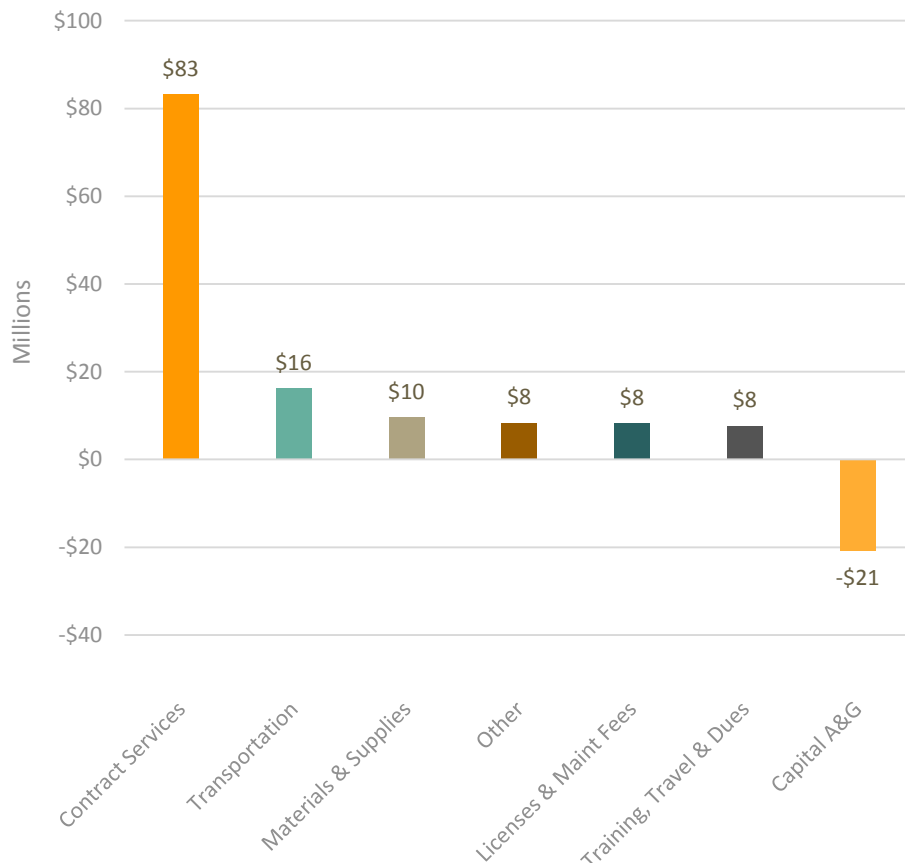
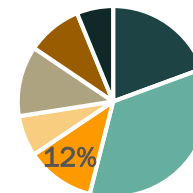
## Preliminary O&M Budget

# Expense Components: Other O&M



**Biennial Increase: 12%**

# Other O&M



## Notable Cost Drivers

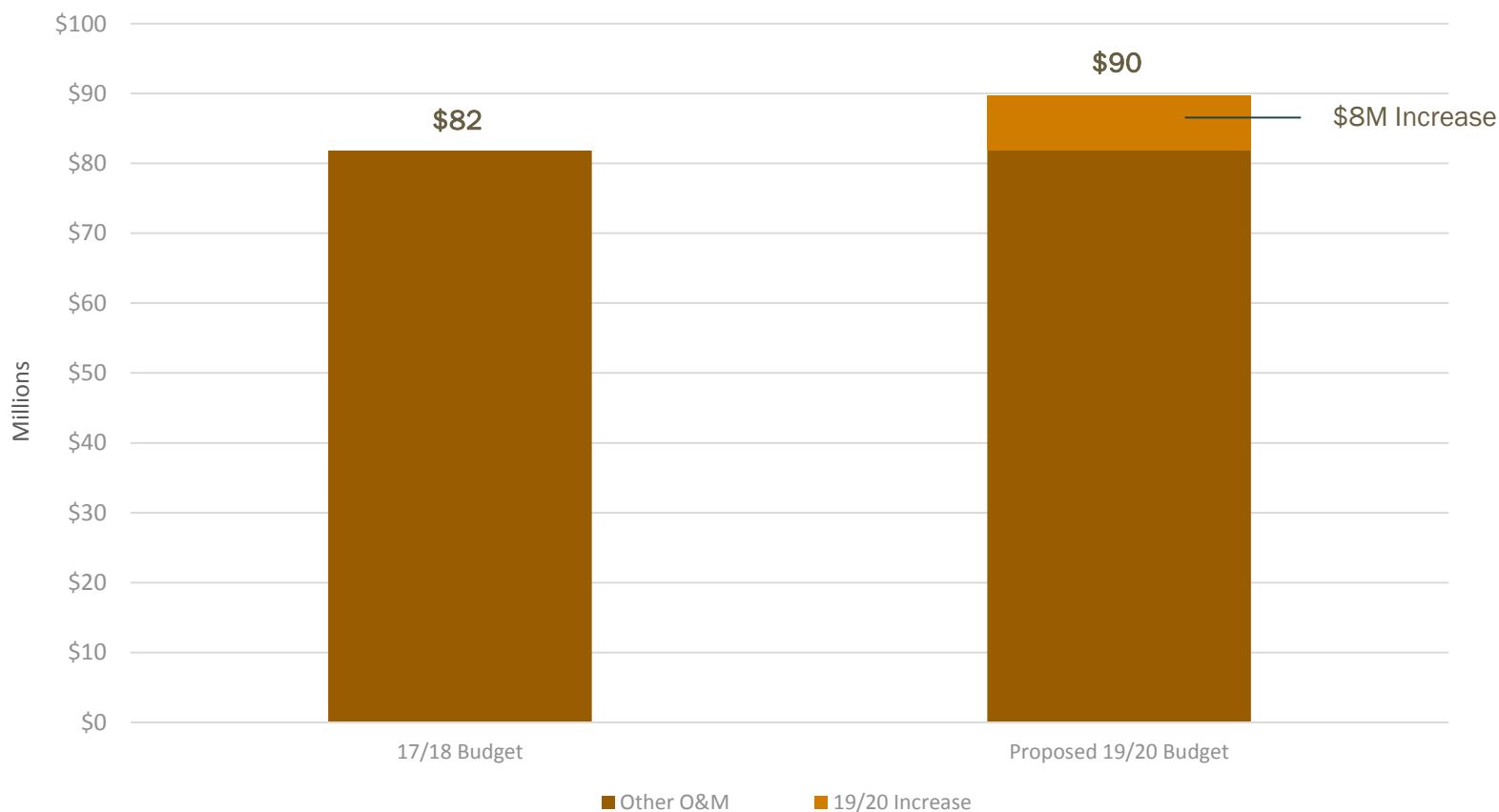
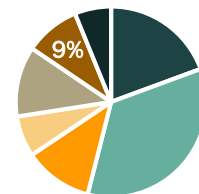
19/20  
Increase

- Cowlitz Salmon Hatchery Barrier Dam Repair \$4M
- Software Licensing & Maintenance \$2M
- Facilities Improvements \$2M
- Technology Consultants \$2M
- AMI \$1M
- Cybersecurity \$1M

**Biennial Increase: 12%**

## Preliminary O&M Budget

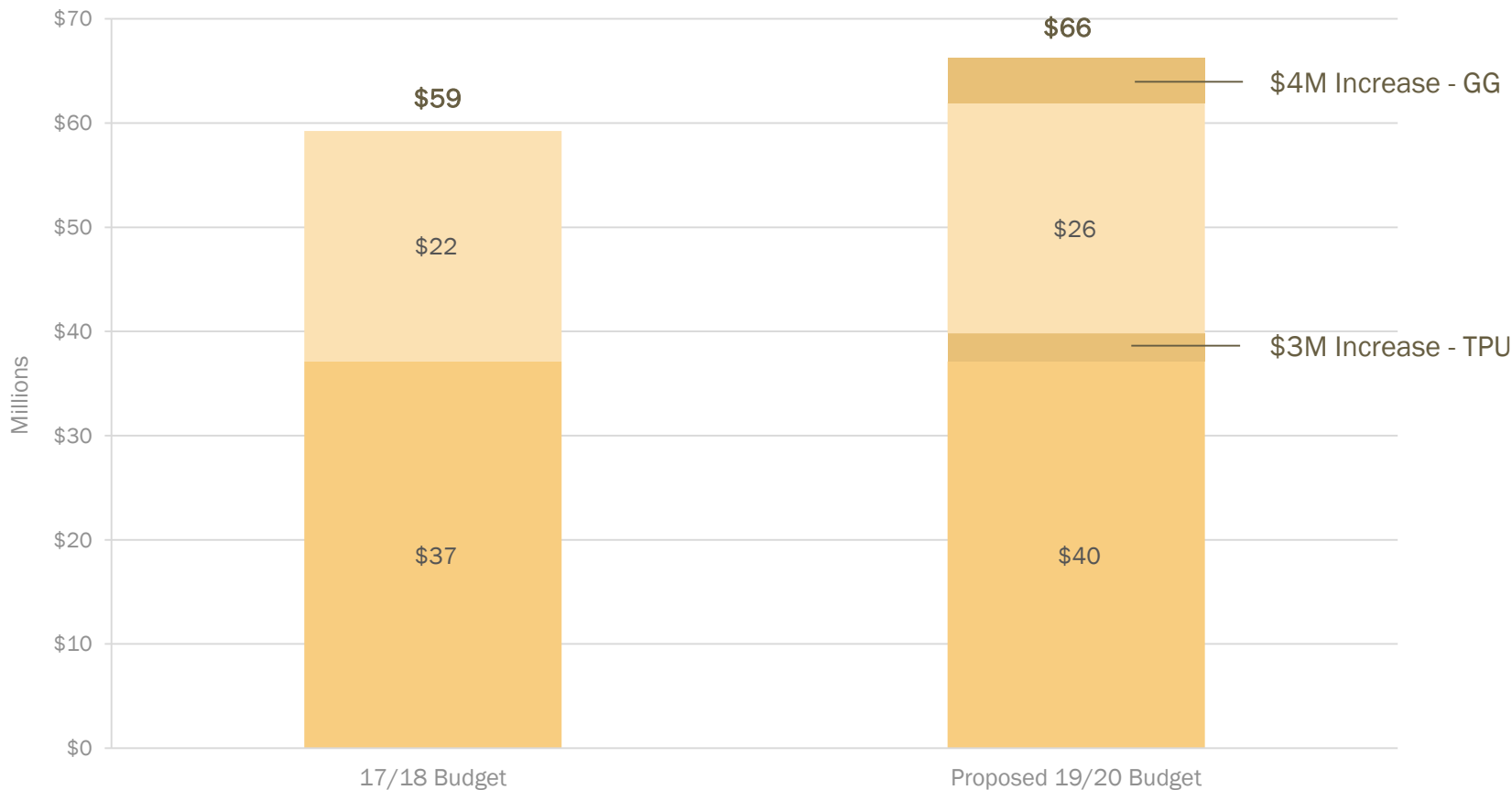
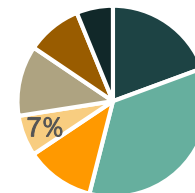
# Expense Components: Revenue Funded Capital



