M E M O R A N D U M

EUGENE WATER & ELECTRIC BOARD

Rely on us.

TO: Commissioners Mital, Schlossberg, Helgeson, Brown and Carlson

FROM: Deborah Hart, CFO and Aaron Balmer, General Accounting & Treasury Supervisor

DATE: March 27, 2020

SUBJECT: 2019 Year-end Audited Financial Statements and Communications with Those Charged with Governance (Management Letter)

OBJECTIVE: Information Only

Included with this backgrounder are the 2019 Audited Financial Statements and Management Letter. In lieu of a presentation, EWEB's independent auditors, Moss Adams, have prepared materials to outline the audit process, financial statements, and internal control recommendations.

Attachments:

- 2019 Audited Financial Statements
- Moss Adams' Communications with Those Charged with Governance (Management Letter)
- Moss Adams' Board Presentation

EWEB

Eugene Water & Electric Board

Independent Auditor's Reports and Financial Statements

December 31, 2019 and 2018

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Board of Commissioners

Mr. Steve Mital	Wards 1 & 8	President
Ms. Mindy Schlossberg	"At Large"	Vice-President
Mr. John Brown	Wards 4 & 5	Member
Ms. Sonya Carlson	Wards 6 & 7	Member
Mr. Dick Helgeson	Wards 2 & 3	Member

Officers

Mr. Frank Lawson	General Manager, Secretary
Ms. Anne Kah	Assistant Secretary
Ms. Susan Fahey	Treasurer
Ms. Deborah Hart	Assistant Treasurer

Commissioners' contact information may be found at www.eweb.org. Written communication may be sent to the attention of commissioners or officers at this address:

EWEB
4200 Roosevelt Boulevard
Eugene, OR 97402

Report of Independent Auditors

The Board of Commissioners Eugene Water & Electric Board

Report on the Financial Statements

We have audited the accompanying statements of net position of the Electric System, Water System and Combined Total Systems, and the statements of fiduciary net position of the Retirement Benefits Trust (the Trust) of Eugene Water & Electric Board (the "Board"), as of December 31, 2019 and 2018, and the related statements of revenues, expenses and changes in net position and cash flows of the Electric System, Water System and Combined Total Systems for the years then ended, and the statements of changes in fiduciary net position of the Trust for the years then ended, and the related notes to the financial statements, which collectively comprise the Board's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the Electric System, the Water System, Combined Total Systems and the Retirement Benefits Trust of the Board as of December 31, 2019 and 2018, and the respective changes in financial position and cash flows for the Electric System, the Water System, and Combined Total Systems, and changes in financial position for the Retirement Benefits Trust of the Board for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis, schedule of proportionate share of the net pension liability, schedule of contributions – pension, schedule of employer contributions – post-employment health care benefits, schedule of changes in total OPEB liability and related ratios, and the schedule of investment returns be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise the Board's financial statements. The Electric System and Water System long-term bonded debt and interest payment requirements (including current portion) schedules and the Electric System and Water System analysis of certain restricted cash and investments for debt service schedules and sustainability accounting standards disclosures ("supplementary information") are presented for purposes of additional analysis and are not a required part of the financial statements. Such information has not been subjected to the auditing procedures applied in the audit of the financial statements, and accordingly, we do not express an opinion or provide any assurance on it.

Report on Other Legal and Regulatory Requirements

In accordance with the *Minimum Standards for Audits of Oregon Municipal Corporations*, we have issued our report dated March 13, 2020, on our consideration of the Board's compliance with certain provisions of laws and regulations, including the provisions of Oregon Revised Statues as specified in Oregon Administrative Rules. The purpose of that report is to describe the scope of our testing of compliance and the results of that testing and not to provide an opinion on compliance.

Julie Desimone

For Moss Adams LLP
Portland, Oregon
March 13, 2020

The following discussion provides an overview of the financial results of the Eugene Water & Electric Board (EWEB) for the years ended 2019, 2018, and 2017. This unaudited discussion is intended to be used in conjunction with the financial statements and note disclosures following this section.

EWEB is the largest publicly-owned electric and water utility in Oregon. The City of Eugene (the City) commenced utility operations in 1908 with the purchase of a privately-owned water system. In 1911, upon completion of the City's first municipal hydroelectric power plant, the City organized the Eugene Water Board to operate the City's electric and water utilities. The name of the Eugene Water Board was changed to the Eugene Water & Electric Board in 1949.

EWEB is chartered by the City and supplies electric and water service within the city limits of Eugene and to certain areas outside the city limits. EWEB operates as a primary government, and is not considered a component unit of the City. EWEB is governed by a five member Board of Commissioners who are elected by voters residing in the City. The Board of Commissioners has authority to set prices for water and electric services. Prices are set based on the cost of service delivery, including operating, capital, and debt service expenses.

The Statements of Net Position report assets, deferred outflows, liabilities, deferred inflows and net position as of the end of the financial year, December 31. The Statements of Revenues, Expenses and Changes in Net Position report revenues and expenses occurring during the financial year. The Statements of Cash Flows report cash from operating activities, investing activities, non-capital financing activities as well as capital and related financing activities.

Electric System

The Electric System supplies service to 94,000 residential, commercial, and industrial customers within the City of Eugene and areas along the McKenzie River between the cities of Walterville and Vida where two of EWEB's hydro-power plants are located. The total service area covers 236 square miles. The Electric System owns and operates approximately 1,100 circuit miles of overhead and underground distribution lines, 129 circuit miles of transmission lines, and 38 distribution substations. Power delivered to customers is supplied by Bonneville Power Administration (BPA) contracts, EWEB-owned generation resources, other contracted resources, and purchases from the wholesale energy markets. EWEB's power supply sources are primarily hydro-power, but also includes wind, biomass, steam, and solar.

