MEMORANDUM

EUGENE WATER & ELECTRIC BOARD

Rely on us.

TO:	Commissioners Schlossberg, Brown, Carlson, Barofsky, and McRae
FROM:	Frank Lawson, CEO and General Manager; Rod Price, Assistant General Manager, Utility Operations; Deborah Hart, Chief Financial Officer
DATE:	July 6, 2021
SUBJECT:	2022 Integrated Capital & Financial Plans
OBJECTIVE:	Direction on 2022 Integrated Capital & Financial Plans

Issue

Board Policy SD6 and Oregon Statutes require that staff annually prepare balanced Electric and Water Utilities budgets for Board approval by the end of the calendar year. In order to prepare budgets, Management is seeking Board direction and/or concurrence on the strategic and operational priorities, business and economic forecast assumptions, capital investment plans and Long-Term Financial Plans (LTFPs) used to develop the upcoming year's proposed budgets and 3-year customer pricing schedules (rates).

Background

Through a variety of means, Management receives direction consistent with Board Policy BL-4, which states the *"Board shall identify and define those results or conditions that are acceptable and not acceptable to the Board and communicate them in the form of establishing policy and approval of Strategic Plans, Long-Term Financial Plans, Capital Improvement Plans, annual budgets and goals"*.

At the July Meeting, Management will collaborate with the Board to ensure a common understanding of the economic assumptions, desired operational and strategic outcomes, and proposed capital investments used to forecast the long-term financial results. If the assumptions and plans are consistent with Board direction, maintaining financial forecasts within Board policy, Management will then use the information to develop the following year's budgets.

Board Policy SD6 and Oregon Statutes require that staff annually prepare balanced Electric and Water Utilities budgets for Board approval by the end of the calendar year. Prior to year-end, as budgets are developed consistent with the Board direction received, Management will analyze customer rates, including the total rate funding required ("Revenue Requirement") and the Cost-of-Service Analysis (COSA) used to develop and propose customer rates.

With the exception of Bonneville Power Administration (BPA) rate increase "pass throughs", as provided in *SD10 Power Cost Recovery Policies*, in November and December EWEB will provide at least two public Rate Hearings prior to the implementation of new customer rates. Typically, final budgets and rates are approved by the Board at the December Board Meeting.

Additionally, this year EWEB Management will be using the three-year forecasted Revenue Requirement, and COSA, to develop and propose customer rates for the years 2022-2024, with yearly rates and customer class assessments and updates planned each Fall as part of the annual budgeting process.

Discussion

Management herein presents the strategic and operational guidance, business, and economic forecast assumptions, proposed capital improvement plans, and resulting long-term financial and rate impacts for both the water and electric utilities for your consideration, feedback, and potential concurrence. Through previous policies and direction, Management considers the following as prerequisites to the development of strategic guidance, assumptions, and plans.

- Investments shall be consistent with EWEB's proposed updated strategic plan, supporting the values of safety, reliability, affordability, environmental stewardship, and community.
- Financial policies, including Rate Sufficiency, shall remain within Board Policy, specifically Working Capital Days Cash, Current Ratio, Debt Service Coverage, Age of System (AOS), and Rate of Return (return on assets).
- Financial reserves levels and replenishment requirements, including Capital Reserves and Rate Stabilization Reserves, and shall remain within Board Policy.
- EWEB shall mitigate against electric wholesale market risk, weather fluctuations, and consumption pattern changes using conservative budget assumptions, establishing Contribution Margin Risk Factors, and adherence to Board Policy SD8, Power Risk Management Policies.

Strategic and Operational Guidance

Over the past several years, Commissioners, including those newly elected in 2021, have provided direction on the strategic and operational priorities. As a basis for this year's investment and financial planning, Management needs Board concurrence to use the following strategic and operational priorities and/or outcomes as guidance:

- Customer Rate Increases – Acceptable long-term "Revenue Requirement" increases (excluding Type 3 Programs) shall be benchmarked to inflationary forecasts, presently 2.1-2.9% annual average (10-year compounded between 23.1% - 33.1%), with the smoothing of rates over multi-year periods.
- The smoothing of rates mitigates a single year rate impact by pre-funding and/or utilizing reserves to fund large capital projects while minimizing impacts to customers. The electric and water utilities have not increased their respective Revenue Requirement (rates), other than the Watershed Recovery Fee, in the past five years.
- Customer Care – Funded to provide approximately 10% of the annual average water and electric expenses to a minimum of 5% of the residential customer base (Management Record of Decision).
- Water Investment Priorities - For reliability and resiliency, EWEB needs to scope and construct a treatment plant on the Willamette River, while simultaneously restoring the McKenzie watershed. By taking a comprehensive "source to tap" approach to water quality and reliability and given that significant investments have been made over the past decade at the Hayden Bridge Treatment Plant, EWEB's priority now shifts to strengthening base-level water storage and in-town transmission infrastructure.
- Electric Investment Priorities - With significant electricity delivery infrastructure installed in the 1960s and 1970s, EWEB needs to attenuate and manage the "ballooning" need to replace this concurrently aging equipment while maintaining reliability and increasing resiliency to potentially disruptive events. We will target yearly investment rates of 2.0 to 2.5 times the depreciation rates to drive the Electric Age of System (AOS), the percentage of fully depreciated electric assets, from our 2020 calculation of 62% down to a 2031 target of 51%.

Electricity investments will be managed by prioritizing high-customer-impact assets and those systems that increase resiliency to community-critical locations.

- Shared Organizational Investment Priorities – Within the horizon of the Long-Term Financial Plan, EWEB needs to replace legacy information systems using an integrated Enterprise Resource Planning (ERP) approach, as discussed with the Board in May.

Business and Economic Forecast Assumptions

The assumptions used to create forecasts and budgets influence the overall outlook of the financial plans. As a basis for this year's investment and financial planning, Management needs Board concurrence to use the following economic assumptions and/or outcomes as guidance:

General Assumptions

- Labor Cost Escalation – Fully loaded costs are indexed to a combination of inflation factors and expected labor market comparators.
- Non-Labor Escalator is escalated at 2%. Travel and training budgets were reduced for 2021 budget and travel is maintained at reduced levels and training is increased back to pre-pandemic levels.

Water-Specific Assumptions

The Water Utility has not experienced reduced consumption related to the pandemic, and the consumption forecast has reverted back to 95% of the five-year average, as follows.

Water Utility Consumption (billion gallons)				
Year	**2019**	**2020**	**2021**	**2022**
Budget	7.8	7.8	7.4	7.7
Actual	8.0	8.0		

Electric-Specific Assumptions

- BPA power costs are a significant portion of the Electric Utility's budget and therefore are separately identified in the rate trajectory. As allowed under EWEB Policy SD10, the Electric financial plan assumes a planned BPA pass through of 2.5% in October 2021 and an additional 1.75% rate increase to be effective in 2022.
- The Electric Long-Term Financial Plan currently assumes 6% BPA rates increases, which correspond with 2.5% EWEB rate increases every other year, including an increase effective October 2021. The actual rate increases for EWEB customers will depend on the final rates from BPA that are expected this summer.
- The near-term Electric Utility scenario assumes retail consumption of 4% below pre-pandemic levels for the years 2022 and 2023. Roughly half of the reduced consumption is due to lower commercial customer classes and half is due to large industrial plant closure. If revenue exceeds the conservative budget assumptions and follows pre-pandemic trends, we would expect favorable rate pressure of potentially 1-1.5% overall in the plan. The updated projection is roughly aligned with 2020 experience and balance 2021 projections, as follows.