**Biennial Increase: 9.6%**

## Preliminary O&M Budget

# Expense Components: Assessments



**Biennial Increase: 11.9%**

TPU Assessments

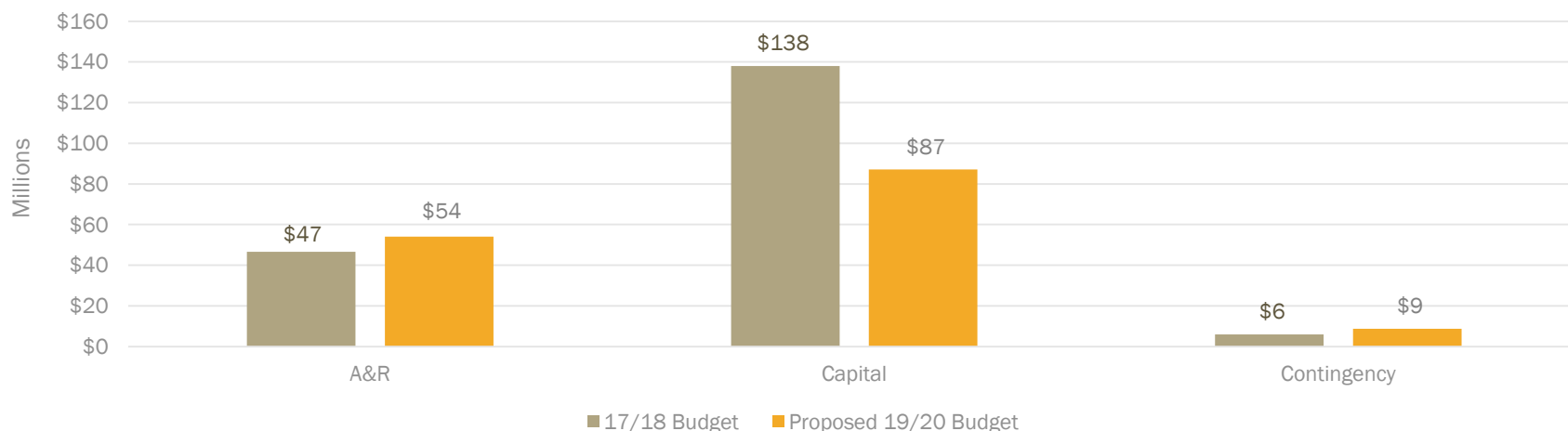
GG Assessments



## Preliminary O&M Budget

# Capital Projects

## Capital Portfolio Overview



| Major Project Categories                  | 19/20 Budget         | % of Capital Budget | Change from 17/18     |
|---|----------------------|---------------------|-----------------------|
| Advanced Metering Infrastructure (AMI)*   | \$24,325,000         | 16%                 | \$20,780,000          |
| Aging Infrastructure/Reliability Upgrades | 20,090,000           | 14%                 | (10,728,000)          |
| Technology                                | 16,729,000           | 11%                 | (16,234,000)          |
| Regulatory                                | 14,713,000           | 10%                 | (13,624,000)          |
| Other Capital                             | 8,901,000            | 6%                  | (11,005,000)          |
| License Implementation                    | 7,447,000            | 5%                  | (18,907,000)          |
| Facilities Improvements                   | 3,531,000            | 2%                  | 1,521,000             |
| Additions & Replacements                  | 53,987,000           | 36%                 | 7,446,000             |
| <b>TOTAL</b>                              | <b>\$149,723,000</b> |                     | <b>(\$40,751,000)</b> |

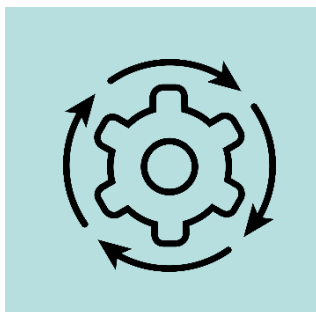
\*Power only portion

## Preliminary O&M Budget

# Efficiencies – Revenue/Financial



Resourcing



Operations



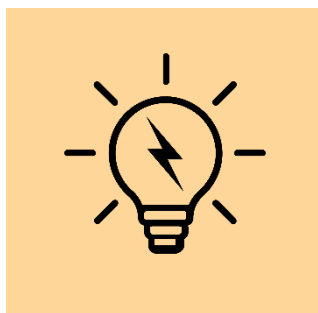
Streamlining



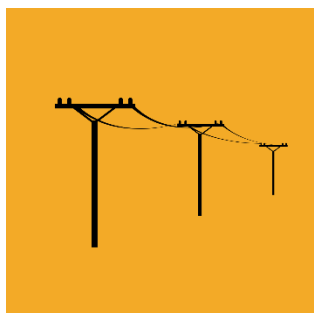
Technology

### Efficiencies

### Revenue/Financial



Innovative Wholesale  
Products & Service



Pole Rental



Active Debt  
Management

*In response to 6/27 Board Study Session question from Board Member Larkin (ACTION ITEM 26)*

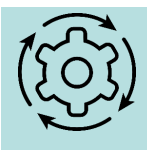
## Preliminary O&M Budget

# Efficiencies



### Resourcing/Staffing

- Consolidation of work groups with transferable skills and related responsibilities
- Use of contractors during peak seasons



### Operations/Planning

- Hydro Operations Optimization – Power Management and Maintenance meet quarterly to plan for two years



### Streamlining

- Tacoma Power took over operation of the Cowlitz Falls fish facility from the WDFW to reduce costs and improve coordination with the adjacent fish collector



### Technology

- Use of unmanned Aircraft System provides aerial imagery of TPU locations and reduces risks to employees, physical assets, the environment and our customers

## Preliminary O&M Budget

# Revenue/Financial



### Innovative Wholesale Products & Services

- Increased sales of non-traditional products such as Low-Carbon Asset Controlling Supplier (ACS) power, Capacity, Frequency Response
- Leverage of recent role as a Scheduling Coordinator to transact directly with the California ISO (CAISO)

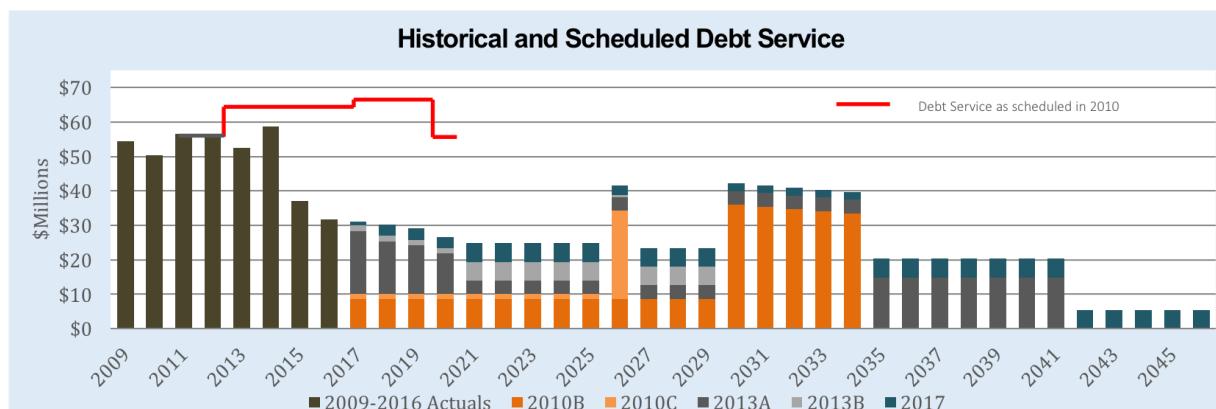


### Pole Rental

- Due to PUB approved rate adjustments, pole maintenance costs shared more equitably with pole attachment partners (approx. \$450,000-\$1,000,000 annually in pole rental revenue).



### Debt Restructuring



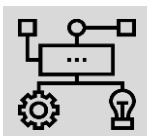
## Preliminary O&M Budget

# Long Term Investments to Deliver Value



### Asset Management

- Data-driven asset spending decisions to get the most value from our assets
- Whole life cost analysis – evaluating the total cost over the life of the asset to make sure it's as low as possible
- Standardized, repeatable processes to support knowledge transfer and efficiency improvements



### Stand-up Construction PMO

- Standardized project data, project performance, benefits realization
- Improved project risk management
- Better project development and decision-making



### AMI Implementation

- Customer engagement and digital services enhancement
- Improve the ability to anticipate, detect and respond to system disturbances and outages
- Optimize asset utilization and operate more efficiently

02

## Preliminary Revenue Budget

- + *Retail Revenue*
- + *Wholesale Revenue*
- + *Click! Revenue*

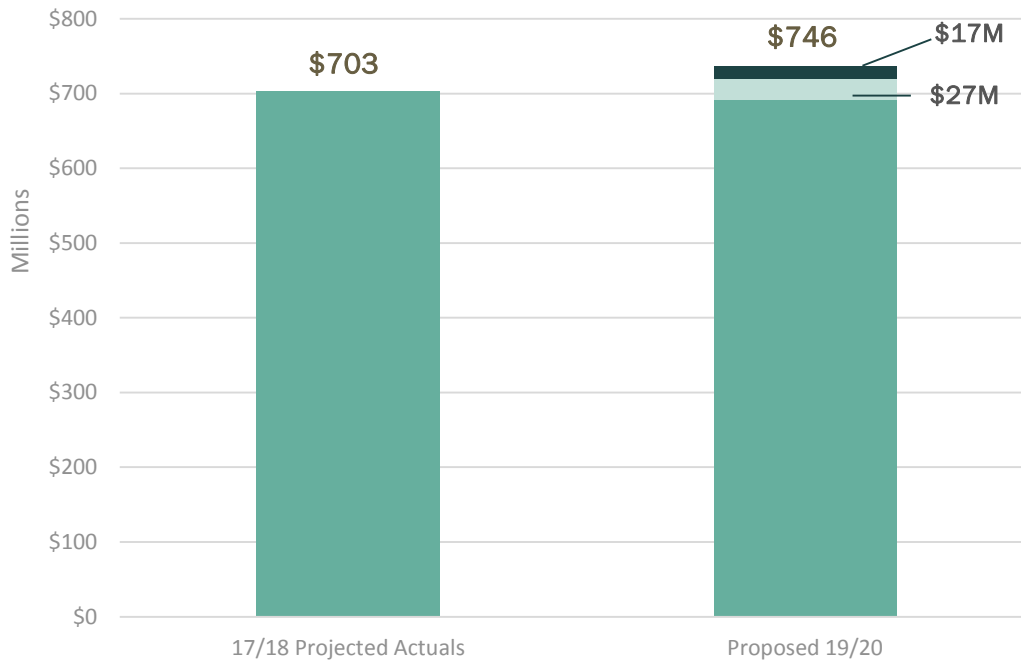
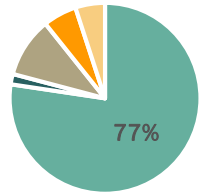
# 2019/20 Preliminary Revenue Budget