2019	MWh	
Hydro-power	2,371,222	59%
Wind	158,169	4%
Steam	236,042	6%
Biomass	114,588	3%
Other market purchases	1,130,227	28%
	4,010,248	100%

2019	MWh	
EWEB-owned generation	421,512	11%
Contracted generation	2,458,509	61%
Market purchases	1,130,227	28%
	4,010,248	100%

Net Operating Revenue

Electric System net operating revenue for 2019 decreased compared to 2018 and 2017. Higher power market prices in the first quarter of 2019 influenced the rise in both revenues and expenses compared to prior years. In 2019, a change in accounting for certain wholesale market transactions presented figures at gross amounts whereas 2018 and 2017 netted similar transaction amounts in each year. The change did not influence net operating revenue.

A snowstorm in February 2019 caused severe outages in the region. Restoration efforts totaled over $4 million. FEMA allocated funds to reimburse 75% of eligible restoration costs, and management expects to receive the funds in 2020. 2018 and 2017 did not have severe storm events requiring extensive restoration.

The 2017 financial statements were restated for comparability due to accounting and financial reporting requirements for Other Post-employment Benefit Plans (OPEB).

Electric System – Net Operating Revenue

(in thousands)	2019	2018	(Restated) 2017	Increase (Decrease) 2019/2018	Increase (Decrease) 2019/2017
Operating revenue	$ 263,339	$ 248,973	$ 254,645	$ 14,366	$ 8,694
Operating expense	(262,654)	(232,694)	(227,324)	(29,960)	(35,330)
Net operating revenue	$ 685	$ 16,279	$ 27,321	$ (15,594)	$ (26,636)

Operating Revenue

Operating revenue varies from year to year based on customer load, generation available for sale, and the market prices for generation available for sale. Residential customers make up approximately 90% of EWEB's customer base and approximately 50% of customer revenue. Sales to residential customers are variable based on weather trends. Operating revenue from residential customers was impacted by cold weather in the first quarter of 2019 and 2017, a time when consumption is generally at its peak for the year. The first quarter of 2018 was warm compared to historical weather trends.

Recent residential price adjustments have been as follows:

2019	No change
2018	No change
2017	No change

Commercial and industrial accounts make up approximately 10% of the EWEB customer base, and approximately 50% of customer revenue. Commercial and industrial sales are more reactive to economic conditions rather than weather conditions. Commercial and industrial consumption was flat compared to 2018 and dropped slightly compared to 2017.

Electric System – Sales to Customers					
(in thousands)	2019	2018	2017	Increase (Decrease) 2019/2018	Increase (Decrease) 2019/2017
Residential	$ 100,560	$ 97,673	$ 104,263	$ 2,887	$ (3,703)
Commercial and industrial	100,605	102,214	103,115	(1,609)	(2,510)
	$ 201,165	$ 199,887	$ 207,378	$ 1,278	$ (6,213)

Electric System – Sales to Customers mWh					
	2019	2018	2017	Increase (Decrease) 2019/2018	Increase (Decrease) 2019/2017
Residential	938,625	914,754	986,093	23,871	(47,468)
Commercial and industrial	1,429,042	1,427,882	1,468,808	1,160	(39,766)
	2,367,667	2,342,636	2,454,901	25,031	(87,234)

EWEB sold power supply in excess of load into the wholesale markets. The Electric System has an active hedging program to manage price risk associated with wholesale power sales. Market prices have steadily improved over the past three years. Several factors contributed to higher prices in 2019, including reduced supply due to unfavorable hydro conditions in the region, low renewable resources availability, and limited natural gas supply. 2017 prices were particularly lower in comparison with an excess of supply due to a favorable spring runoff that increased overall volumes available to the wholesale market.

	2019	2018	2017
Retail sales	$ 201,165,722	$ 199,887,212	$ 207,378,148
Retail volume	2,367,667	2,342,636	2,454,901
Average price per mWh	$ 84.96	$ 85.33	$ 84.48
Wholesale sales	$ 51,885,415	$ 41,201,400	$ 39,249,845
Wholesale volume	1,588,379	1,477,941	1,997,333
Average price per mWh	$ 32.67	$ 27.88	$ 19.65

Operating Expenses

Electric System operating expenses include purchased power and wheeling expense. Prices are set for BPA and contracted resources by their respective contracts, which may escalate over time. Market purchases are made at times when resources aren't adequate for customer load or to support the EWEB hedging program, and are subject to price variability to the extent those sales are not fully hedged. Purchased power costs increased compared to 2018 and 2017, as a result of cost escalations in contracted resources, and an increase in market prices. In addition, an accounting change for contracted power trades occurred in 2019. Gross amounts are recorded for offsetting purchase and sale transactions for the same delivery period and the same location, rather than net amounts. Wheeling decreased in 2019 due to the sale of the Foote Creek wind generation project.

Transmission and distribution expense was higher in 2019 due to restoration efforts following a severe snow storm in February 2019. Steam and hydraulic generation costs increased in 2019 and 2018, compared to 2017, due to maintenance for a co-generation plant. The Electric System's allocation of shared costs with the Water System was updated in 2019 to 80% from 82%. The 2% decrease contributed to declines in customer accounting and administrative and general. Conservation expense increased from 2018 due to increased investments in customer conservation projects. Depreciation expense has been stable over the past three years. In 2019, EWEB received a forty-year operating license for the Carmen-Smith Hydroelectric Project. Preliminary costs for implementing the license were placed into service and are being amortized over the term of the license.