Electric Utility Consumption (average megawatts)				
Year	**2019**	**2020**	**2021**	**2022**
Budget	281	272	257	262
Actual	280	267		

A complete roster of assumptions for both the water and electric utility Long-Term Financial Plans are including on Attachments 1 and 2.

Capital Improvement Plans (CIPs)

Based on the strategic and operational guidance and general business and economic forecast assumptions highlighted above, the water and electric utility CIPs are presented for the Board's consideration, feedback, and potential concurrence.

As presented in previous Board Meetings, projects within the Water and Electric CIPs can be categorized into *Compulsory*, *Strategic Projects/Programs,* or *Risk-Based/Opportunity* Improvement Projects. Compulsory work is typically either Type 1 or 2, depending on the project size and profile. Although some strategic execution occurs within Type 1 project categories, it is typical that distinct Type 2 or 3 projects represent the organization's fulfillment of strategically driven capital. These projects are typically multi-year and multi-million dollar efforts. *Risk-Based Opportunity* Projects make up the balance of the CIPs and are flexible in terms of scope and/or schedule. The investments within this category are chosen to be within the boundaries of the long-term financial plan (LTFP) and sized to match the capability of staffing and resources available. The goal of *Risk-Based Opportunity* Projects is to maintain or reduce the average age of system assets. As system assets age, nearing or surpassing projected end of useful life, failures increase and will ultimately result in an increase of compulsory work and reduction in reliability ("run to failure").

Categorizing CIP projects helps us plan when to schedule projects and programs in order to meet our financial goals around reserves and rate smoothing. Compulsory expenses are laid out as required, with Strategic projects optimized in time to achieve the project goals and then risk based projects can be timed to ensure balanced spending across the ten-year period.

Given that the total potential projects and programs typically exceed resource (financial and human) capabilities, strategic and operational guidance, including the strategic plan and values, determines which particular projects and programs are included in each CIP. For example, projects such as upgrading aging water reservoirs will also result in more resilient facilities that enhance our day-to-day water quality, consistent with our Safety value. The proposed CIPs focus on projects that increase resiliency by hardening our present infrastructure and expanding the redundancy of our sources and primary delivery paths. Resiliency projects included in the CIPs include upgrades and expansion of our telecommunication paths, rebuilding electric substations to modern standards, a second water treatment plant, expanding our water transmission system, and consolidating our IT business systems into an ERP. Many projects, such as electric cable, pole, switch, and transformer replacements, and water main pipe replacements are examples of replacing aging equipment to reduce the overall Age of System (AOS), which help maintain reliable continuity of service.

By collaborating with the Board on strategic issues and values, along with developing mutual understanding of assumptions, goals, and performance metrics, the following water and electric capital improvement plans are presented to achieve the organization's strategic and operational priorities as presented earlier.

Water Capital Improvement Plan (CIP)

The 2022-2031 Water Capital Improvement Plan is included as Attachment 7. The Water utility ten-year CIP totals approximately $316 million and is categorized as shown in the figure below for both next year's budget, the next five years, and the full ten (10) year perspective. The Water investments are focused on reliability and resiliency as the majority of the risk based and strategic projects are associated with these efforts.

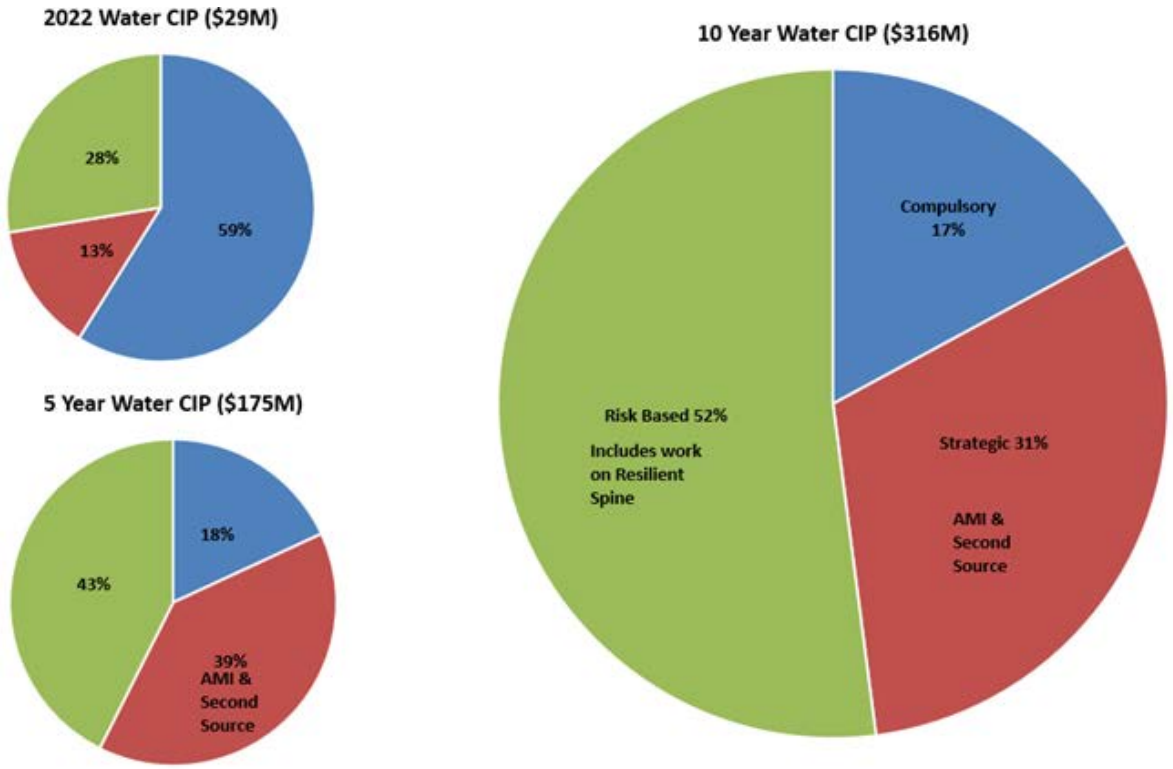


Figure: Water CIP Spending by Category (2022, First 5 years, 10 years)

A summary of planned projects/programs in each of the three categories is presented below followed by specifics on what is included in the Five Year and 2022 CIPs.

Water Compulsory

The Water CIP includes the following Compulsory work:

- Customer work for new services and development.
- Pipeline replacements where conflicts exist with City Street projects.
- Replacement of failed critical infrastructure.
- Projects necessary to meet regulatory requirements or to maintain compliance

The percentage of the CIP that is compulsory is higher in 2022 primarily due to the inclusion of one of the planned new base level reservoirs on E. 40th Ave in this category. While new reservoirs would

normally be considered a Risk Based improvement, the timing of this College Hill Reservoir replacement is being driven by an Oregon Health Authority requirement to address issues with the aging reservoir. As such, the minimum amount of storage required to take College Hill out of service now i.e. one tank, is considered compulsory.