**Biennial Increase: 7.3%**

## Preliminary Revenue Budget

# Revenue Components: Retail Revenue



- 19/20 Retail Revenue budget is \$55M more than the 17/18 Budget
- 19/20 budget increase is due to compounded 5.9% rate increases from 17/18
- Assumes a 2% rate increase on April 1, 2019 and April 1, 2020
- Retail load is anticipated to remain flat

■ 17/18 Projected Actuals\* ■ Proposed 19/20 Budget ■ 5.9% Rate Increases ■ 2% Rate Increase

\*includes projection for last part of 17/18

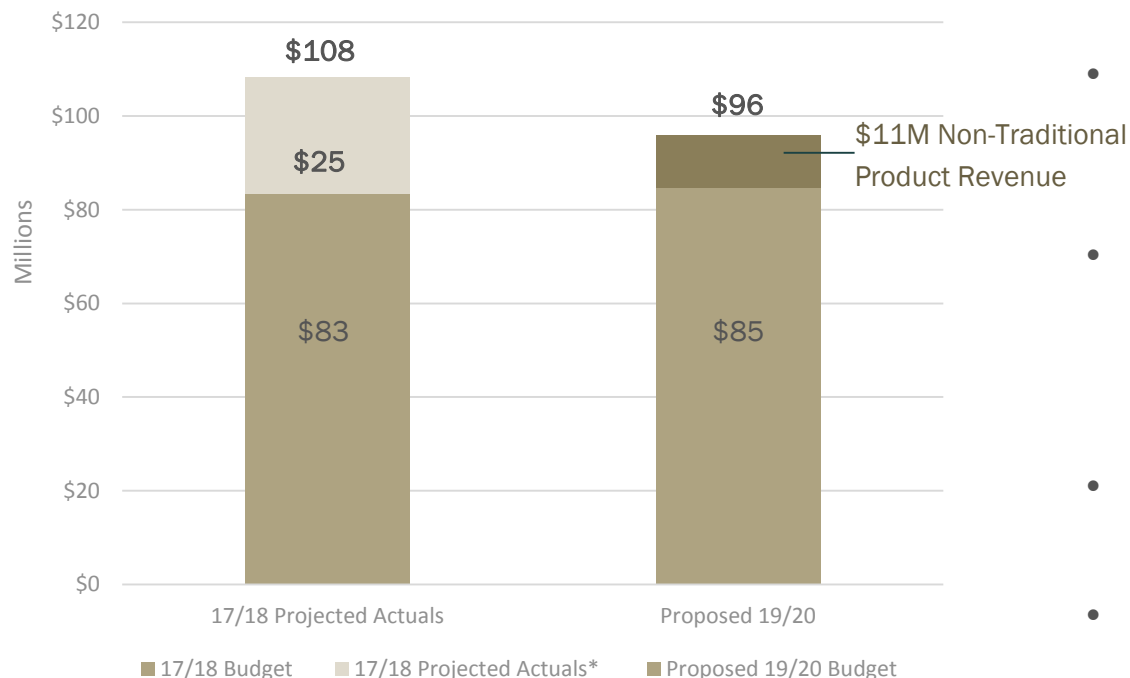
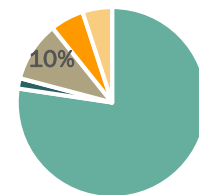
### Biennial Increase: 7.9%

| Retail Revenue | 17/18 Budget  | Proj Actuals 17/18 | 19/20 Budget  | Budget to Budget |
|----------------|---------------|--------------------|---------------|------------------|
|                | \$692,116,983 | \$702,529,504      | \$746,470,691 | \$54,353,708     |



## Preliminary Revenue Budget

# Revenue Components: Wholesale Revenue



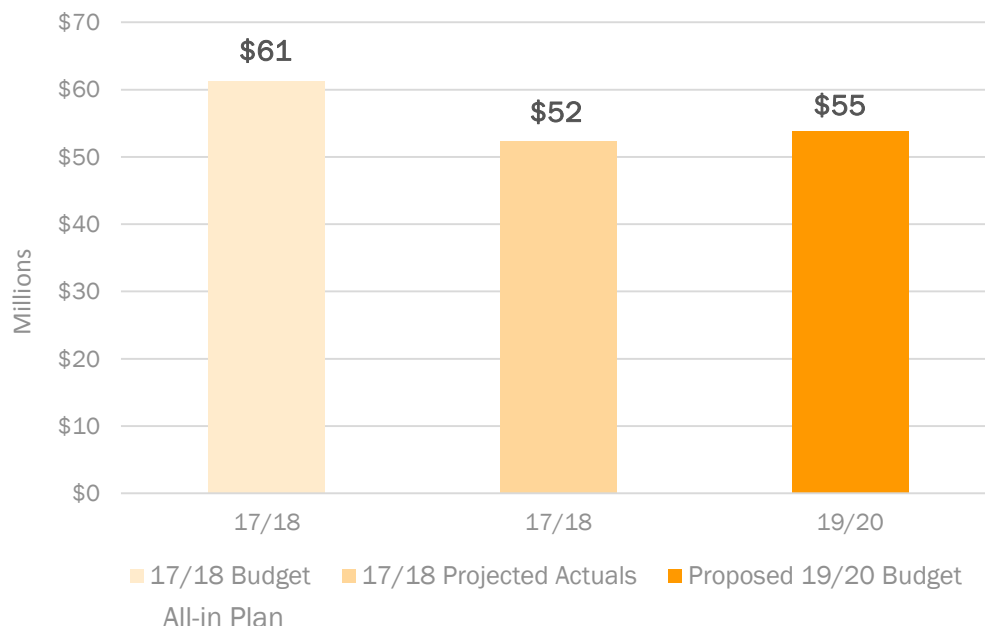
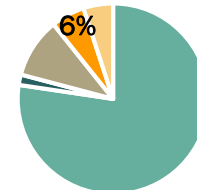
- Actual 17/18 Wholesale revenue expected to be \$25M more than budgeted
- Increase in 17/18 actual revenue due to increased sales of non-traditional products and average water conditions
- 19/20 budget is \$13M more than the 17/18 Budget
- Increased presence in the CA market contributing to more revenue

### Biennial Increase: 14.9%

| Wholesale Revenue | 17/18 Budget | Proj Actuals 17/18 | 19/20 Budget | Budget to Budget | % Change |
|-------------------|--------------|--------------------|--------------|------------------|----------|
| Dollars           | \$83,390,186 | \$108,337,972      | \$95,840,208 | \$12,450,022     | 14.9%    |
| aMW               | 202.0        | 283.0              | 211.3        | 9.3              | 4.6%     |
| \$/MWh            | \$23.56      | \$21.85            | \$25.89      | \$2.33           | 9.9%     |

## Preliminary Revenue Budget

# Revenue Components: Click! Revenue



- Assumes cable rate increases of 9.8% in 2019 and 18% in 2020
- Assumes \$5 increase per ISP package for both 2019 and 2020

### Biennial Decrease: -10.7%

| Click! Revenue              | 17/18 Budget         | Proj Actuals 17/18   | 19/20 Budget         | Budget to Budget      |
|-----------------------------|----------------------|----------------------|----------------------|-----------------------|
| Cable                       | \$ 38,786,871        | \$ 33,945,402        | \$ 32,758,843        | \$ (6,028,028)        |
| Broadband                   | 2,411,528            | 2,202,774            | 2,446,773            | 35,245                |
| Internet                    | 12,625,245           | 14,991,014           | 18,427,102           | 5,801,857             |
| Miscellaneous               | 7,475,922            | 1,239,801            | 1,099,537            | (6,376,385)           |
| <b>Total Click! Revenue</b> | <b>\$ 61,299,566</b> | <b>\$ 52,378,991</b> | <b>\$ 54,732,255</b> | <b>\$ (6,567,311)</b> |

Retail Revenue

Wholesale Revenue

Click! Revenue

# BUDGET SUMMARY

- 3.8% Increase for 19/20 budget
- Budget supports our strategic plan and operational needs in 19/20
- FTEs are down overall
- Largest budget drivers are non-discretionary
  - Purchased Power
  - Taxes
  - Assessments
- Short-term and Long-term efforts to manage costs and revenue requirement
  - Wholesale Revenues
  - Debt restructuring
  - Vacancy Rate
  - Revenue requirement based on historical spending
  - Asset Management and Project Management Office

# REVENUE

| (\$ millions)                              | Current          |                 | Proposed        | Increase (Decrease) |               | Increase (Decrease) |               |
|--|------------------|-----------------|-----------------|---------------------|---------------|---------------------|---------------|
|  | 17/18<br>Actuals | 17/18<br>Budget | 19/20<br>Budget | Budget to Actuals   |               | Budget to Budget    |               |
| <b>Operating Revenue</b>                   |                  |                 |                 |                     |               |                     |               |
| • Retail Sales                             | \$ 699.6         | \$ 648.9        | \$ 729.9        | \$ 30.3             | 4.3%          | \$ 81.0             | 12.5%         |
| • Anticipated Rate Increase                | -                | 43.2            | 16.5            | 16.5                | -             | (26.7)              | -61.7%        |
| <b>Total Retail Sales</b>                  | <b>\$ 699.6</b>  | <b>\$ 692.1</b> | <b>\$ 746.4</b> | <b>\$ 46.8</b>      | <b>6.7%</b>   | <b>\$ 54.3</b>      | <b>7.9%</b>   |
| • Wholesale Sales                          | 108.3            | 83.4            | 95.8            | (12.5)              | -11.5%        | 12.4                | 14.9%         |
| • Telecommunications                       | 52.4             | 61.3            | 54.7            | 2.3                 | 4.5%          | (6.6)               | -10.7%        |
| • Other                                    | 36.8             | 35.5            | 39.8            | 3.0                 | 8.1%          | 4.3                 | 12.0%         |
| <b>Total Operating Revenue</b>             | <b>\$ 897.1</b>  | <b>\$ 872.3</b> | <b>\$ 936.7</b> | <b>\$ 39.6</b>      | <b>4.4%</b>   | <b>\$ 64.4</b>      | <b>7.4%</b>   |
| <b>Non-operating Revenue</b>               | <b>15.4</b>      | <b>12.9</b>     | <b>12.9</b>     | <b>(2.5)</b>        | <b>-16.6%</b> | <b>-</b>            | <b>-</b>      |
| <b>Total Revenue</b>                       | <b>\$ 912.5</b>  | <b>\$ 885.2</b> | <b>\$ 949.6</b> | <b>\$ 37.1</b>      | <b>4.1%</b>   | <b>\$ 64.4</b>      | <b>7.3%</b>   |
| <b>Current Fund Appropriation</b>          | <b>9.8</b>       | <b>38.2</b>     | <b>9.2</b>      | <b>(0.6)</b>        | <b>-6.0%</b>  | <b>(29.0)</b>       | <b>-75.9%</b> |
| <b>Total Revenue &amp; Available Funds</b> | <b>\$ 922.3</b>  | <b>\$ 923.4</b> | <b>\$ 958.8</b> | <b>\$ 36.5</b>      | <b>4.0%</b>   | <b>\$ 35.4</b>      | <b>3.8%</b>   |