Electric System – Operating Expenses

(in thousands)	2019	2018	(Restated) 2017	Increase (Decrease) 2019/2018	Increase (Decrease) 2019/2017
Purchased power	$ 153,922	$ 125,272	$ 118,166	$ 28,650	$ 35,756
System control	4,269	4,383	4,896	(114)	(627)
Wheeling	13,107	13,312	13,915	(205)	(808)
Steam and hydraulic generation	12,277	12,824	11,338	(547)	939
Transmission and distribution	24,526	22,585	21,658	1,941	2,868
Customer accounting	7,668	7,990	8,350	(322)	(682)
Conservation expenses	3,633	3,299	4,060	334	(427)
Administrative and general	20,467	21,892	22,718	(1,425)	(2,251)
Depreciation on utility plant	22,785	21,137	22,223	1,648	562
Operating expenses	$ 262,654	$ 232,694	$ 227,324	$ 29,960	$ 35,330

Other Non-operating Revenue, Expense, and Capital Contributions

For the Electric System, non-operating revenue was primarily miscellaneous revenue from sources unrelated to core business functions, including investment earnings, rental revenue and claims revenue. In 2019, non-operating revenue increased compared to 2018 primarily due to settlement of a claim for damages incurred on a hydro-generating project. Non-operating revenue was higher in 2017 due to an approximately $3 million interest payment from the Water System and $3.5 million in FEMA grant revenue. Non-operating expense is primarily interest expense for long-term debt and other revenue deductions including taxes and losses on the disposition of property. It is lower in 2019. In 2018, non-operating expenses included a $4.1 million accounting loss on the disposition of surplus riverfront property. In 2017, non-operating expenses increased due to a $15.7 million accounting loss related to the in-substance defeasance of bonds.

Capital contributions represent amounts customers contribute to construct assets that become part of plant in service for the Electric Utility. Capital contributions can fluctuate due to the timing of customer-driven work.

(in thousands)	Electric System – Non-operating Revenue and Expense				
	2019	2018	2017	Increase (Decrease) 2019/2018	Increase (Decrease) 2019/2017
Non-operating revenue	$ 10,273	$ 8,292	$ 12,572	$ 1,981	$ (2,299)
Non-operating expense	(8,723)	(12,056)	(25,587)	3,333	16,864
Capital contributions	2,606	4,274	5,287	(1,668)	(2,681)
Total	$ 4,156	$ 510	$ (7,728)	$ 3,646	$ 11,884

Special Item

In 2019, the Electric System made a $16.7 million deposit to an Oregon Public Employee Retirement System (OPERS) side-account. It reduced EWEB's employer contribution rate as of November 1, 2019 and will provide ongoing savings. In addition, this deposit received a $4.2 million match from the state's Employer Incentive Fund.

In 2017 the Board elected to join the State & Local Government Rate Pool (SLGRP) to mitigate risks related to employer contribution rates. Previously, the Board's status was as an independent employer participating in OPERS. As an independent employer, actuarial valuations to determine employer contribution rates used Board specific demographics. As a participant in the SLGRP, valuations to determine employer contribution rates use the demographics of pool participants. The Board's specific demographics generally resulted in contribution rates higher than the SLGRP, and the Board's SLGRP employer contribution rates were lower once they took effect in July 2019. Based on OPERS actuarial calculations, $32.6 million of the Board's actuarial liability as an independent employer, was assigned as the transition liability to move from independent to SLGRP status. This maintained future rate equity among other SLGRP participants. During 2018, the Electric System recognized $24.8 million for its portion of the transition liability as a special item expense.

During 2018, the Electric System also recognized $1.5 million as a special item expense to fund the OPEB trust. Board policy requires contribution levels be evaluated when the funded status of the OPEB plan is 70% or less.

Total Assets and Deferred Outflows of Resources

Total assets for the Electric System include utility plant net of depreciation, current assets representing cash and investments, accounts receivable, materials inventory, pre-paid expenses, long term investments, and non-current assets such as jointly-owned companies accounted for under the equity method for investments.

Current assets are influenced by cash balances, investments having maturities one year or less, and changes in balances of customer and other receivables at year end. In 2019, current assets decreased compared to 2018 due to a payment of $16.7 million to OPERS. In 2018, a payment of $26.3 million in one-time pension and OPEB expenses also reduced cash balances.

In 2019, the investments classified as non-current decreased compared to 2018 and 2017 due in part to overall portfolio reductions. Reduced purchase activity for investment securities increased amounts classified as current, and current funds were used for payments to OPERS. In addition, $23.5 million of preliminary costs associated with the Carmen-Smith operating license moved to plant in service during 2019. The regulatory asset for pension debits also declined by $17.1 million in 2019 as costs were recognized in the current year through payroll and special one-time contributions. In 2018, non-current assets decreased from 2017 due in part to the disposition of surplus riverfront property.

Deferred outflows of resources represent transactions occurring in future periods and are not classified as assets. In 2019, deferred outflows of resources increased primarily due to the $20.9 million pension contributions after the measurement date for actuarial reporting.

Electric System – Assets and Deferred Outflows

(in thousands)	2019	2018	(Restated) 2017	Increase (Decrease) 2019/2018	Increase (Decrease) 2019/2017
Net utility plant	$ 407,800	$ 367,758	$ 353,877	$ 40,042	$ 53,923
Current assets	153,657	170,448	185,698	(16,791)	(32,041)
Non-current assets	87,369	150,381	157,451	(63,012)	(70,082)
Deferred outflows of resources	52,351	45,530	46,746	- 6,821	- 5,605
Total assets and deferred outflows of resources	$ 701,177	$ 734,117	$ 743,772	$ (32,940)	$ (42,595)

Capital Asset Activity

Capital projects for the Electric System are categorized as Compulsory, Strategic, or Risk Based Elective Improvements.

Compulsory work is mandatory to ensure EWEB meets minimum service, regulatory, and safety requirements. Compulsory work develops from both internal and external drivers. There is minimal opportunity to change the compulsory portion of capital plans due to legal and policy requirements.