Water Strategic Projects

The strategic portion of the CIP includes the completion of work on both the distributed (neighborhood) emergency water distribution sites along with AMI deployment. Both of these projects are anticipated to end in 2023 in the CIP.

In addition, the Second Source project is anticipated to be under construction by 2025. This project makes up the majority of the Strategic Category in the 2022-2031 CIP. This project includes a new water treatment plant and river intake on the Willamette River with a capacity to meet our current minimum demand. The plant would be robust with features to allow daily operations and continue operations following a seismic event. Transmission main work to connect to the EWEB distribution section is included in this project scope. Approximately $90M is associated with this project in the CIP. For construction to start in 2025 on this project, permitting and design work will need to begin next year.

Water Risk-Based/Opportunity Projects

Approximately half of the projects in the Ten-Year CIP are considered "Risk Based", primarily associated with reliability and resiliency enhancements.

The Risk-Based category includes the Water Utility projects to improve its "Resilient Spine". This work, largely driven by Master Planning efforts, in the last ten years has focused on the upgrade of the Hayden Bridge Intakes and Filtration Plant. For 2022 and the next ten years this effort is being directed to our Base Level Reservoirs and transmission system. Specific projects in the next ten years include new seismically robust water reservoirs to replace the College Hill, Hawkins and Santa Clara Reservoirs, new transmission lines to South Eugene and interconnecting our river crossings, and improvements to the Knickerbocker Bridge pipe river crossing.

One area that we have increased significantly from what was in last year's CIP is our main replacement work. Over the last ten years we have been focused on our resilient spine (treatment plant moving to reservoirs and transmission pipelines) and have kept our main replacement work at a modest level. As we continued to monitor this effort, however, we have noted an increase in our benchmark indicators i.e., leaks per mile. These indicators show that we are now exceeding the national average for this benchmark. To address this issue, we are doubling expenditures on main replacement work over the next ten years. Approximately $50M is associated with this effort in the ten-year CIP. As in the past this main replacement work will be coordinated with the City street work to the extent possible.

2022-2026 Water Projects

The 2022-2031 Water CIP includes a forecasted 2022 budget of $29 million. In the first five years of the CIP, water investments total $175 million, or 55% of the total plan, including the following roster of noteworthy projects.

Table: Noteworthy Near-Term Water Investments

Year (Start)	Project	Driver/Reason/Outcome	CIP Cost
2019	Advanced Metering Infrastructure & Systems	System Optimization	$6MM (2022-2023)
2021	E. 40th Reservoirs	Reliability/Resiliency	$25MM
2022	Hilyard Street Transmission Main	Reliability/Resiliency	$2.9MM
2022	Second Source Water Treatment Plant	Reliability/Resiliency	$90MM
2023	Alder Street Transmission Main Upgrade	System Optimization	$3.0MM
2024	HQ-Knickerbocker Transmission Main Phase 3	Resiliency	$5.5MM
2026	Hawkins Reservoir Replacement	Reliability/Resiliency	$22MM

Electric Capital Improvement Plan (CIP)

The 2022-2031 Electric Capital Improvement Plan is included as Attachment 8. The Electric utility ten-year CIP totals approximately $456 million and is categorized as shown in the figure below for both next year's budget, the next five years, and the full ten (10) year perspective. The Electric investments are focused on the renewal and replacement of aged infrastructure as well as strategic modernization and resiliency related work. The goals of the capital programs within the plan are to maintain reliability and limit customer impacts for long lead time substation and underground feeder cable failures in future years, to execute emergency preparedness initiatives related to seismic events, and leverage new technologies to reduce system downtime for outages through modernization and automation.

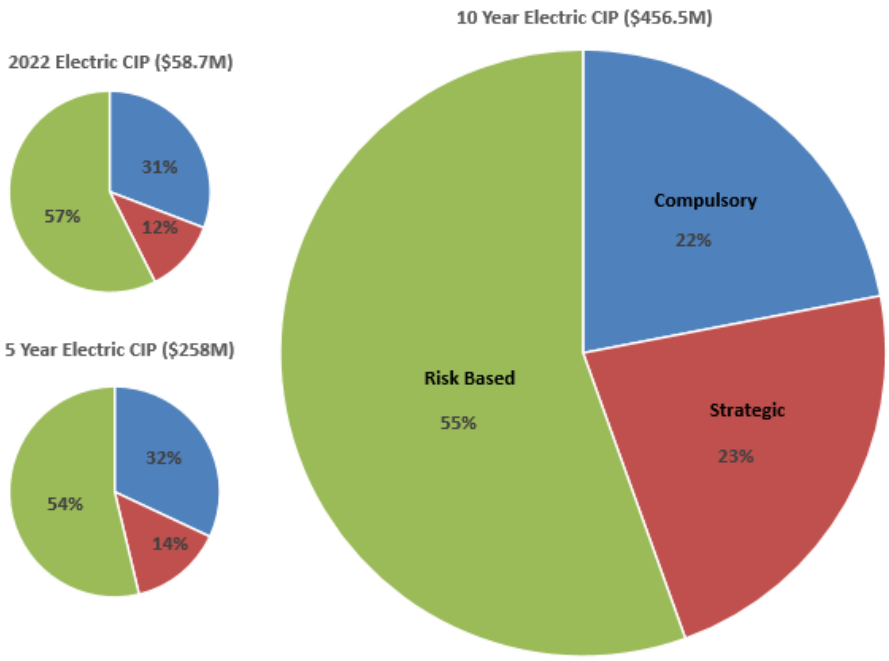


Figure: Electric CIP Spending by Category (2022, First 5 years, 10 years)

Electric Compulsory Work

The Electric CIP includes the following Compulsory work:

- Customer work for new services and development.
- Powerline replacements where conflicts exist with City street projects.
- Replacement of failed critical infrastructure on an emergent basis or as found via inspections.
- Projects necessary to meet regulatory requirements or to maintain compliance such as PUC (poles, cross arms, clearances, etc.).

The percentage of the CIP that is Compulsory is higher in 2022 primarily due to recategorizing FERC License required work at Carmen-Smith. This work was originally categorized as 'Strategic' however upon issuance of the license is being considered Compulsory due to the mandated scope and timelines. Other Compulsory work throughout the Electric Division is similar to historical expenditures and is mainly associated with customer connection work and PUC maintenance.

Electric Strategic Projects

For 2022, around 50% of the Strategic work planned is associated with completion of the AMI project, both deployment and communication system build out. The remining work in this category for 2022 and the first 5 years is related to transmission and distribution system enhancements and reconfigurations (i.e.: underground cable replacements/reconfigurations and overhead conversions, Thurston substation construction) and the expansion of operations at the Roosevelt Operations Center. Throughout the plan additional funding has been added to allow for seismic upgrades of critical power system assets, and remote telemetry and automation of the Distribution system to limit the impact of outages.