# EXPENSES

| (\$ millions)             | Current          |                 | Proposed        | Increase(Decrease) |             | Increase<br>(Decrease) |             |
|---------------------------|------------------|-----------------|-----------------|--------------------|-------------|------------------------|-------------|
|                           | 17/18<br>Actuals | 17/18<br>Budget | 19/20<br>Budget | Budget to Actuals  |             | Budget to Budget       |             |
| <b>Expenditures</b>       |                  |                 |                 |                    |             |                        |             |
| • Personnel Costs         | \$ 181.1         | \$ 200.5        | \$ 185.4        | \$ 4.3             | 2.4%        | (\$15.1)               | -7.5%       |
| • Purchased Power         | 300.0            | 307.1           | 331.3           | 31.3               | 10.4%       | 24.2                   | 7.9%        |
| • Other O&M               | 138.4            | 159.8           | 178.9           | 40.5               | 29.3%       | 19.1                   | 12.0%       |
| • Capital Outlay          | 103.5            | 81.8            | 89.7            | (13.8)             | -13.3%      | 7.9                    | 9.7%        |
| • Debt Service            | 61.9             | 67.0            | 59.1            | (2.8)              | -4.5%       | (7.9)                  | -11.8%      |
| • Taxes                   | 110.2            | 107.2           | 114.4           | 4.2                | 3.8%        | 7.2                    | 6.7%        |
| <b>Total Expenses</b>     | <b>\$ 895.1</b>  | <b>\$ 923.4</b> | <b>\$ 958.8</b> | <b>\$ 63.7</b>     | <b>7.1%</b> | <b>\$ 35.4</b>         | <b>3.8%</b> |
| • Debt Defeasance         | \$ 27.2          | -               | -               | \$(27.2)           | -           | -                      | -           |
| <b>Total Expenditures</b> | <b>\$ 922.3</b>  | <b>\$ 923.4</b> | <b>\$ 958.8</b> | <b>\$ 36.5</b>     | <b>4.0%</b> | <b>\$ 35.4</b>         | <b>3.8%</b> |

|                       |                 |                 |                 |                |              |                 |               |
|-----------------------|-----------------|-----------------|-----------------|----------------|--------------|-----------------|---------------|
| <b>Capital Outlay</b> |                 |                 |                 |                |              |                 |               |
| • Current Funded      | \$ 103.5        | \$ 81.8         | \$ 89.7         | (\$13.8)       | -13.3%       | \$ 7.9          | 9.6%          |
| • Debt Funded         | 20.0            | 108.6           | 60.0            | 40.0           | 200.3%       | (48.6)          | -44.7%        |
| <b>Total Capital</b>  | <b>\$ 123.5</b> | <b>\$ 190.4</b> | <b>\$ 149.7</b> | <b>\$ 26.3</b> | <b>21.3%</b> | <b>(\$40.7)</b> | <b>-21.4%</b> |

# CAPITAL BUDGET

|   | Current         | Proposed        | Increase (Decrease) |               |
|---|-----------------|-----------------|---------------------|---------------|
| (\$ millions)                               | 17/18<br>Budget | 19/20<br>Budget | Budget to Budget    |               |
| <b>Capital Projects</b>                     |                 |                 |                     |               |
| • AMI                                       | \$ 3.5          | \$ 24.3         | \$ 20.8             | 586.2%        |
| • Aging Infrastructure/Reliability Upgrades | 30.8            | 20.1            | (10.7)              | -34.8%        |
| • Technology Projects                       | 33.0            | 16.7            | (16.2)              | -49.2%        |
| • Regulatory                                | 28.3            | 14.7            | (13.6)              | -48.1%        |
| • Additions & Replacements                  | 46.5            | 54.0            | 7.4                 | 16.0%         |
| • Remaining Capital Projects                | 48.3            | 19.9            | (28.4)              | -58.8%        |
| <b>Total Capital Projects</b>               | <b>\$ 190.4</b> | <b>\$ 149.7</b> | <b>(\$40.7)</b>     | <b>-21.4%</b> |
| <b>Capital Funding Sources</b>              |                 |                 |                     |               |
| • Revenue Funded                            | \$81.8          | \$89.7          | \$7.8               | 9.6%          |
| • Debt Funded Bonds                         | 108.6           | 60.0            | -48.5               | -44.7%        |
| <b>Total Capital Funding Sources</b>        | <b>\$ 190.4</b> | <b>\$ 149.7</b> | <b>(\$40.7)</b>     | <b>-21.4%</b> |

# ASSESSMENTS

| (\$ millions)                    | Current         | Proposed        | Increase (Decrease) |              |
|----------------------------------|-----------------|-----------------|---------------------|--------------|
|                                  | 17/18<br>Budget | 19/20<br>Budget | Budget to Budget    |              |
| • IT                             | \$ 13.1         | \$ 14.1         | \$ 1.0              | 8.1%         |
| • HR                             | 2.7             | 4.0             | 1.3                 | 47.1%        |
| • Legal                          | 1.5             | 1.7             | 0.2                 | 13.3%        |
| • Finance                        | 3.5             | 5.2             | 1.7                 | 48.3%        |
| • Other                          | 1.3             | 1.4             | 0.1                 | 8.0%         |
| <b>Total GG Assessments</b>      | <b>\$ 22.1</b>  | <b>\$ 26.5</b>  | <b>\$ 4.4</b>       | <b>19.6%</b> |
| • Customer Services              | \$ 21.0         | \$ 23.1         | \$ 2.1              | 10.2%        |
| • Public Affairs & Communication | 9.1             | 8.8             | (0.3)               | -3.1%        |
| • Administration & Support       | 7.0             | 7.9             | 0.9                 | 11.9%        |
| <b>Total TPU Assessments</b>     | <b>\$ 37.1</b>  | <b>\$ 39.8</b>  | <b>\$ 2.7</b>       | <b>7.2%</b>  |
| <b>Total Assessments</b>         | <b>\$ 59.2</b>  | <b>\$ 66.3</b>  | <b>\$ 7.0</b>       | <b>11.9%</b> |

# TAXES

| (\$ millions)                            | Current         | Proposed        | Increase (Decrease) |             |
|--|-----------------|-----------------|---------------------|-------------|
|  | 17/18<br>Budget | 19/20<br>Budget | Budget to Budget    |             |
| • Taxes to the General Fund              | \$ 65.0         | \$ 70.2         | \$ 5.2              | 8.0%        |
| • State Utility Taxes                    | 28.4            | 30.2            | 1.8                 | 6.2%        |
| • Other Taxes (including Franchise Fees) | 13.7            | 14.0            | 0.3                 | 1.8%        |
| <b>Total Taxes</b>                       | <b>\$ 107.2</b> | <b>\$ 114.3</b> | <b>\$ 7.3</b>       | <b>6.7%</b> |



# APPENDIX - Efficiencies



## Resourcing

- + *We have a Power-wide contract in place for supplemental labor, allowing us to address peak season needs with seasonal workers and contractors.*
- + *Industrial automation allows for lean staffing at remote sites.*
- + *Leveraging our existing resources, we have managed to significantly increase our efforts to promote residential solar and address equity issues around solar. These efforts have also resulted in a considerable amount of research to support electrification of transportation.*
- + *Recently consolidated work groups with transferable skills and related responsibilities are fostering interdependence of specialized functions (e.g. Substation, Protection & Controls Engineering, Line Engineering & Standards) and are more capable of backing each other up. This has also been applied to administrative groups to increase coverage and internal backfill capability.*
- + *We have reduced Substation Operations staff (approx. savings of \$100,000/year).*

# APPENDIX - Efficiencies



## Operations

- + *Hydro Operations Optimization - Operations and Maintenance meet quarterly to plan and optimize the next two years of hydro operation.*
- + *Recent standardization of major hydro equipment reduces the cost of spares and training, as well as improves staff's ability to make changes and repairs. This is the first time in our history where the replacements were planned as a program across the fleet.*
- + *To-date, Tacoma Power has eliminated 21 vehicles from its fleet as a result of the recent Fleet study. In addition to the replacement costs saved, this also eliminates overhead and maintenance costs associated with those vehicles.*
- + *By increasing revenue through sales of non-traditional products, we have reduced the amount of revenue required from retail customers by \$8.7 million. Such products include selling Low-Carbon Asset Controlling Supplier (ACS) power, Operating Reserves, Capacity, and Frequency Response. We are also leveraging our recent role as a Scheduling Coordinator to transact directly with the California ISO (CAISO).*
- + *For interactions with CAISO, we were able to build an in-house reconciliation software tool which allowed us to avoid selection and use of a costly software alternative which would have likely cost hundreds of thousands of dollars per year.*
- + *By looking at the utility cost test, as well as the Total Resource Cost test, we are able to increase our focus on programs that cost customers less in their rates than other programs.*
- + *Review of asset failure data has allowed us to postpone direct buried cable replacement while we continue to install conduit using low-cost, horizontally-directional drilling methods. This practice reduces the street and sidewalk restoration needed (approx. savings of \$500,000/year).*

# APPENDIX - Efficiencies



## Operations, continued

- + *Asset Management is evaluating maintenance intervals to transition away from strictly time based maintenance, when appropriate. The philosophy is to do the right tasks at the right time to the right equipment. Generally, this is expected to lengthen maintenance intervals.*
- + *By acquiring vise-top insulators, we have expedited the ability to “clip-in” when installing a new conductor of replacing a pole.*
- + *Due to PUB approved rate adjustments, we are able to share pole maintenance costs more equitably with pole attachment partners (approx. \$450,000-\$1,000,000 annually in pole rental revenue).*
- + *We are reducing pole ownership costs by allowing wireless attachments to Transmission & Distribution poles with standardized fees, construction standards and personnel safety training.*
- + *After researching multiple Automatic Vehicle Location (AVL) systems, Fleet Services selected one which resulted in lower O&M costs for service. The new AVL also meets our need for satellite coverage for outlying areas, which will improve employee safety and provide more comprehensive engine diagnostics, thus improving maintenance planning.*
- + *We are planning to engage in more formal project management in 2019 with a narrower set of project managers to expedite learning and promote consistency.*
- + *By utilizing NWPP to develop training material, we are lowering the cost of continuous education training for our NERC Certified Dispatchers.*