Strategic projects and programs are derived from strategic direction and are typically multiyear and multimillion-dollar efforts. Strategic improvements are moderately flexible in nature and can be balanced with efforts to prioritize compulsory work or other drivers, such as affordability or operational improvements.

Risk Based Elective Improvements are elective in that Staff can plan and schedule them to balance within the boundaries of the capital plans and the long term financial plans as well as staffing and resources available. This work is driven by the goal to maintain system condition and Age of Asset metrics in order to maintain reliability. Reducing the level of work in this area will ultimately result in the increase of compulsory work and reduction in reliability.

Electric System – Capital Assets

(in thousands)	2019	2018	2017	Increase (Decrease) 2019/2018	Increase (Decrease) 2019/2017
Plant in service	$ 816,318	$ 786,987	$ 760,426	$ 29,331	$ 55,892
Accumulated depreciation	(446,919)	(436,984)	(422,005)	(9,935)	(24,914)
Property for future use	1,345	783	943	562	402
Construction work in progress	37,056	16,972	14,513	20,084	22,543
Net utility plant	$ 407,800	$ 367,758	$ 353,877	$ 40,042	$ 53,923

Ongoing capital improvements included:

Electric System – Capital Projects

2019	2018	2017
Transmission & Distribution Generation Information Technology Substations & Telecom	Transmission & Distribution Generation Information Technology Substations & Telecom Buildings & Land Transportation Equipment	Buildings & Land Transmission & Distribution Transportation Equipment Generation Information Technology Substations & Telecom
AMI Downtown Network Holden Creek Substation Consolidation of Operations Distribution Resiliency Upgrades	AMI Downtown Network Holden Creek Substation Leaburg Roll Gate Rebuild	AMI Downtown Network Holden Creek Substation Leaburg Roll Gate Rebuild Lane Transit District EMX Project Information Technology – WAM
Carmen Smith License Implementation	Carmen Smith License Implementation	Carmen Smith License Implementation

More detailed information about plant activity can be found in the note disclosures to the financial statements, Note 3 – Utility Plant.

Debt Activity

The Electric System issues revenue bonds or notes payable to fund certain capital projects. During 2019, the Electric System made scheduled debt service payments which decreased outstanding debt compared to 2018 and 2017. For more detailed information, see Note 12 – Long-Term Debt.

Electric System bonds are rated Aa2 by Moody's Investors Service, AA- by Standard and Poor's Rating Services, and AA- by Fitch Ratings.

Electric System – Debt Activity

(in thousands)	2019	2018	2017	Increase (Decrease) 2019/2018	Increase (Decrease) 2019/2017
Total outstanding debt	$ 198,672	$ 209,279	$ 219,934	$ (10,607)	$ (21,262)

Liabilities and Deferred Inflows of Resources

Current liabilities are primarily accounts payable, accrued payroll, and the current portion of long-term debt. Current liabilities decreased in 2019 compared to 2018 due to fluctuations in accounts payable and accrued payroll. Total liabilities were influenced by decreases in the net pension liability and net OPEB liability, as well as regular debt service payments mentioned above.

The increase in deferred inflows of resources in 2019 was primarily due to changes in the employer proportion related to EWEB's PERS net pension liability.

Electric System – Liabilities and Deferred Inflows

(in thousands)	2019	2018	(Restated) 2017	Increase (Decrease) 2019/2018	Increase (Decrease) 2019/2017
Current liabilities	$ 38,378	$ 41,051	$ 36,479	$ (2,673)	$ 1,899
Total liabilities	301,461	336,181	339,042	(34,720)	(37,581)
Deferred inflows of resources	21,277	11,811	8,591	9,466	12,686
Total liabilities and deferred inflows of resources	$ 322,738	$ 347,992	$ 347,633	$ (25,254)	$ (24,895)

Net Position

The net investment in capital assets component of net position, which reflects the value of capital assets net of the debt incurred to acquire those assets, has increased each year since 2017. Capital assets have been added each year, while corresponding debt levels associated to capital improvements have declined.

Restricted net position is subject to external legal restrictions on its use and is primarily representative of reserves for payments of debt service, customer donations, and amounts deposited in escrow accounts relating to the Harvest Wind Project. Restricted net position increased in 2019 due to investment income on the debt service reserve and donations to the customer care program.

Unrestricted net position represents the accumulation of net assets that are not capital assets, or subject to external restrictions on their use. In 2019 and 2018, unrestricted net position decreased due to payments made from existing cash reserves for unfunded liabilities related to retirement benefits.

Overall net position has decreased by 4.5% compared to 2017.

Electric System – Net Position

(in thousands)	2019	2018	(Restated) 2017	Increase (Decrease) 2019/2018	Increase (Decrease) 2019/2017
Net investment in capital assets	$ 241,620	$ 206,740	$ 195,359	$ 34,880	$ 46,261
Restricted	6,552	6,122	6,367	430	185
Unrestricted	130,267	173,264	194,414	(42,997)	(64,147)
Total net position	$ 378,439	$ 386,126	$ 396,140	$ (7,687)	$ (17,701)

Reserves and Investment Activity

The Board of Commissioners has established Electric System designated reserve accounts for specific purposes including funding routine capital activity, significant one-time expenses, and to protect customers from the effects of large fluctuations in power prices, generation volume and counterparty risk. The Board has authority to re-evaluate and redirect designated and unrestricted reserves based on current priorities.

In 2019, the Board used $16.7 million of reserves to participate in an Employer Incentive Fund program with PERS. State contributed funds matched 25% of EWEB contributions and reduced EWEB's employer contribution rate starting on November 1, 2019. During 2018, the Board used $24.8 million of reserves to pay a transition liability to Oregon PERS, and $1.5 million to fund its OPEB trust in order to reduce employer contribution rates. In 2017, the Board approved the use of $24.2 million in designated funds to defease debt. Each year the Board reviews reserves in excess of target for the highest and best use of cash.