Electric Risk-Based/Opportunity Projects

Over half of the projects in the 2022-2031 CIP are considered "Risk Based", associated with reliability and resiliency enhancements due to the age of system and evolving risks to the electric system such as the Subduction Zone Earthquake, and Wildfire.

The Risk-Based category includes the Electric Utility projects to improve its "Resilient Spine" as well as replacements due to end of life of equipment based on condition, age, and customer impact. The CIP reflects the investments needed to address the ageing "bubble" of infrastructure installed in the 1960's and 1970s. This work is largely driven by reliability impacts trending towards unfavorable as seen by an increase in equipment failures, including transmission, distribution, substation, and communications assets. As electric system asset ages increases and likelihood of failure and end-of life increases, the proposed level of investment is required to renew these assets to avoid customer impact in the form of unplanned outages. The plan is focused on rebuilds of substations due to relatively large number of connected customers leading to high impact on reliability indices, and long lead times of replacement equipment. Examples of programs to maintain individual equipment fleets throughout the system include, substation breakers, control equipment and underground cable replacement.

Electric 2022-2026 Projects

The Electric 2022-2032 CIP includes a forecasted 2022 budget of $58.7M. In the first five years of the CIP, electric investments total $258 million, or 57% of the total plan, including the following roster of noteworthy projects.

Table: Noteworthy Near-Term Electric Investments

Year (Start)	Project	Driver/Reason/Outcome	CIP Cost
2018-2022	Advanced Metering Deployment	Resiliency/Modernization	$3.3M
2022-2023	Currin Substation Rebuild	Reliability/Resiliency	$9.5M
2023-2024	Thurston Substation Expansion	Reliability/Resiliency	$5M
2025-2026	IP Substation Rebuild	Reliability	$16M
2026	Cal Young Substation Rebuild	Reliability	$4.5M
2022-2031	Leaburg Canal Risk Mitigation	Reliability/Resiliency	$20.5M
2022-2026	Carmen-Smith Project	Compulsory/Reliability	$71M

Shared Service Capital Improvement Plan

The proposed CIP contains investment in a number of services used across both the Water and Electric utilities. Shared Service Strategic investments include upgrades to our Information Technology infrastructure and software to replace our current business systems. Also included are Risk based investments to maintain our vehicle fleet at an optimum average age of 16 years and investments in our communications infrastructure to maintain radio and fiber communication paths and electronics. While not directly a shared service, both Water and Electric CIPs include money earmarked for future smart meter replacements as well as building and land money to support the capital projects in each utility.

Budget and Long-Term Financial Outcomes

Consistent with the strategic and operational guidance, and business and economic forecast assumptions, EWEB Management has presented the resulting investment plan totaling approximately $773 million over ten (10) years, still within the Revenue Requirement (rates) guidelines as provided by the Board. The Water and Electric utility's plans include bond funding throughout the planning horizon of $127 million and $153 million, respectively.

Water

Based on the previously stated strategic and operational guidance, business, and economic forecast assumptions, and a ten (10) year capital investment plan of $316 million ($175 million in 2022-2026), including a second Willamette water treatment plant, all water financial metrics remain within board policy through 2031 with a 10-year compounded rate increase of 60.77%, equivalent to 4.86% per year. Because of heavy mid-2020's investment and cash flow needs, the initial year's rate increases are steeper than the latter 5 years of the plan. At the conclusion of ten years, with all other comparator utilities escalating rates at CPI (consumer price index), this still keeps EWEB in the lowest quartile among the peer group, fourth from the lowest. Excluding a second Willamette water treatment plant, the ten-year capital investment decreases to $225 million, and the rate trajectory falls to 30.95%, equivalent to 2.73% per year, within Board guidance.

The Water Long-Term Financial Plan outcome is included in Attachment 2, and the impact of capital investments including a water treatment plant and the Watershed Recovery Fee on our water comparator position is shown in Attachment 2.

Electric

Based on the previously stated strategic and operational guidance, business, and economic forecast assumptions, and a ten (10) year capital investment plan of $456.5 million ($160.6 million in 2022-2024), all electric financial metrics remain within board policy through 2031 with a 10-year compounded rate increase of 28.42%, equivalent to 2.53% per year.

The Electric Long-Term Financial Plan outcome is included in Attachment 1.

Recommendation

Management recommends that the Board direct staff to prepare the 2022 budgets for O&M and Capital using the assumptions set forth herein, which includes the BPA pass through for the Electric Utility and an overall revenue requirement increase of 1.75% for the electric utility and water increase of 9%.

Requested Board Action

Management is not requesting Board action at the July 7th meeting. However, Management is requesting that the Board provide clear direction on the strategic and operational guidance, business, and economic forecast assumptions, and a ten (10) year capital investment plans to be used in the development of the 2022 Budget, and upcoming rate proposals.

Attachments

Attachment 1 - Summary of Water Utility LTFP Revenue Requirement Assumptions and Outcomes
Attachment 2 - Summary of Electric Utility LTFP Revenue Requirement Assumptions and Outcomes
Attachment 3 - Average Bill Comparison
Attachment 4 – Forecasted Water Average Bill Comparison with water treatment plant
Attachment 5 - Median Household Income (MHI) %
Attachment 6 – Water CIP 2022-2031
Attachment 7 – Electric CIP 2022-2031

Attachment 1

Summary of Water LTFP Revenue Requirement Assumptions and Outcomes (000's omitted)

Key Metrics (Dollars in $000,s)	Target	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Reserves & Cash	$12,680	$27,000	$16,000	$18,000	$18,000	$19,000	$19,000	$18,000	$18,000	$18,000	$18,000
AWS Reserve Balance		$4,000	$3,000	$0	$0	$0	$0	$0	$0	$0	$0
Meter Reserve		$0	$0	$0	$1,000	$1,000	$2,000	$3,000	$3,000	$4,000	$4,000
Total Cash Reserves	$12,680	$31,000	$19,000	$19,000	$19,000	$20,000	$21,000	$21,000	$21,000	$22,000	$22,000
Bond Funding					$100M			$27M			
DSC	2.00-2.50	3.85	5.05	5.43	2.50	2.51	2.39	2.04	2.12	2.15	2.26
Days Cash	> 150 days	454	276	253	271	281	280	261	255	253	249

	2022-2031	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Average Revenue Requirement Change	60.77%	9.00%	9.00%	9.00%	4.00%	4.00%	2.00%	3.00%	4.50%	3.00%	1.50%

Key Assumptions

- Consumption approximately of 7.7 million kgal
- Contribution margin risk tolerance of $750,000 which represents 95% of the 5-year consumption average
- Annual revenue requirement without second source increases at 30.95% compounded over the next 10 years.
- Contributions of $300,000 to AMI reserve starting 2024 based on 20-year estimated life
- Bond issuance: $100 million in 2025 for Type 2 capital and a second filtration plant and $27 million in 2028