# APPENDIX - Efficiencies



## Streamlining

- + *Creation of a new task order system for Natural Resource contracts reduces the number of contracts we must manage and provides better controls and flexibility.*
- + *In 2017, Tacoma Power took over from WDFW operation of the fish facility at Cowlitz Falls. This reduces costs and improves coordination and efficiency with the operation of the adjacent fish collector owned by Tacoma.*
- + *We are achieving administrative efficiencies through online permitting, online service disconnect/reconnect, and billing process changes.*
- + *Fleet Services is partnering with General Government Fleet on an Environmental Action Plan (EAP) to reduce our carbon footprint, with a focus on electrical vehicles and biodiesel. While increased fuel costs may result, the environmental costs and fleet maintenance costs are expected to be lower.*

# APPENDIX - Efficiencies



## Technology

- + *We introduced new IT technology, termed ‘virtualization’, into our automation systems to reduce the hardware and software maintenance costs. We are among the first industrial systems to do so.*
- + *We now AutoCAD Vault to manage civil engineering designs more efficiently.*
- + *Recent use of robotic survey instruments allows one survey crew member to perform a survey instead of multiple crew members.*
- + *Installation of remote cameras allows us to track recreational and wildlife uses.*
- + *As a result of the service integration approach to the SAP system hardware upgrade, we achieved labor savings in the form of developer hours, analyst hours and end-user testing hours. Had we used a point-to-point integration approach as we have in the past, we would have had impact analysis, coding and/or configuration changes, as well as end-user testing for three systems resulting in many hours of work.*
- + *The recent use of Small Unmanned Aircraft Systems (sUAS) to provide aerial imagery to Tacoma Public Utilities business units reduces risk to employees, physical assets, the environment and customers. Over the past year, UTS has provided 8 UAS flights resulting in substantial savings from reduced man-hours to capture necessary data, reduction in use of external contracts, and quicker response time (preventing delays to projects).*
- + *We are in the process of implementing Workforce Connect, a mobile workforce management system that will improve productivity and efficiency.*
- + *The new EMS system is improving operator system awareness, reliability and automating manual tasks. We are also configuring this system to eliminate the need for Peak RC’s hosted advanced applications for real-time assessments.*

**TACOMA PUBLIC UTILITY BOARD**

**2019 - 2020 BUDGET  
TACOMA POWER**

**Wednesday September 26, 2018  
3:00 p.m.  
TPU Conference Room Lt1**

**Tacoma Power**

|                                |      |
|--------------------------------|------|
| Recap of Biennial Budget ..... | 1    |
| Revenue .....                  | 2-3  |
| Division Consolidation .....   | 4    |
| Taxes .....                    | 5    |
| Debt Service .....             | 6    |
| Capital Outlay .....           | 7-12 |

| <b>Tacoma Power<br/>Recapitulation of Biennial Budget</b> | <b>2017-2018<br/>Budget</b> | <b>2019-2020<br/>Proposed<br/>Budget</b> | <b>2017-18 to 2019-20<br/>Budget Comparison</b> |  |
|---|-----------------------------|--|---|--|
|---|-----------------------------|--|---|--|

## **REVENUE**

### Operating Revenue

|                                |                    |                    |                   |             |
|--------------------------------|--------------------|--------------------|-------------------|-------------|
| Sales of Electric Energy       | \$ 732,280,506     | \$ 825,769,355     | \$ 93,488,848     | 12.8%       |
| Anticipated Additional Revenue | 43,226,663         | 16,541,545         | (26,685,118)      | -61.7%      |
| Other Electric Revenue         | 35,494,747         | 39,743,995         | 4,249,248         | 12.0%       |
| Telecommunications Revenue     | 61,299,566         | 54,732,255         | (6,567,311)       | -10.7%      |
| <b>Total Operating Revenue</b> | <b>872,301,482</b> | <b>936,787,150</b> | <b>64,485,668</b> | <b>7.4%</b> |

|                                 |            |            |              |        |
|---------------------------------|------------|------------|--------------|--------|
| Other Income                    | 12,922,473 | 12,864,759 | (57,714)     | -0.4%  |
| Appropriation from Fund Balance | 38,158,158 | 9,179,057  | (28,979,101) | -75.9% |

|  |                       |                       |                      |             |
|--|-----------------------|-----------------------|----------------------|-------------|
| <b>Total Revenue &amp; Available Funds</b> | <b>\$ 923,382,113</b> | <b>\$ 958,830,966</b> | <b>\$ 35,448,853</b> | <b>3.8%</b> |
|--|-----------------------|-----------------------|----------------------|-------------|

## **EXPENDITURES**

|  |                |                |                 |        |
|--|----------------|----------------|-----------------|--------|
| Personnel Costs                        | \$ 200,456,764 | \$ 185,415,658 | \$ (15,041,106) | -7.5%  |
| Supplies, Other Services & Charges     | 466,917,187    | 510,242,693    | 43,325,506      | 9.3%   |
| Taxes - Current Revenue Estimate       | 102,266,598    | 112,496,477    | 10,229,879      | 10.0%  |
| Taxes - Anticipated Additional Revenue | 4,916,341      | 1,881,336      | (3,035,005)     | -61.7% |
| Debt Service                           | 66,995,223     | 59,122,802     | (7,872,421)     | -11.8% |
| Capital Outlay                         | 81,830,000     | 89,672,000     | 7,842,000       | 9.6%   |

|                           |                       |                       |                      |             |
|---------------------------|-----------------------|-----------------------|----------------------|-------------|
| <b>Total Expenditures</b> | <b>\$ 923,382,113</b> | <b>\$ 958,830,966</b> | <b>\$ 35,448,853</b> | <b>3.8%</b> |
|---------------------------|-----------------------|-----------------------|----------------------|-------------|

## **CAPITAL OUTLAY FINANCING DETAIL**

|                            |               |               |              |        |
|----------------------------|---------------|---------------|--------------|--------|
| Funded from Operating Fund | \$ 81,830,000 | \$ 89,672,000 | \$ 7,842,000 | 9.6%   |
| Funded from New Bonds      | 108,644,000   | 60,051,000    | (48,593,000) | -44.7% |

|                             |                       |                       |                        |                |
|-----------------------------|-----------------------|-----------------------|------------------------|----------------|
| <b>Total Capital Outlay</b> | <b>\$ 190,474,000</b> | <b>\$ 149,723,000</b> | <b>\$ (40,751,000)</b> | <b>(21.4%)</b> |
|-----------------------------|-----------------------|-----------------------|------------------------|----------------|

**PERSONNEL - Budgeted FTE** **857.27 / 860.02** **838.28 / 838.28**

Prior years may have been reclassified or restated to reflect organizational changes.

| Tacoma Power Revenue | 2017-2018<br>Budget | 2019-2020<br>Proposed<br>Budget | 2017-18 to 2019-20<br>Budget Comparison |  |
|----------------------|---------------------|---------------------------------|---|--|
|----------------------|---------------------|---------------------------------|---|--|

#### **REVENUE SUMMARY**

|                                 |                    |                    |                   |             |
|---------------------------------|--------------------|--------------------|-------------------|-------------|
| Sales of Electric Energy        | \$732,280,506      | \$825,769,355      | \$93,488,848      | 12.8%       |
| Anticipated Additional Revenue  | 43,226,663         | 16,541,545         | (26,685,118)      | -61.7%      |
| Other Electric Revenue          | 35,494,747         | 39,743,995         | 4,249,248         | 12.0%       |
| Telecommunications Revenue      | 61,299,566         | 54,732,255         | (6,567,311)       | -10.7%      |
| <b>Total Operating Revenue</b>  | <b>872,301,482</b> | <b>936,787,150</b> | <b>64,485,668</b> | <b>7.4%</b> |
| Other Income                    | 12,922,473         | 12,864,759         | (57,714)          | -0.4%       |
| Appropriation from Fund Balance | 38,158,158         | 9,179,057          | (28,979,101)      | -75.9%      |

|  |                      |                      |                     |             |
|--|----------------------|----------------------|---------------------|-------------|
| <b>Total Revenue &amp; Available Funds</b> | <b>\$923,382,113</b> | <b>\$958,830,966</b> | <b>\$35,448,853</b> | <b>3.8%</b> |
|--|----------------------|----------------------|---------------------|-------------|

#### **REVENUE DETAIL**

##### **Sales of Electric Energy**

|                                   |                    |                    |                   |              |
|-----------------------------------|--------------------|--------------------|-------------------|--------------|
| Residential                       | \$314,653,878      | \$366,568,235      | \$51,914,357      | 16.5%        |
| Private Off-Street Lighting       | 2,543,906          | 3,061,854          | 517,948           | 20.4%        |
| Small General                     | 54,346,433         | 57,254,711         | 2,908,278         | 5.4%         |
| General                           | 195,825,501        | 208,176,072        | 12,350,571        | 6.3%         |
| High Voltage General              | 36,485,717         | 45,607,004         | 9,121,287         | 25.0%        |
| Contract Industrial - Firm        | 42,637,365         | 47,244,762         | 4,607,397         | 10.8%        |
| Street Lighting & Traffic Signals | 2,397,520          | 2,016,509          | (381,011)         | -15.9%       |
| <b>Total Retail Sales</b>         | <b>648,890,320</b> | <b>729,929,147</b> | <b>81,038,827</b> | <b>12.5%</b> |

##### **Other Sales**

|                                       |                    |                    |                   |              |
|---------------------------------------|--------------------|--------------------|-------------------|--------------|
| Bulk Power Sales                      | 83,390,186         | 95,840,208         | 12,450,022        | 14.9%        |
| <b>Total Other Sales</b>              | <b>83,390,186</b>  | <b>95,840,208</b>  | <b>12,450,022</b> | <b>14.9%</b> |
| Anticipated Additional Revenue        | 43,226,663         | 16,541,545         | (26,685,118)      | -61.7%       |
| <b>Total Sales of Electric Energy</b> | <b>775,507,169</b> | <b>842,310,900</b> | <b>66,803,731</b> | <b>8.6%</b>  |



| <b>Tacoma Power Revenue</b> | <b>2017-2018<br/>Budget</b> | <b>2019-2020<br/>Proposed<br/>Budget</b> | <b>2017-18 to 2019-20<br/>Budget Comparison</b> |  |
|-----------------------------|-----------------------------|--|---|--|
|-----------------------------|-----------------------------|--|---|--|