Electric System – Reserve Balances

(in thousands)	Target	2019
Working cash	$ 36,000	$ 37,664
Designated funds		
Operating reserve	4,000	4,083
Self-insurance reserve	1,720	1,774
Power reserve	17,000	17,000
Capital improvement reserve	22,000	22,188
Rate stabilization fund	5,000	24,469
Business growth & retention loan fund	-	1,997
Designated funds total	$ 49,720	$ 71,511

The Electric System also maintained restricted reserves for purposes including the payment of principal and interest on debt, and proceeds from bond issuance restricted for use on capital projects.

Working cash and short-term investments are not held in reserve and were available for the day-to-day operations of the utility. They were classified as unrestricted.

All Electric System working cash and reserves were held in depository accounts, the Local Government Investment Pool, or in high quality securities. Investment strategy focused on the following in priority order: preserving principal, liquidity of funds, and investment returns.

Water System

The source of supply for the Water System is the McKenzie River, with headwaters in the Cascade Range east of Eugene. Intake and purification of water occurs at the Hayden Bridge Water Filtration Plant. In addition to the filtration plant, the Water System owns and operates 23 reservoirs, 27 pump stations, and approximately 800 miles of transmission and distribution mains. The Water System provides water service to 54,000 residential, commercial, and industrial customers within the EWEB service territory, and also supplies wholesale water to the River Road and Santa Clara water districts outside Eugene. In addition, EWEB has surplus water contracts with the City of Veneta and the Willamette Water Company.

Net Operating Revenue

2019 water net operating revenue decreased by 16% compared to 2018 and 17% compared to 2017.

	Water System – Net Operating Revenue				
(in thousands)	2019	2018	(Restated) 2017	Increase (Decrease) 2019/2018	Increase (Decrease) 2019/2017
Operating revenue	$ 38,092	$ 39,393	$ 39,565	$ (1,301)	$ (1,473)
Operating expense	(26,044)	(24,792)	(24,952)	(1,092)	(1,092)
Net operating revenue	$ 12,048	$ 14,601	$ 14,613	$ (2,393)	$ (2,565)

Operating Revenue

Consumption of water varies depending on the season and the weather pattern of a particular year. Peak consumption is in the summer months. Consumption decreased in 2019 compared to the prior two years. There was an earlier start to fall precipitation in 2019, compared to prior years, which shortened the irrigation season. Although retail consumption was comparable to 2017, overall revenue declined from 2017 by 4%. In 2013, the Board approved a price increase designed to accumulate funds for a Willamette Treatment Plant and a 2018 price decrease suspended the collection of those reserve funds while the Board refines the capacity and timing of the project.

Residential accounts make up 90% of the customer base of the Water System, and approximately 60% of retail consumption. Similar to the Electric system, residential consumption is more responsive to weather conditions than commercial and industrial. Water sales revenue for retail customers was lower compared to 2018, and decreased by 7% compared to 2017.

Recent residential price adjustments have been as follows:

2019	No change
2018 (effective February 2018)	4.5% decrease
2017	No change

Commercial and industrial accounts make up 10% of the Water System's customer base, and approximately 40% of retail sales. 2019 commercial and industrial sales were 3.6% lower than 2018 due to similar drops in consumption. 2019 and 2017 were comparable in terms of both sales and consumption levels.

	Water System – Sales to Customers				
(in thousands)	2019	2018	2017	Increase (Decrease) 2019/2018	Increase (Decrease) 2019/2017
Residential	$ 19,492	$ 20,419	$ 20,982	$ (927)	$ (1,490)
Commercial and industrial	14,768	15,315	14,713	(547)	55
	$ 34,260	$ 35,734	$ 35,695	$ (1,474)	$ (1,435)

	Water System – Sales to Customers Kgal				
	2019	2018	2017	Increase (Decrease) 2019/2018	Increase (Decrease) 2019/2017
Residential	3,810	4,040	3,872	(230)	(62)
Commercial and industrial	3,487	3,604	3,473	(117)	14
	7,297	7,644	7,345	(347)	(48)

Wholesale sales include sales to River Road and Santa Clara Water Districts, the City of Veneta, and the Willamette Water Company.

	2019	2018	2017
Retail sales	$ 34,259,654	$ 35,733,979	$ 35,695,436
Retail volume	7,297,482	7,643,762	7,345,422
Average price per Kgal	$ 4.69	$ 4.67	$ 4.86
Wholesale sales	$ 2,121,747	$ 2,267,375	$ 2,186,021
Wholesale volume	687,435	735,292	714,566
Average price per Kgal	$ 3.09	$ 3.08	$ 3.06

Operating Expenses
The Water System pumps and purifies all water sold and does not have wholesale purchase expense. The largest production expenses are purification and transmission and distribution of water. Other significant expenses are administrative and general, and depreciation. During 2019, water operating expenses increased 5% compared to 2018 and increased 4% compared to 2017.

The Water System's allocation of shared costs with the Electric System was updated in 2019 to 20% from 18%. The 2% increase contributed to increases in customer accounting, conservation expense and administrative and general. Transmission and distribution costs were 4% lower compared to 2018 due to reduced maintenance costs. The source of supply, pumping and purification expense was comparable to 2018 and 14% higher than 2017. Maintenance work performed during 2018 and 2019 at pump stations and the treatment plant drove the increases compared to 2017.