Attachment 2

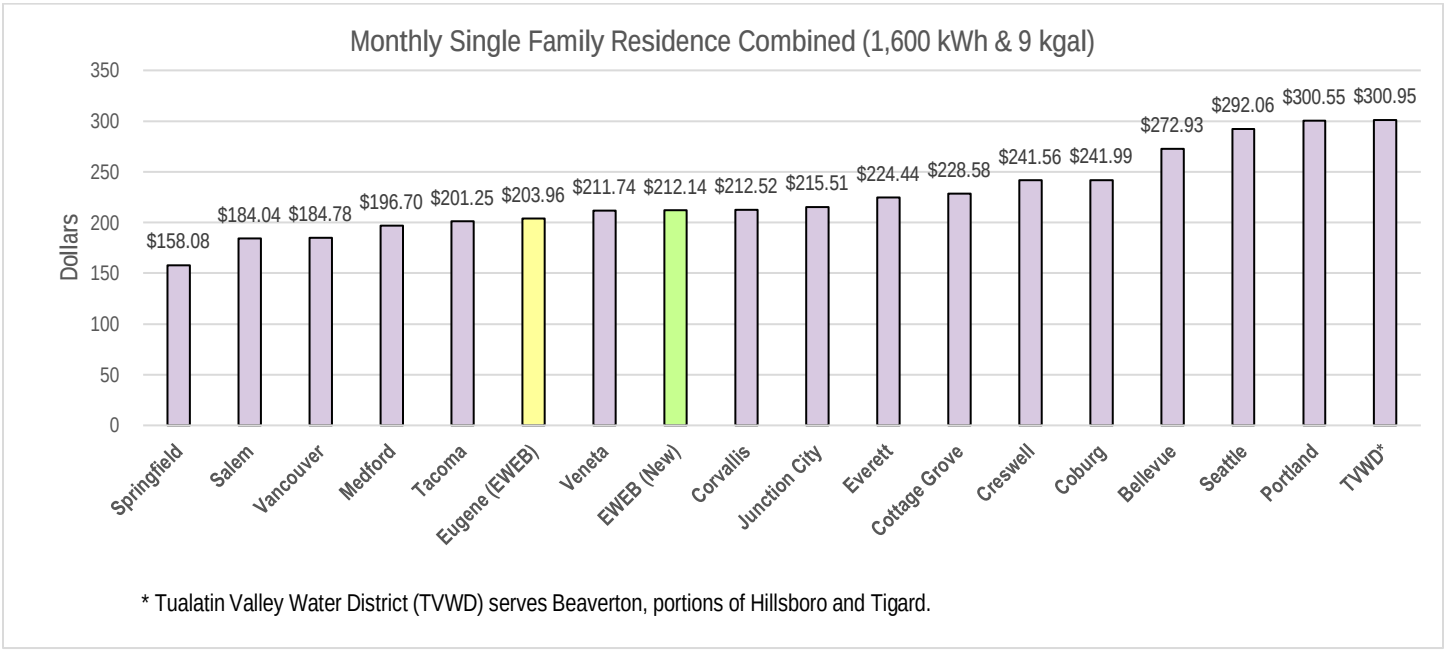
Summary of Electric LTFP Revenue Requirement Assumptions and Outcomes (000's omitted)

	Target	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Reserves and Cash	**$85,720**	**$110,000**	**$110,000**	**$111,000**	**$112,000**	**$112,000**	**$111,000**	**$110,000**	**$111,000**	**$110,000**	**$100,000**
Debt Service Coverage Ratio	**1.75**	**2.06**	**1.90**	**1.86**	**1.95**	**3.09**	**1.91**	**2.19**	**1.86**	**1.83**	**1.79**
Days Cash	**>150 Days**	**184**	**190**	**189**	**183**	**187**	**183**	**183**	**177**	**171**	**150**
Average Rev Requirement Change		**4.25%**	**2.50%**	**4.50%**	**5.00%**	**2.50%**	**0.00%**	**2.50%**	**0.00%**	**4.25%**	**0.00%**
Revenue Requirement Assumptions	**Compounded**										
Price Schedule	**10 Yr Total**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**
General Rate Increase		**1.75%**	**2.50%**	**2.00%**	**5.00%**					**1.75%**	
BPA Increase		**2.50%**		**2.50%**		**2.50%**		**2.50%**		**2.50%**	
Avg Rev Requirement Change	**28.18%**	**4.25%**	**2.50%**	**4.50%**	**5.00%**	**2.50%**	**0.00%**	**2.50%**	**0.00%**	**4.25%**	**0.00%**

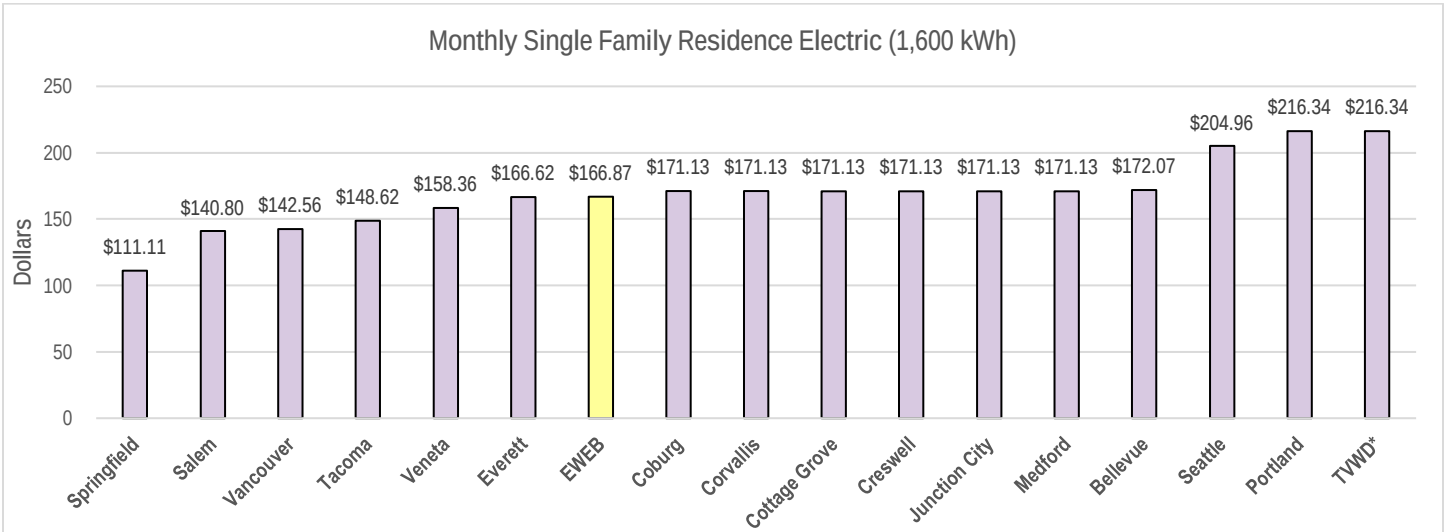
Key Assumptions

- Retail load approximately 2.3 million MWh's, roughly 2% higher than 2021 budget, but still below 2020 by 4% due to reduced commercial demand and large industrial customer departure
- Contribution margin risk tolerance of $7.0 million which represents 90% generation or a 7.5% load reduction
- Similar contribution margin risk tolerance through 2026, expected conditions 2027-2031
- BPA rate increase of 6% assumed in October of 2021, 2023, 2025, 2027, and 2029 which translates to 2.5% for EWEB customer-owners.
- $43/MWh melded mid-market price curve in 2022 increasing to $44/MWh in 2031
- Environmental Commodities represent roughly $2.2 million of wholesale revenue
- Leaburg generation revenue not included in the financial plan through 2027, pending future Board decision on the facility
- Bond issuance: $76 million in 2023, $42 million in 2026, and $35 million in 2029 funding capital work
- Use of $19.4 million of Rate Stabilization Reserve funds for capital work
- $1.0 million per year contribution to meter replacement reserve starting 2021 based on 12-year estimated life and the funds begin to draw down in 2027, at which point we no longer contribute to the fund