#### **Other Electric Revenue**

|                                     |                   |                   |                  |              |
|-------------------------------------|-------------------|-------------------|------------------|--------------|
| Rent from Electric Property         | 2,824,560         | 2,704,477         | (120,083)        | -4.3%        |
| Interdepartmental Rent              | 4,925,388         | 4,924,037         | (1,352)          | 0.0%         |
| Service Connection Fees             | 2,273,080         | 2,451,276         | 178,196          | 7.8%         |
| Green Power                         | 226,404           | 111,948           | (114,456)        | -50.6%       |
| Overhead on Work for Others         | 226,345           | 573,785           | 347,440          | 153.5%       |
| Late Payment Fees                   | 2,323,843         | 2,517,398         | 193,555          | 8.3%         |
| Income from Campgrounds             | 2,809,965         | 3,008,934         | 198,969          | 7.1%         |
| Wheeling                            | 19,856,880        | 23,374,353        | 3,517,473        | 17.7%        |
| Miscellaneous                       | 28,282            | 77,787            | 49,505           | 175.0%       |
| <b>Total Other Electric Revenue</b> | <b>35,494,747</b> | <b>39,743,995</b> | <b>4,249,248</b> | <b>12.0%</b> |

#### **Telecommunications Revenue**

|                                 |                   |                   |                    |               |
|---------------------------------|-------------------|-------------------|--------------------|---------------|
| CATV                            | 38,786,871        | 32,758,843        | (6,028,028)        | -15.5%        |
| Broadband                       | 2,411,528         | 2,446,773         | 35,245             | 1.5%          |
| Internet                        | 18,265,376        | 18,427,102        | 161,726            | 0.9%          |
| Miscellaneous                   | 1,835,791         | 1,099,537         | (736,254)          | -40.1%        |
| <b>Total Telecommunications</b> | <b>61,299,566</b> | <b>54,732,255</b> | <b>(6,567,311)</b> | <b>-10.7%</b> |

#### **Other Income**

|   |                   |                   |                 |              |
|---|-------------------|-------------------|-----------------|--------------|
| Interest                                | 3,750,235         | 3,645,145         | (105,090)       | -2.8%        |
| Federal Subsidy for BABS/CREBS interest | 7,340,000         | 7,418,000         | 78,000          | 1.1%         |
| Miscellaneous                           | 1,832,238         | 1,801,614         | (30,624)        | -1.7%        |
| <b>Total Other Income</b>               | <b>12,922,473</b> | <b>12,864,759</b> | <b>(57,714)</b> | <b>-0.4%</b> |

#### **Other Available Funds**

|                                 |            |           |              |        |
|---------------------------------|------------|-----------|--------------|--------|
| Appropriation from Fund Balance | 38,158,158 | 9,179,057 | (28,979,101) | -75.9% |
|---------------------------------|------------|-----------|--------------|--------|

|  |                      |                      |                     |             |
|--|----------------------|----------------------|---------------------|-------------|
| <b>Total Revenue &amp; Available Funds</b> | <b>\$923,382,113</b> | <b>\$958,830,966</b> | <b>\$35,448,853</b> | <b>3.8%</b> |
|--|----------------------|----------------------|---------------------|-------------|

| <b>Tacoma Power</b> | <b>2017-2018<br/>Budget</b> | <b>2019-2020<br/>Proposed<br/>Budget</b> | <b>2017-18 to 2019-20<br/>Budget Comparison</b> |  |
|---------------------|-----------------------------|--|---|--|
|---------------------|-----------------------------|--|---|--|

#### **SUMMARY - Operation & Maintenance by Section**

|                             |                |                |              |        |
|-----------------------------|----------------|----------------|--------------|--------|
| Power Administration        | \$ 136,330,792 | \$ 139,993,579 | \$ 3,662,787 | 2.7%   |
| Click!                      | 69,749,612     | 54,455,682     | (15,293,930) | -21.9% |
| Generation                  | 83,976,592     | 88,768,243     | 4,791,651    | 5.7%   |
| Power Management            | 335,491,958    | 363,714,727    | 28,222,769   | 8.4%   |
| Power Shared Services       | 20,522,943     | 25,244,294     | 4,721,351    | 23.0%  |
| Rates, Planning & Analysis  | 8,157,979      | 10,053,019     | 1,895,040    | 23.2%  |
| Transmission & Distribution | 97,539,340     | 92,145,737     | (5,393,603)  | -5.5%  |
| Utility Technology Services | 22,787,674     | 35,660,883     | 12,873,209   | 56.5%  |

|                           |                       |                       |                      |             |
|---------------------------|-----------------------|-----------------------|----------------------|-------------|
| <b>Total for Division</b> | <b>\$ 774,556,890</b> | <b>\$ 810,036,164</b> | <b>\$ 35,479,274</b> | <b>4.6%</b> |
|---------------------------|-----------------------|-----------------------|----------------------|-------------|

#### **SUMMARY - Operation & Maintenance by Category**

|   |                    |                    |                     |              |
|---|--------------------|--------------------|---------------------|--------------|
| Salaries & Wages                          | \$ 171,373,051     | \$ 169,701,179     | \$ (1,671,872)      | -1.0%        |
| Employee Benefits                         | 64,887,312         | 58,229,067         | (6,658,245)         | -10.3%       |
| Capital Credit & Labor To/From Others     | (35,803,599)       | (42,514,588)       | (6,710,989)         | -18.7%       |
| <b>Total Personnel Costs</b>              | <b>200,456,764</b> | <b>185,415,658</b> | <b>(15,041,106)</b> | <b>-7.5%</b> |
| Supplies                                  | 284,010,964        | 298,920,868        | 14,909,904          | 5.2%         |
| Services                                  | 92,136,732         | 98,853,564         | 6,716,832           | 7.3%         |
| Other Charges                             | 31,524,269         | 46,185,876         | 14,661,607          | 46.5%        |
| Total Assessments                         | 59,245,222         | 66,282,385         | 7,037,163           | 11.9%        |
| Taxes                                     | 107,182,939        | 114,377,813        | 7,194,874           | 6.7%         |
| <b>Total Supplies &amp; Other Charges</b> | <b>574,100,126</b> | <b>624,620,506</b> | <b>50,520,380</b>   | <b>8.8%</b>  |

|                           |                       |                       |                      |             |
|---------------------------|-----------------------|-----------------------|----------------------|-------------|
| <b>Total for Division</b> | <b>\$ 774,556,890</b> | <b>\$ 810,036,164</b> | <b>\$ 35,479,274</b> | <b>4.6%</b> |
|---------------------------|-----------------------|-----------------------|----------------------|-------------|

|                           | 2017-2018<br>Budget | 2019-2020<br>Proposed<br>Budget | 2017-18 to 2019-20<br>Budget Comparison |  |
|---------------------------|---------------------|---------------------------------|---|--|
| <b>Tacoma Power Taxes</b> |                     |                                 |   |  |

## **TAX PAYMENTS**

### City of Tacoma:

|                           |               |               |              |       |
|---------------------------|---------------|---------------|--------------|-------|
| Gross Earnings Tax (7.5%) | \$ 61,778,397 | \$ 68,950,769 | \$ 7,172,372 | 11.6% |
|---------------------------|---------------|---------------|--------------|-------|

### State of Washington:

|                        |            |            |           |       |
|------------------------|------------|------------|-----------|-------|
| Utility & Business Tax | 26,746,080 | 29,555,802 | 2,809,722 | 10.5% |
|------------------------|------------|------------|-----------|-------|

### Other\*

|                                      |           |           |           |        |
|--------------------------------------|-----------|-----------|-----------|--------|
| County/Schools/Fire Protection Dist. | 4,243,300 | 4,188,800 | (54,500)  | -1.3%  |
| Franchise Administrative Fees        | 6,775,934 | 7,498,154 | 722,220   | 10.7%  |
| Click! Franchise-like Fees           | 2,722,887 | 2,302,952 | (419,935) | -15.4% |

|          |                    |                    |                   |              |
|----------|--------------------|--------------------|-------------------|--------------|
| Subtotal | <b>102,266,598</b> | <b>112,496,477</b> | <b>10,229,879</b> | <b>10.0%</b> |
|----------|--------------------|--------------------|-------------------|--------------|

### Anticipated Additional Revenue\*\*

|                           |           |           |             |        |
|---------------------------|-----------|-----------|-------------|--------|
| Gross Earnings Tax (7.5%) | 3,242,000 | 1,240,616 | (2,001,384) | -61.7% |
| Utility & Business Tax    | 1,674,341 | 640,720   | (1,033,621) | -61.7% |
|                           | 4,916,341 | 1,881,336 | (3,035,005) | -61.7% |

|                            |                    |                    |                  |             |
|----------------------------|--------------------|--------------------|------------------|-------------|
| Total City and Utility Tax | <b>107,182,939</b> | <b>114,377,813</b> | <b>7,194,874</b> | <b>6.7%</b> |
|----------------------------|--------------------|--------------------|------------------|-------------|

|                      |            |            |         |      |
|----------------------|------------|------------|---------|------|
| Federal Taxes (FICA) | 11,974,468 | 12,611,278 | 636,810 | 5.3% |
|----------------------|------------|------------|---------|------|

|                                 |                       |                       |                     |             |
|---------------------------------|-----------------------|-----------------------|---------------------|-------------|
| <b>Total Tacoma Power Taxes</b> | <b>\$ 119,157,407</b> | <b>\$ 126,989,091</b> | <b>\$ 7,831,684</b> | <b>6.6%</b> |
|---------------------------------|-----------------------|-----------------------|---------------------|-------------|

Note: State Sales Tax is included in O & M budget line items for materials.

FICA tax is included in O & M budget line items for personnel costs/employee benefits.

\*Other includes franchise, administrative and other fees paid to other cities and entities and fire patrol assessments paid to WA State DNR.