	Water System – Operating Expenses				
(in thousands)	2019	2018	(Restated) 2017	Increase (Decrease) 2019/2018	Increase (Decrease) 2019/2017
Transmission and distribution	$ 5,840	$ 6,082	$ 6,256	$ (242)	$ (416)
Sources of supply, pumping, and purification	6,796	6,876	5,963	(80)	833
Customer accounting	1,780	1,364	1,660	416	120
Conservation expenses	492	344	359	148	133
Administrative and general	4,491	3,906	4,543	585	(52)
Depreciation on utility plant	6,645	6,220	6,170	425	475
Operating expenses	$ 26,044	$ 24,792	$ 24,951	$ 1,252	$ 1,093

Other Non-operating Revenue, Expense, Capital Contributions, and System Development Charges
Non-operating revenue of the Water System consists primarily of miscellaneous revenue not associated with core business activities, as well as interest and investment revenue. Non-operating revenue has increased compared to 2017 and decreased compared to 2018. During 2018, the Board sold property to the City of Eugene, and the Water System recorded a $437,000 gain from the disposition. Investment earnings increased $277,000 compared to 2018 and $648,000 compared to 2017 as interest rates have risen across the investment portfolio.

Non-operating expense is primarily interest expense for long-term debt and intercompany debt. During 2017, the Water System transferred $11 million to the Electric Utility as payment on intercompany debt. Interest expense recognized from this transaction drove an increase in non-operating expense for the year.

Capital contributions are related to customer work to extend or relocate water mains and services. During 2019, activity included contributed plant assets associated with roadwork projects and subdivisions.

(in thousands)	Water System – Non-operating Revenue and Expense				
	2019	2018	2017	Increase (Decrease) 2019/2018	Increase (Decrease) 2019/2017
Non-operating revenue	$ 1,486	$ 1,744	$ 590	$ (258)	$ 896
Non-operating expense	(2,250)	(2,274)	(5,941)	24	3,691
Capital contributions	4,675	3,071	3,130	1,604	1,545
Total	$ 3,911	$ 2,541	$ (2,221)	$ 1,370	$ 6,132

Special Items

In 2019, the Water System made a $5.3 million deposit to an OPERS side-account. It reduced EWEB's employer contribution rate as of November 1, 2019 and will provide ongoing savings. In addition, this deposit received a $1.3 million match from the state's Employer Incentive Fund.

In 2017 the Board elected to join the State & Local Government Rate Pool (SLGRP) to mitigate risks related to the employer contribution rates. Previously, the Board's status was as an independent employer participating in OPERS. As an independent employer, actuarial valuations to determine employer contribution rates used Board specific demographics. As a participant in the SLGRP, valuations to determine employer contribution rates use the demographics of pool participants. The Board's specific demographics generally resulted in contribution rates higher than the SLGRP, and the Board's SLGRP employer contribution rates were lower once they took effect in July 2019. Based on OPERS actuarial calculations, $32.6 million of the Board's actuarial liability as an independent employer, was assigned as the transition liability to move from independent to SLGRP status. This maintained future rate equity among other SLGRP participants. During 2018, the Water System recognized $7.8 million for its portion of the transition liability as a special item expense.

During 2018, the Water System also recognized $480,000 as a special item expense to fund the OPEB trust. Board policy requires contribution levels be evaluated when the funded status of the OPEB plan is 70% or less.

Total Assets and Deferred Outflows of Resources

Total assets for the Water System include utility plant, net of depreciation, current assets representing cash and short-term investments, accounts receivable, materials inventory, and pre-paid expenses, as well as non-current assets such as long-term investments.

In 2019, current assets increased compared to 2018 and decreased compared to 2017. Reasons for the decline since 2017 include payments of $5.3 million in 2019 and $8.3 million in 2018 used to pay unfunded liabilities related to retirement benefits. The increase from 2018 to 2019 is due in part to continued strong operations and a reduction in purchase activity for investments. Capital project activity also reduced cash reserves from bond proceeds.

In 2019, the investments classified as non-current decreased compared to 2018 and 2017 due in part to the use of funds for OPERS. Fluctuations in other regulatory assets related to pensions and OPEB also contribute to the change in amounts classified as non-current assets each year.

Deferred outflows of resources represent transactions occurring in future periods and are not classified as assets. In 2019, deferred outflows of resources increased primarily due to the $6.6 million pension contributions after the measurement date for actuarial reporting.

	Water System – Assets and Deferred Outflows				
(in thousands)	2019	2018	(Restated) 2017	Increase (Decrease) 2019/2018	Increase (Decrease) 2019/2017
Net utility plant	$ 185,692	$ 175,611	$ 165,424	$ 10,081	$ 20,268
Current assets	37,989	36,520	41,454	1,469	(3,465)
Non-current assets	18,617	21,919	19,365	(3,302)	(748)
Deferred outflows of resources	15,201	9,648	9,797	5,553	5,404
Total assets and deferred outflows of resources	$ 257,499	$ 243,698	$ 236,040	$ 13,801	$ 21,459

Capital Asset Activity

Capital projects for the Water System are categorized as Compulsory, Strategic, or Risk Based Elective Improvements.

Compulsory work is mandatory to ensure EWEB meets minimum service, regulatory, and safety requirements. Compulsory work develops from both internal and external drivers. There is minimal opportunity to change the compulsory portion of capital plans due to legal and policy requirements.

Strategic projects and programs are derived from strategic direction and are typically multiyear and multimillion-dollar efforts. Strategic improvements are moderately flexible in nature and can be balanced with efforts to prioritize compulsory work or other drivers, such as affordability or operational improvements.

Risk Based Elective Improvements are elective in that Staff can plan and schedule them to balance within the boundaries of the capital plans and the long term financial plans as well as staffing and resources available. This work is driven by the goal to maintain system condition and Age of Asset metrics in order to maintain reliability. Reducing the level of work in this area will ultimately result in the increase of compulsory work and reduction in reliability.