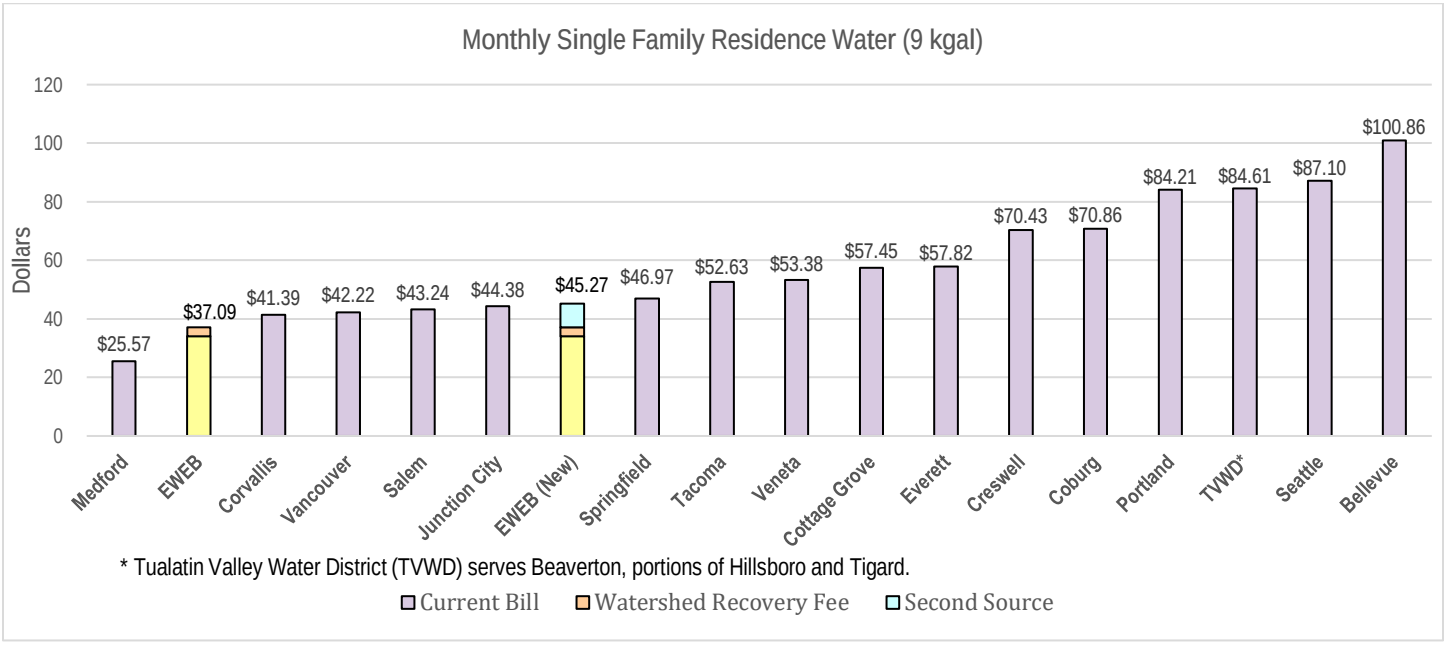
Attachment 3



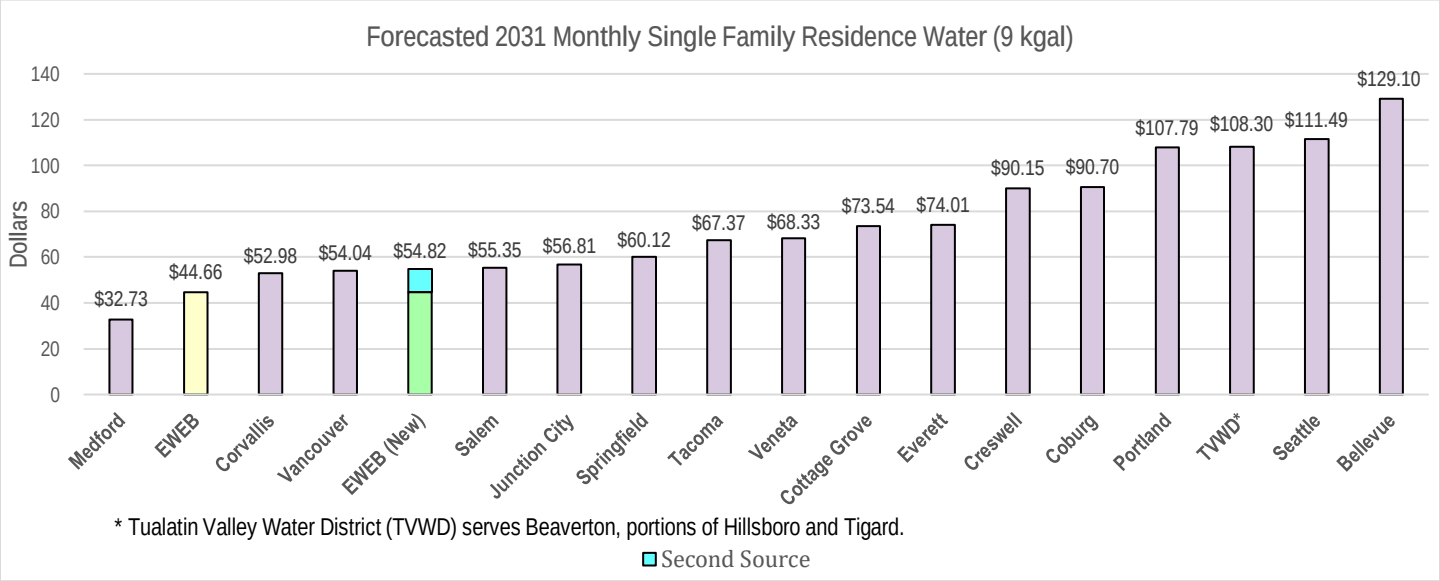
* Tualatin Valley Water District (TVWD) serves Beaverton, portions of Hillsboro and Tigard.



* Include CILT, taxes and fees where applicable.
* PGE serves Portland & TVWD.
* Pacific Power serves Corvallis, Junction City, Coburg, Creswell, Cottage Grove, Medford, and portions of Portland metropolitan area.