\*\*Taxes on anticipated additional revenue due to rate increase.

| Tacoma Power Debt Service | 2017-2018<br>Budget | 2019-2020<br>Proposed<br>Budget | 2017-18 to 2019-20<br>Budget Comparison |  |
|---------------------------|---------------------|---------------------------------|---|--|
|---------------------------|---------------------|---------------------------------|---|--|

#### **DEBT SERVICE SUMMARY**

|           |               |               |                |        |
|-----------|---------------|---------------|----------------|--------|
| Interest  | \$ 45,325,223 | \$ 42,287,802 | \$ (3,037,421) | -6.7%  |
| Principal | 21,670,000    | 16,835,000    | (4,835,000)    | -22.3% |

|                           |                      |                      |                       |               |
|---------------------------|----------------------|----------------------|-----------------------|---------------|
| <b>Total Debt Service</b> | <b>\$ 66,995,223</b> | <b>\$ 59,122,802</b> | <b>\$ (7,872,421)</b> | <b>-11.8%</b> |
|---------------------------|----------------------|----------------------|-----------------------|---------------|

#### **DEBT SERVICE DETAIL**

|                                 |           |               |               |             |        |
|---------------------------------|-----------|---------------|---------------|-------------|--------|
| 2010B Revenue Bonds             | Interest  | \$ 17,383,647 | \$ 17,383,647 | \$ 0        | 0.0%   |
| \$147,070,000                   | Principal | 0             | 0             | 0           | 0.0%   |
| 2010C Revenue Bonds             | Interest  | 2,728,552     | 2,728,552     | 0           | 0.0%   |
| \$24,185,000                    | Principal | 0             | 0             | 0           | 0.0%   |
| 2013A Ref & Rev Bonds           | Interest  | 12,971,200    | 8,990,450     | (3,980,750) | -30.7% |
| \$181,610,000                   | Principal | 21,670,000    | 16,835,000    | (4,835,000) | -22.3% |
| 2013B Ref & Rev Bonds           | Interest  | 3,232,220     | 3,232,220     | 0           | 0.0%   |
| \$35,620,000                    | Principal | 0             | 0             | 0           | 0.0%   |
| 2015 Wells Fargo Line of Credit | Interest  | 1,600,000     | 1,600,000     | 0           | 0.0%   |
| \$100,000,000                   | Principal | 0             | 0             | 0           | 0.0%   |
| 2017 Bonds                      | Interest  | 7,409,604     | 6,573,600     | (836,004)   | -11.3% |
| \$100,000,000 - Anticipated     | Principal | 0             | 0             | 0           | 0.0%   |
| 2020 Bonds                      | Interest  | 0             | 1,779,333     | 1,779,333   | 0.0%   |
| \$80,000,000 - Anticipated      | Principal | 0             | 0             | 0           | 0.0%   |

|                           |                      |                      |                       |               |
|---------------------------|----------------------|----------------------|-----------------------|---------------|
| <b>Total Debt Service</b> | <b>\$ 66,995,223</b> | <b>\$ 59,122,802</b> | <b>\$ (7,872,421)</b> | <b>-11.8%</b> |
|---------------------------|----------------------|----------------------|-----------------------|---------------|

| Tacoma Power<br>Capital Outlay | 2017-2018<br>Budget | 2019-2020<br>Proposed Budget |
|--------------------------------|---------------------|------------------------------|
|--------------------------------|---------------------|------------------------------|

## **SUMMARY**

### **Click! Network**

|                             |                   |                  |
|-----------------------------|-------------------|------------------|
| Capital Projects:           | \$0               | \$0              |
| Additions and Replacements: | 18,229,000        | 1,797,000        |
| <b>Click! Total</b>         | <b>18,229,000</b> | <b>1,797,000</b> |

### **General Plant**

|                             |                   |                   |
|-----------------------------|-------------------|-------------------|
| Capital Projects:           | 9,203,000         | 36,757,000        |
| Additions and Replacements: | 2,725,000         | 2,404,000         |
| <b>General Plant Total</b>  | <b>11,928,000</b> | <b>39,161,000</b> |

### **Generation**

|                             |                   |                   |
|-----------------------------|-------------------|-------------------|
| Capital Projects:           | 44,228,000        | 17,950,000        |
| Additions and Replacements: | 2,896,000         | 4,622,000         |
| <b>Generation Total</b>     | <b>47,124,000</b> | <b>22,572,000</b> |

### **Power Management**

|                               |                   |                   |
|-------------------------------|-------------------|-------------------|
| Capital Projects:             | 28,850,000        | 14,713,000        |
| Additions and Replacements:   | 0                 | 0                 |
| <b>Power Management Total</b> | <b>28,850,000</b> | <b>14,713,000</b> |

### **Transmission & Distribution**

|  |                   |                   |
|--|-------------------|-------------------|
| Capital Projects:                            | 19,131,000        | 9,587,000         |
| Additions and Replacements:                  | 33,260,000        | 41,492,000        |
| <b>Transmission &amp; Distribution Total</b> | <b>52,391,000</b> | <b>51,079,000</b> |

### **Utility Technology Services**

|  |                   |                   |
|--|-------------------|-------------------|
| Capital Projects:                        | 29,508,000        | 16,729,000        |
| Additions and Replacements:              | 2,444,000         | 3,672,000         |
| <b>Utility Technology Services Total</b> | <b>31,952,000</b> | <b>20,401,000</b> |

|                  |                      |                      |
|------------------|----------------------|----------------------|
| <b>Sub-Total</b> | <b>\$190,474,000</b> | <b>\$149,723,000</b> |
|------------------|----------------------|----------------------|

|                                |               |              |
|--------------------------------|---------------|--------------|
| Projects Funded from New Bonds | (108,644,000) | (60,051,000) |
|--------------------------------|---------------|--------------|

|  |                     |                     |
|--|---------------------|---------------------|
| <b>Total Operating Fund Capital Outlay</b> | <b>\$81,830,000</b> | <b>\$89,672,000</b> |
|--|---------------------|---------------------|

| <b>Tacoma Power<br/>Capital Outlay</b> | <b>2017-2018<br/>Budget</b> | <b>2019-2020<br/>Proposed Budget</b> |
|--|-----------------------------|--------------------------------------|
|--|-----------------------------|--------------------------------------|

#### **CLICK! Network A & R**

|   |                     |                    |
|---|---------------------|--------------------|
| Broadband Services - Comm                       | \$619,000           | \$150,000          |
| Cable Modems - Comm                             | 1,650,000           | 0                  |
| Click! Equipment                                | 0                   | 50,000             |
| Customer Related Equip - Comm                   | 1,718,000           | 694,000            |
| Equipment - Comm                                | 50,000              | 0                  |
| FTTH ONT/OLT & Cabinets                         | 0                   | 100,000            |
| Headend Replace & Upgrades - Comm               | 614,000             | 150,000            |
| HFC Network Infrastructure Enhancements - Power | 138,000             | 80,000             |
| Network Infill MDU - Comm                       | 421,000             | 149,000            |
| Network Security Enhancements - Power           | 80,000              | 0                  |
| Network Upgrade - Comm                          | 11,100,000          | 0                  |
| Network Upgrades & Replacements - Power         | 1,250,000           | 164,000            |
| New Service Drop Capitalization - Comm          | 326,000             | 200,000            |
| Node Upgrades                                   | 0                   | 60,000             |
| Voice Gateway - Comm                            | 263,000             | 0                  |
| <b>Click! Network Total</b>                     | <b>\$18,229,000</b> | <b>\$1,797,000</b> |

#### **General Plant Capital Projects**

|   |           |              |
|---|-----------|--------------|
| Advanced Metering Infrastructure (AMI)                | \$0       | \$24,325,000 |
| Tacoma Power Storage Facility                         | 0         | 2,945,000    |
| Service Division Capital-Customer Service             | 1,243,000 | 223,000      |
| TPU ABN Main Floor Data Center Power System Upgrade   | 0         | 186,000      |
| TPU ABN West Vault Electrical Equipment Replacement   | 0         | 170,000      |
| TPU ABS Transfer Switch Replacement                   | 0         | 230,000      |
| 2017/18 Capital Funding                               | 6,300,000 | 0            |
| 2019/20 Capital Funding                               | 0         | 8,678,000    |
| Admin Complex Auditorium Upgrade                      | 431,000   | 0            |
| Facilities ABN Main Fan Modernization                 | 389,000   | 0            |
| Facilities ABN-ECC-Wynoochee Dam Elevator Controllers | 840,000   | 0            |

#### **General Plant A & R**

|  |                     |                     |
|--|---------------------|---------------------|
| Facilities Critical Operations Power Systems | 175,000             | 226,000             |
| General Plant                                | 750,000             | 901,000             |
| Tacoma Power Security Upgrade                | 1,800,000           | 1,277,000           |
| <b>General Plant Total</b>                   | <b>\$11,928,000</b> | <b>\$39,161,000</b> |

#### **Generation Capital Projects**

|  |           |           |
|--|-----------|-----------|
| Alder Cooling Water Pipe Replacements (2" Pipe)                | \$0       | \$177,000 |
| Cowlitz Falls Downstream Fish Passage - FERC                   | 8,223,000 | 0         |
| Cowlitz Falls Fish Facility Start-Up (Downstream Fish Passage) | 0         | 927,000   |
| Cowlitz Fish Release Site Development - Tilton & Upper Cowlitz | 0         | 821,000   |
| Cowlitz Off-site Fish Rearing - Satellite Ponds - FERC         | 1,274,000 | 0         |
| Cowlitz Salmon Hatchery Filtration System                      | 277,000   | 0         |
| Cowlitz Salmon Hatchery Generator No 2 Replacement             | 200,000   | 0         |
| Cowlitz Trout Hatchery Fish Rearing Revision                   | 1,819,000 | 3,500,000 |

| <b>Tacoma Power<br/>Capital Outlay</b> | <b>2017-2018<br/>Budget</b> | <b>2019-2020<br/>Proposed Budget</b> |
|--|-----------------------------|--------------------------------------|
|--|-----------------------------|--------------------------------------|

|   |           |           |
|---|-----------|-----------|
| Cowlitz Trout Hatchery Five Acre Ponds Liner Replacement  | 1,943,000 | 0         |
| Cowlitz Trout Hatchery Water Treatment Modernization      | 4,300,000 | 0         |
| Cushman #1 Dam ROV Replacement                            | 0         | 2,867,000 |
| Cushman #1 Units 21, 22 TIV Replacement                   | 746,000   | 0         |
| Cushman #2 Spillway Gate Remote Operation                 | 0         | 237,000   |
| Cushman #2 Unit 31, 32, 33 Generator Breaker Replacement  | 1,500,000 | 0         |
| Cushman #2 Station Service Upgrades (EG, ATS & SWGR)      | 0         | 612,000   |
| Cushman Fish Facilities Improvements - FERC               | 1,875,000 | 0         |
| Cushman Fish Habitat Restoration - FERC                   | 1,844,000 | 0         |
| Cushman Powerhouse Cranes - Controls Upgrade              | 0         | 141,000   |
| Fish Habitat & Land Acquisition (CRR Fund) - FERC         | 2,400,000 | 0         |
| Hydro Exciter Replacement Program                         | 2,332,000 | 0         |
| Hydro Generator Life - Extension Program                  | 2,210,000 | 0         |
| Hydro Governor Replacement Program                        | 2,698,000 | 0         |
| LaGrande Units 1 - 4 Excitation AC Supply Replacement     | 0         | 266,000   |
| LaGrande Units 1 - 4 Protection Relay Replacement         | 0         | 223,000   |
| LaGrande Downstream Fish Barrier - FERC                   | 500,000   | 527,000   |
| LaGrande Shop Building                                    | 1,013,000 | 0         |
| Mayfield Unit 41 Exciter Replacement                      | 0         | 309,000   |
| Mayfield Units 42, 43, 44 Generator Breaker Replacement   | 0         | 999,000   |
| Mayfield Downstream Fish Passage Modification - FERC      | 1,899,000 | 0         |
| Mayfield Penstocks Slope Tendon Replacement               | 6,487,000 | 0         |
| Mayfield Plant Access Road Rebuild                        | 368,000   | 0         |
| Mayfield Fish Passage Modification                        | 0         | 1,672,000 |
| Mayfield Water System Replacements & Upgrades             | 0         | 920,000   |
| Mossyrock Dam ROV & Guard Valve Upgrades                  | 0         | 500,000   |
| Mossyrock Units 51 & 52 Generator Breakers                | 0         | 2,495,000 |
| Nisqually Hydro Project Relay Upgrades                    | 320,000   | 0         |
| Strong Motion Accelerometer (SMA) Replacement and Upgrade | 0         | 200,000   |
| Wynoochee Dam Electrical Power System Upgrade             | 0         | 557,000   |