	Water System – Capital Assets				
(in thousands)	2019	2018	2017	Increase (Decrease) 2019/2018	Increase (Decrease) 2019/2017
Plant in service	$ 300,822	$ 289,808	$ 276,661	$ 11,014	$ 24,161
Accumulated depreciation	(129,025)	(123,146)	(117,297)	(5,879)	(11,728)
Property for future use	2,397	2,397	2,397	(0)	(0)
Construction work in progress	11,498	6,552	3,663	4,946	7,835
Net utility plant	$ 185,692	$ 175,611	$ 165,424	$ 10,081	$ 20,268

Ongoing capital improvements included:

Water System – Capital Projects		
2019	2018	2017
Water Intake and Filtration Plant	Water Intake and Filtration Plant	Water Intake and Filtration Plant
Water Mains	Water Mains	Water Mains
Services and meters	Services and meters	Services and meters
Transportation Equipment	Reservoirs	Reservoirs
Pump stations	Transportation Equipment	Transportation Equipment
Reservoirs	Pump stations	Pump stations
AMI	AMI	AMI
Disinfection System	Distribution system	Distribution system
Water Laboratory		Lane Transit District EmX Project
		Filtration Plant Upgrades
Emergency Water Supply	Source of Supply	Second source

More detailed information about plant activity is available in Note 3 – Utility Plant, in the note disclosures to the financial statements.

Debt Activity

The Water System issues revenue bonds or notes payable to fund certain capital projects. During 2019, the Water System made scheduled debt service payments which decreased outstanding debt compared to 2018 and 2017. For more detailed information, see Note 12 – Long-Term Debt and Note 13 – Intersystem items.

Water System bonds are rated Aa2 by Moody's Investors Service, AA by Standard and Poor's Rating Services, and AA+ by Fitch Ratings.

(in thousands)	Water System – Debt Activity 2019	2018	2017	Increase (Decrease) 2019/2018	Increase (Decrease) 2019/2017
Total outstanding debt	$ 53,644	$ 56,298	$ 58,903	$ (2,654)	$ (5,259)

Liabilities and Deferred Inflows of Resources

While 2018 liabilities are comparable to 2017, total liabilities decreased substantially from 2016 due to the $11 million payment in 2017 on intersystem items and ongoing debt service mentioned above.

Current liabilities are primarily accounts payable, accrued payroll, and the current portion of long-term debt. Current liability balances have decreased compared to 2018 and are comparable to 2017 primarily due to changes in accounts payable. The payables balance at 2018 included larger amounts for construction activity and equipment purchases compared to 2017 or 2019.

Water System – Liabilities and Deferred Inflows

(in thousands)	2019	2018	2017	Increase (Decrease) 2019/2018	Increase (Decrease) 2019/2017
Current liabilities	$ 5,810	$ 6,630	$ 5,503	$ (820)	$ 307
Total liabilities	86,424	88,541	90,863	(2,117)	(4,439)
Deferred inflows of resources	6,396	2,480	1,877	3,916	4,519
Total liabilities and deferred inflows of resources	$ 92,820	$ 91,021	$ 92,740	$ 1,799	$ 80

Net Position

The net investment in capital assets component of net position, which reflects the value of capital assets net of the debt incurred to acquire those assets has increased each year since 2017. Capital asset additions such as main replacements and improvements, AMI, and Hayden Bridge improvements have increased plant values and associated debt has decreased.

Restricted net position is subject to external legal restrictions on its use and is primarily representative of reserves for payment of debt service and deposits of System Development Charges (SDC) for work not yet completed. Increases in 2019 and 2018 are due to SDC activity.

Unrestricted net position represents the accumulation of assets that are not capital assets, or subject to external restrictions on their use. The Water System's unrestricted net position has increased by 13% and 3% compared to 2018 and 2017, respectively reflecting strong operating activity for the year. The decline in unrestricted net position in 2018 was due in part to payments made from cash reserves to reduce unfunded liabilities related to retirement benefits.

Overall net position has increased by approximately 8% compared to 2018, and 15% compared to 2017.

Water System – Net Position

(in thousands)	2019	2018	2017	Increase (Decrease) 2019/2018	Increase (Decrease) 2019/2017
Net investment in capital assets	$ 126,446	$ 119,474	$ 108,380	$ 6,972	$ 18,066
Restricted	9,396	7,539	6,690	1,857	2,706
Unrestricted	28,837	25,663	28,229	3,174	608
Total net position	$ 164,679	$ 152,676	$ 143,299	$ 12,003	$ 21,380

Reserves and Investment Activity

The Board of Commissioners has established Water System designated reserves for specific purposes including the funding of routine capital activity and significant one-time expenses. In addition, designated reserves accumulate funding for pension and post-retirement benefits. Designated funds are considered unrestricted because the Board has authority to re-evaluate and redirect reserves based on current priorities.

In 2019, the Board used $5.3 million of reserves to participate in an Employer Incentive Fund program with PERS. State contributed funds matched 25% of EWEB contributions and reduced EWEB's employer contribution rate starting on November 1, 2019. During 2018, the Board used $7.8 million of reserves to pay down its pension liability with Oregon PERS, and $480,000 to fund the OPEB Trust. In 2017, the most significant reserve activity was the use of funds to pay down intersystem debt, as well as continued additions to the Second Source Fund. Each year the Board reviews reserves in excess of target for the highest and best use of cash.

(in thousands)	Water System – Reserve Balances	
	Target	2019
Working cash	$ 3,400	$ 11,579
Designated funds		
Operating reserve	1,000	1,012
Self-insurance reserve	280	288
Capital improvement reserve	7,000	11,207
Rate stabilization fund	1,000	1,000
Water stewardship fund – septic repairs	-	74
Business growth & retention loan fund	-	210
Second source fund	-	5,862
Designated funds total	$ 9,280	$ 19,653

The Water System maintained restricted reserves for purposes including the payment of principal and interest on debt. Restricted reserves also included proceeds from bond issuance restricted for use on capital projects and funds collected through System Development Charges.