Monthly Single Family Residence Water (9 kgal)
Dollars
120
100
80
60
40
20
0
$25.57
$37.09
$41.39
$42.22
$43.24
$44.38
$45.27
$46.97
$52.63
$53.38
$57.45
$57.82
$70.43
$70.86
$84.21
$84.61
$87.10
$100.86
Medford
EWEB
Corvallis
Vancouver
Salem
Junction City
EWEB (New)
Springfield
Tacoma
Veneta
Cottage Grove
Everett
Creswell
Coburg
Portland
TVWD*
Seattle
Bellevue
* Tualatin Valley Water District (TVWD) serves Beaverton, portions of Hillsboro and Tigard.
Current Bill
Watershed Recovery Fee
Second Source

Attachment 4



Attachment 5

Background

The source of each comparator's median household income (MHI) is from the United States Census Bureau website. The methodology uses the following data :

- Monthly water and electric bill at average residential consumption
- Annual bill at same level of use
- Median household income (in 2019 dollars)

Currently there is no national standard for what affordable percent (%) of MHI value is or is not. Consideration must be given to financial sustainability of the utility as a whole in addition to affordability of price. Setting artificially lower prices may produce financial constraints to reinvesting in the system and eventually harm public health through poor product quality and service.

To address the limited income customer-owner bill impact, EWEB has maintained a customer care program for many years that provides assistance for bill payment and weatherization programs.

Included below are the combined average water and electric bills for residential customers in : Eugene, Portland, Salem, Medford, Vancouver, Tacoma, Seattle and Everett.
Average consumption is based on 7 kgal of water and 1,050 kWh of electricity respectively.
The average is annualized and compared as a percentage of MHI.

Findings

City	Water 7 kgal	Electric 1050 kWh	Monthly	Annual	Median Household Income	%
Oregon						
Eugene	33.28	116.55	149.83	1,797.96	$50,962.00	**3.53%**
Portland	69.26	140.83	210.09	2,521.08	$71,005.00	**3.55%**
Medford	22.57	108.41	130.98	1,571.76	$50,116.00	**3.14%**
Salem	36.24	99.28	135.52	1,626.24	$55,920.00	**2.91%**
Washington						
Vancouver	34.97	97.68	132.65	1,591.80	$61,714.00	**2.58%**
Tacoma	46.36	103.57	149.93	1,799.16	$62,358.00	**2.89%**
Seattle	71.36	132.03	203.39	2,440.68	$92,263.00	**2.65%**
Everett	44.97	109.35	154.32	1,851.84	$60,759.00	**3.05%**

Attachment 6
Water Capital Improvement Plan: 2022-2031

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	5 Year Total 2022-2026	5 Year Total 2027-2031	10 Year Total
Expenditures													
Type 1 - General Capital (rate funded)													
Source - Intake and Hayden Bridge	$ 850,000	$ 1,247,000	$ 792,000	$ 647,000	$ 667,000	$ 687,000	$ 707,000	$ 728,000	$ 750,000	$ 773,000	$ 4,203,000	$ 3,645,000	$ 7,848,000
Distribution - Pump Stations & Reservoirs	$ 2,153,000	$ 1,156,000	$ 645,000	$ 664,000	$ 684,000	$ 704,000	$ 726,000	$ 747,000	$ 770,000	$ 793,000	$ 5,302,000	$ 3,740,000	$ 9,042,000
Distribution - Pipelines	$ 4,635,000	$ 4,774,000	$ 5,464,000	$ 5,628,000	$ 6,376,000	$ 6,567,000	$ 6,764,000	$ 7,601,000	$ 7,829,000	$ 8,063,000	$ 26,877,000	$ 36,824,000	$ 63,701,000
Distribution - Services & Meters	$ 1,545,000	$ 1,591,000	$ 1,639,000	$ 1,688,000	$ 1,739,000	$ 1,791,000	$ 1,845,000	$ 1,900,000	$ 1,957,000	$ 2,016,000	$ 8,202,000	$ 9,509,000	$ 17,711,000
Distribution - Post AMI Meter Replacements/Upgrades			$ 350,000	$ 350,000	$ 350,000	$ 350,000	$ 350,000	$ 350,000	$ 350,000	$ 350,000	$ 1,050,000	$ 1,750,000	$ 2,800,000
Information Technology	$ 73,000	$ 107,000	$ 422,000	$ 781,000	$ 464,000	$ 88,000	$ 217,000	$ 422,000	$ 711,000	$ 534,000	$ 1,847,000	$ 1,972,000	$ 3,819,000
Buildings & Land	$ 8,000	$ 6,000	$ 13,000	$ 14,000	$ 52,000	$ 69,000	$ 49,000	$ 218,000	$ 52,000	$ 231,000	$ 93,000	$ 619,000	$ 712,000
Fleet	$ 628,000	$ 653,000	$ 679,000	$ 706,000	$ 734,000	$ 764,000	$ 794,000	$ 826,000	$ 859,000	$ 893,000	$ 3,400,000	$ 4,136,000	$ 7,536,000
Total Type 1 Expenditures	$ 9,892,000	$ 9,534,000	$ 10,004,000	$ 10,478,000	$ 11,066,000	$ 11,020,000	$ 11,452,000	$ 12,792,000	$ 13,278,000	$ 13,653,000	$ 50,974,000	$ 62,195,000	$ 113,169,000
Type 2 - Rehabilitation & Expansion Projects (rate & bond funded)													
Rate Funded Type 2 Projects													
Information Technology	$ 718,000	$ 718,000	$ 410,000	$ 410,000	$ 410,000	$ 791,000	$ 410,000	$ 410,000	$ 410,000	$ 410,000	$ 2,666,000	$ 2,431,000	$ 5,097,000
	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Subtotal - Rate Funded Projects	$ 718,000	$ 718,000	$ 410,000	$ 410,000	$ 410,000	$ 791,000	$ 410,000	$ 410,000	$ 410,000	$ 410,000	$ 2,666,000	$ 2,431,000	$ 5,097,000
Bond Eligible Type 2 Projects													
Source - Intake and Hayden Bridge	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,267,000	$ -	$ -	$ -	$ 1,267,000	$ 1,267,000
Distribution - Pump Stations & Reservoirs	$ 12,875,000	$ 13,261,000	$ 2,513,000	$ 2,026,000	$ 7,767,000	$ 8,000,000	$ 7,994,000	$ 7,601,000	$ 7,829,000	$ 8,063,000	$ 38,442,000	$ 39,487,000	$ 77,929,000
Distribution - Pipelines	$ 1,597,000	$ 3,077,000	$ 4,262,000	$ 2,926,000	$ 2,319,000	$ 2,985,000	$ 4,059,000	$ -	$ -	$ -	$ 14,181,000	$ 7,044,000	$ 21,225,000
Advanced Meters (Water)	$ 3,100,000	$ 3,000,000	$ -	$ -	$ -	$ -		$ -			$ 6,100,000	$ -	$ 6,100,000
Subtotal - Bond Eligible Projects	$ 17,572,000	$ 19,338,000	$ 6,775,000	$ 4,952,000	$ 10,086,000	$ 10,985,000	$ 12,053,000	$ 8,868,000	$ 7,829,000	$ 8,063,000	$ 58,723,000	$ 47,798,000	$ 106,521,000
Total Type 2 Expenditures	$ 18,290,000	$ 20,056,000	$ 7,185,000	$ 5,362,000	$ 10,496,000	$ 11,776,000	$ 12,463,000	$ 9,278,000	$ 8,239,000	$ 8,473,000	$ 61,389,000	$ 50,229,000	$ 111,618,000
Type 3 - Strategic Projects & Programs (bond funded)													
Emergency Water Supply	$ 515,000	$ 530,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,045,000	$ -	$ 1,045,000
Second Source Treatment Plant	$ 309,000	$ 1,061,000	$ 4,371,000	$ 27,012,000	$ 28,982,000	$ 28,657,000					$ 61,735,000	$ 28,657,000	$ 90,392,000
Total Type 3 Expenditures	$ 824,000	$ 1,591,000	$ 4,371,000	$ 27,012,000	$ 28,982,000	$ 28,657,000	$ -	$ -	$ -	$ -	$ 1,045,000	$ 28,657,000	$ 91,437,000
Total Expenditures	$ 29,006,000	$ 31,181,000	$ 21,560,000	$ 42,852,000	$ 50,544,000	$ 51,453,000	$ 23,915,000	$ 22,070,000	$ 21,517,000	$ 22,126,000	$ 175,143,000	$ 141,081,000	$ 316,224,000