#### **Generation A & R**

|                                     |         |           |
|-------------------------------------|---------|-----------|
| ADA Improvements                    | 47,000  | 50,000    |
| Cowlitz Project Fish Facilities     | 200,000 | 0         |
| Cowlitz Project Generation          | 185,000 | 208,000   |
| Cowlitz Project Recreation          | 143,000 | 192,000   |
| Cushman Project Fish Facilities     | 464,000 | 0         |
| Cushman Project Generation          | 211,000 | 200,000   |
| Fish Facilities                     | 0       | 1,434,000 |
| Generation Electrical               | 0       | 244,000   |
| Generation Paving                   | 210,000 | 100,000   |
| Hydro Plant Automation              | 170,000 | 268,000   |
| Hydro Plant Electrical Systems      | 230,000 | 0         |
| Hydro Plant Mechanical              | 162,000 | 179,000   |
| Hydro Plant Water and Sewer Systems | 160,000 | 0         |
| Hydro Wildlife                      | 113,000 | 50,000    |
| Natural Resources                   | 50,000  | 50,000    |
| Nisqually Project Generation        | 200,000 | 200,000   |

| <b>Tacoma Power<br/>Capital Outlay</b> | <b>2017-2018<br/>Budget</b> | <b>2019-2020<br/>Proposed Budget</b> |
|--|-----------------------------|--------------------------------------|
|--|-----------------------------|--------------------------------------|

|                                    |                     |                     |
|------------------------------------|---------------------|---------------------|
| Nisqually Project Recreation       | 110,000             | 110,000             |
| Plant Engineering                  | 120,000             | 115,000             |
| TPU Facility Energy Conservation   | 0                   | 907,000             |
| Water and Sewer Systems            | 0                   | 217,000             |
| Wynoochee River Project Generation | 121,000             | 98,000              |
| <b>Generation Total</b>            | <b>\$47,124,000</b> | <b>\$22,572,000</b> |

#### **Power Management Capital Projects**

|   |            |              |
|---|------------|--------------|
| 2019/20 Conservation Portfolio          | \$0        | \$14,713,000 |
| 2017/18 Energy Conservation             | 21,850,000 | 0            |
| City of Tacoma LED Street Light Upgrade | 7,000,000  | 0            |

#### **Power Management A & R**

|                                      |                     |                     |
|--------------------------------------|---------------------|---------------------|
| Power Management Technology Upgrades | 0                   | 0                   |
| <b>Power Management Total</b>        | <b>\$28,850,000</b> | <b>\$14,713,000</b> |

#### **Transmission & Distribution Capital Projects**

|  |             |             |
|--|-------------|-------------|
| #6 Copper Conductor Replacement                                | \$1,380,000 | \$1,500,000 |
| 115 kV System Reliability Improvements (NE Bus Sectionalizing) | 1,100,000   | 0           |
| 230 kV System Reliability Improvements Program                 | 276,000     | 0           |
| Distribution Efficiency Program                                | 184,000     | 180,000     |
| Distribution Substation Transformer Replacement Program        | 2,668,000   | 2,878,000   |
| Distribution System Upgrades                                   | 0           | 1,488,000   |
| Downtown Infrastructure Development Program                    | 800,000     | 0           |
| Henderson Bay Crossing Rehabilitation                          | 4,070,000   | 0           |
| Mayfield Bank 1 Transformer Replacement                        | 0           | 3,267,000   |
| Nisqually Substation Protection & SCADA Upgrade                | 434,000     | 0           |
| Padmount Switchgear Replacement Program                        | 460,000     | 0           |
| Pearl - Cushman Line Upgrade Phase 2                           | 4,716,000   | 0           |
| South Service Area Feeder Enhancements                         | 552,000     | 0           |
| Transmission Line Auto Sectionalizing                          | 0           | 274,000     |
| Transmission Line Upgrading                                    | 1,303,000   | 0           |
| Vactor Truck Decant & Soil Containment                         | 1,188,000   | 0           |

#### **Transmission & Distribution A & R**

|                                   |           |           |
|-----------------------------------|-----------|-----------|
| Cable Replacement Program         | 3,800,000 | 0         |
| Central Business District         | 800,000   | 2,726,000 |
| Distribution Transformer Purchase | 2,900,000 | 3,362,000 |
| HFC Infill Construction           | 1,594,000 | 1,855,000 |



| <b>Tacoma Power<br/>Capital Outlay</b> | <b>2017-2018<br/>Budget</b> | <b>2019-2020<br/>Proposed Budget</b> |
|--|-----------------------------|--------------------------------------|
|--|-----------------------------|--------------------------------------|

|  |                     |                     |
|--|---------------------|---------------------|
| HFC Road Projects                            | 498,000             | 1,029,000           |
| Meters and Devices                           | 1,250,000           | 919,000             |
| NERC/WECC Compliance                         | 200,000             | 0                   |
| New Services                                 | 2,000,000           | 4,823,000           |
| Overhead Distribution                        | 2,000,000           | 14,998,000          |
| Pad-mount Switchgear Replacement             | 0                   | 474,000             |
| Pole Replacement Program                     | 8,000,000           | 0                   |
| Protection & Controls                        | 1,303,000           | 776,000             |
| Rental Light                                 | 870,000             | 841,000             |
| Road Related (City, County & State)          | 4,000,000           | 4,000,000           |
| Substation                                   | 2,115,000           | 2,268,000           |
| T & D Tools and Equipment                    | 180,000             | 135,000             |
| Transmission                                 | 1,200,000           | 800,000             |
| Underground Distribution                     | 550,000             | 2,486,000           |
| <b>Transmission &amp; Distribution Total</b> | <b>\$52,391,000</b> | <b>\$51,079,000</b> |

#### **Utility Technology Services Capital Projects**

|   |             |           |
|---|-------------|-----------|
| AMI   | \$3,545,000 | \$0       |
| Asset Analytics   | 0           | 64,081    |
| Automated Fuel System                                   | 0           | 443,168   |
| Automated Testing                                       | 0           | 222,664   |
| Avista Decision Support System Integration              | 0           | 500,310   |
| Cybersecurity Managed Security Service Provider         | 464,000     | 0         |
| Digital Microwave Modernization Loop 1                  | 5,130,000   | 0         |
| Digital Mobile Radio                                    | 2,422,500   | 0         |
| Drawing Management Solution                             | 278,000     | 0         |
| EMS Replacement - Part 2 (Implementation)               | 6,630,000   | 0         |
| ESRI GIS Data Replication                               | 267,500     | 0         |
| Facility/Comm Systems Monitoring                        | 0           | 1,011,121 |
| IT Asset Management                                     | 427,000     | 0         |
| IT Service Management                                   | 670,000     | 0         |
| ITSM/ITAM Tool Enhancements                             | 0           | 346,701   |
| IVR Ph 2A - Technical Upgrade & 2B - Functional Upgrade | 793,000     | 0         |
| Land Mobile Radio                                       | 0           | 2,045,241 |
| Market Integration Tools                                | 0           | 1,701,438 |
| Mobile Workforce Mgmt Roadmap & Tech Solution           | 1,312,500   | 0         |
| Natural Resources Operational Analytics                 | 505,000     | 0         |
| Power Generation Cybersecurity Controls Implementation  | 263,500     | 0         |
| Power GIS Modernization                                 | 0           | 3,830,245 |
| Power Management Technology Upgrades                    | 1,820,000   | 0         |
| Technology Contingency                                  | 2,253,000   | 0         |
| TPU Auditorium TV Tacoma Upgrade                        | 0           | 389,286   |
| TPU Conference Rooms Tech Refresh                       | 0           | 302,542   |
| TPU Main Campus Data Center                             | 1,615,000   | 0         |
| TPU Network Backbone Modernization Phase 2              | 275,000     | 0         |
| TPU Operations Center Ph2                               | 0           | 817,470   |
| TPU Voice Comm System Tech Refresh & Impr Ph 1          | 252,000     | 0         |
| TPU Voice Comm System Tech Refresh & Impr Ph 2          | 119,000     | 0         |

| <b>Tacoma Power<br/>Capital Outlay</b>              | <b>2017-2018<br/>Budget</b> | <b>2019-2020<br/>Proposed Budget</b> |
|---|-----------------------------|--------------------------------------|
| TPU Voice Comm System Tech Refresh & Impr Ph 3      | 200,000                     | 0                                    |
| TPU Voice Comm System Tech Refresh & Impr Ph 4      | 24,000                      | 0                                    |
| TPU Voice Comm System Tech Refresh & Impr Ph 5      | 242,000                     | 0                                    |
| Wan Modernization                                   | 0                           | 1,962,821                            |
| Workforce Connect                                   | 0                           | 3,049,334                            |
| Workplace Giving Automation                         | 0                           | 42,578                               |
| <b><u>Utility Technology Services A &amp; R</u></b> |                             |                                      |
| Communications                                      | 1,098,000                   | 1,551,000                            |
| Cybersecurity                                       | 549,000                     | 636,000                              |
| Energy Management System                            | 304,000                     | 0                                    |
| System Management                                   | 493,000                     | 1,244,000                            |
| Telephony   | 0                           | 241,000                              |
| <b>Utility Technology Services Total</b>            | <b>\$31,952,000</b>         | <b>\$20,401,000</b>                  |
| <b>Total Capital Outlay</b>                         | <b>\$190,474,000</b>        | <b>\$149,723,000</b>                 |