Attachment 7

TNICE 062521

Electric Capital Improvement Plan: 2022-2031

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	5-Year Total 2021-2025	5-Year Total 2026-2030	10-Year Total
Type 1 - General Capital													
Electric Infrastructure - Generation	$2,140,000	$960,000	$2,400,000	$1,800,000	$1,060,000	$930,000	$1,080,000	$2,930,000	$980,000	$980,000	$8,360,000	$6,900,000	$15,260,000
Customer-Driven Capital Expense	$2,042,000	$2,103,000	$2,166,000	$2,231,000	$2,297,000	$2,366,000	$2,438,000	$2,511,000	$2,586,000	$2,664,000	$10,839,000	$12,565,000	$23,404,000
Electric Infrastructure - Transmission & Distribution	$7,800,000	$8,423,000	$9,510,000	$10,705,000	$12,356,000	$13,091,000	$12,398,000	$12,459,000	$12,318,000	$14,123,000	$48,794,000	$64,389,000	$113,183,000
Telecom Fiber - EWEB Driven	$400,000	$200,000	$150,000	$550,000	$150,000	$120,000	$124,000	$128,000	$132,000	$136,000	$1,450,000	$640,000	$2,090,000
Telecom - Radio	$100,000	$103,000	$106,000	$300,000	$309,000	$318,000	$0	$0	$0	$0	$918,000	$318,000	$1,236,000
Precapitalized AMI Meter Capital subtotal (post-deployment)	$0	$500,000	$515,000	$530,000	$546,000	$0	$0	$0	$0	$0	$2,091,000	$0	$2,091,000
Information Services (IS) - Shared & Electric	$1,231,000	$1,562,000	$2,781,000	$5,087,000	$3,171,000	$1,308,000	$2,124,800	$2,781,440	$3,665,920	$4,592,128	$13,832,000	$14,472,288	$28,304,288
General Plant - Buildings & Land	$96,000	$99,000	$180,000	$229,000	$160,000	$688,000	$160,000	$165,000	$170,000	$175,000	$764,000	$1,358,000	$2,122,000
General Plant - Fleet	$988,000	$1,380,000	$1,460,000	$1,520,000	$1,120,000	$1,154,000	$1,189,000	$1,225,000	$1,262,000	$1,300,000	$6,468,000	$6,130,000	$12,598,000
Total Type 1 Net Expenditures	**$14,797,000**	**$15,330,000**	**$19,268,000**	**$22,952,000**	**$21,169,000**	**$19,975,000**	**$19,513,800**	**$22,199,440**	**$21,113,920**	**$23,970,128**	**$93,516,000**	**$106,772,288**	**$200,288,288**
Type 2 - Rehabilitation & Expansion Projects													
Downtown Distribution Network	$1,015,000	$1,041,000	$1,152,000	$1,264,000	$1,286,000	$1,298,000	$1,311,000	$1,324,000	$1,037,000	$1,141,000	$5,758,000	$6,111,000	$11,869,000
Distribution Resiliency Upgrades	$0	$60,000	$1,540,000	$0	$0	$0	$0	$0	$0	$0	$1,600,000	$0	$1,600,000
Advanced Meters (Electric)	$3,275,634	$0	$0	$0	$0	$3,200,000	$3,200,000	$3,200,000	$3,200,000	$3,200,000	$3,275,634	$16,000,000	$19,275,634
Generation - Type 2 Strategic Project(s)	$2,000,000	$1,500,000	$1,000,000	$3,093,000	$10,935,000	$3,500,000	$6,000,000	$500,000	$500,000	$500,000	$18,528,000	$11,000,000	$29,528,000
Distribution Modernization	$52,000	$200,000	$206,000	$212,000	$218,000	$225,000	$232,000	$1,239,000	$2,246,000	$753,000	$888,000	$4,695,000	$5,583,000
Electric T & D - Type 2 Strategic Project(s)	$3,000,000	$7,500,000	$5,500,000	$7,000,000	$17,500,000	$9,000,000	$10,750,000	$6,000,000	$8,000,000	$6,000,000	$40,500,000	$39,750,000	$80,250,000
Information Technology - Type 2 Strategic Project(s)	$ 3,591,000	$ 3,591,000	$ 2,052,000	$ 3,955,000	$ 2,052,000	$ 2,052,000	$ 2,052,000	$ 2,052,000	$ 2,052,000	$ 2,052,000	$15,241,000	$10,260,000	$25,501,000
Buildings & Land - Type 2 Strategic Project(s) Total	$1,750,000	$2,500,000	$1,500,000	$580,000	$1,194,000	$1,230,000	$633,000	$0	$0	$0	$7,524,000	$1,863,000	$9,387,000
Type 2 Capital Expenditures (Bond, Customer, & Rate Funded)	**$14,683,634**	**$16,392,000**	**$12,950,000**	**$16,104,000**	**$33,185,000**	**$20,505,000**	**$24,178,000**	**$14,315,000**	**$17,035,000**	**$13,646,000**	**$93,314,634**	**$89,679,000**	**$182,993,634**
Type 3 - Strategic Projects & Programs													
Type 3 - Expenditures												0	0
Carmen-Smith Expenditures	$29,220,000	$19,000,000	$19,020,000	$3,180,000	$900,000	$230,000	$470,000	$1,200,000	$0	$0	$71,320,000	1,900,000	73,220,000
												0	0
Total Expenditures	**$58,700,634**	**$50,722,000**	**$51,238,000**	**$42,236,000**	**$55,254,000**	**$40,710,000**	**$44,161,800**	**$37,714,440**	**$38,148,920**	**$37,616,128**	**$258,150,634**	**198,351,288**	**456,501,922**
											End of 2026	**End of 2031**	**End of 2031**