Working cash and short-term investments were unrestricted and available for the day-to-day operations of the utility.

All Water System working cash and reserves were held in bank accounts, the Local Government Investment Pool, or in high quality securities. Investment strategy focused on the following in priority order: preserving principal, liquidity of funds and investment returns.

Retirement Benefits Trust

The Eugene Water & Electric Board Retirement Benefits Trust (the Trust) was created in 2007 to fund postemployment benefits other than pension (OPEB). The plan provides $5,000 life insurance coverage for all retirees and subsidies toward health insurance coverage for retirees meeting eligibility criteria. Plan changes in 2016 and 2017 removed the healthcare subsidies available to employees upon retirement if they were hired after 2002.

Financial statements for the OPEB plan, including accompanying notes, are a set of two statements. The statement of fiduciary net position reports the assets, liabilities, and net position held in trust on the day of December 31 for the years presented. The statement of changes in net position, reflects the sources and uses of plan assets over the one-year periods presented. More information about the plan is in Note 16 and Required Supplementary Information. Significant totals from the financial statements are below.

Condensed Financial Information
(in thousands of dollars)

	2019	2018	2017
Total assets	$ 19,273	$ 17,185	$ 17,461
Total liabilities	23	14	11
Total net position	$ 19,250	$ 17,171	$ 17,450
Contributions	$ 1,854	$ 4,124	$ 1,720
Net investment income	3,228	(952)	2,205
Total additions	5,082	3,172	3,925
Total deductions	3,003	3,451	3,467
Net increase (decrease) in net position	$ 2,079	$ (279)	$ 458

Analysis
Assets represent the Trust's investment portfolio, which increases for contributions from the Board and investment income. Assets decrease for benefit payments and reductions in the market value of investments held. Liabilities were for administrative and benefit payments pending at the end of each year.

Total assets were approximately the same at the end of 2018 compared to December 31, 2017, and they were up by $2.1 million at the end of 2019. The increase was due to a $2 million contribution from EWEB, and investment returns. The Board paid the actuarially determined contribution (ADC) to the Trust in 2018 and an additional $2 million in December of 2018 in order to improve the funded status of its OPEB liability.

The net position of the Trust as of December 31, 2018 remained essentially equal to its beginning balance for the year, however. The reason for this was a significant decrease in fair value of the Trust's portfolio in December 2018. The decline in market value recovered in early 2019, and further increases in market value during the year were the highest experienced by the Trust since its inception.

The plan recognizes contributions from the Board and from retirees who participate in the EWEB group medical coverage. The Board contributes to the Trust monthly according the most recent ADC available. Contributions from retirees varied with participation: $775,000 in 2018, which was an increase of $35,000 from year 2017, and $717,000 in 2019, a decrease of $58,000.

Changes in the fair value of investments held by the Trust were the primary reason for fluctuations in net investment income. Changes in fair value were an increase of $1.7 million in 2017, a decrease in 2018 of $1.6 million and an increase of $2.6 million in 2019. See Note 16 for further information on the portfolio's composition and investment returns.

Total deductions are benefit and administrative expenses. Benefit expenses were level seven years in a row until dipping by approximately $400,000 in year 2019. In recent years, including years 2017-2019 reflected in the condensed financial information above, benefit payments for EWEB group medical have decreased as retirees reach age 65 and transfer from the EWEB group insurance to Medicare supplement plans. Medicare supplement plans are less expensive than EWEB group medical insurance. Simultaneously, subsidies for Medicare supplement coverage have increased with the increased number of retirees receiving that benefit and with premium increases for the Medicare supplement plans provided through the Oregon PERS Health Insurance Program (PHIP): a 14% increase in premiums in 2017, 13% in 2018 and 9% in 2019, on average. The cost of EWEB group coverage was managed well and experienced smaller increases of 2% in 2017 and 2% in 2019. Overall, annual benefit payments were level. The drop in overall payments during 2019, corresponds to a decrease in the retiree participation. Census data for the latest actuarial valuation dated August 31, 2019, showed a population decrease of 40 retirees compared to August 31, 2018. Additionally, 27 retirees included in the latest valuation, opted out of the medical coverage they had within the plan as of the 2018 census.

Overall, the plan's financial position has improved and payments for medical subsidies are expected to continue to decrease over time. The plan is near its maximum possible number of participants who will receive subsidies from EWEB for healthcare and the majority of retiree participants with medical insurance are on the PHIP Medicare supplement plans.

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Eugene Water & Electric Board
Statements of Net Position
December 31, 2019 and 2018

	Electric System		Water System		Total System	
	2019	2018	2019	2018	2019	2018
ASSETS						
Capital assets						
Utility plant in service	$ 816,317,582	$ 786,986,954	$ 300,821,753	$ 289,808,333	$ 1,117,139,335	$ 1,076,795,287
Less accumulated depreciation	446,919,036	436,984,343	129,025,071	123,146,121	575,944,107	560,130,464
Net utility plant in service	369,398,546	350,002,611	171,796,682	166,662,212	541,195,228	516,664,823
Property held for future use	1,344,855	782,512	2,396,812	2,396,812	3,741,667	3,179,324
Construction work in progress	37,056,305	16,972,396	11,498,352	6,551,690	48,554,657	23,524,086
Net utility plant	407,799,706	367,757,519	185,691,846	175,610,714	593,491,552	543,368,233
Current assets						
Cash and cash equivalents	35,565,584	26,166,176	9,972,388	3,779,089	45,537,972	29,945,265
Short-term investments	1,240,592	13,142,182	949,633	4,151,199	2,190,225	17,293,381
Restricted cash and investments	22,038,663	32,167,547	7,329,452	9,730,458	29,368,115	41,898,005
Designated cash and investments	53,265,411	59,585,413	14,638,363	13,617,354	67,903,774	73,202,767
Receivables, less allowances	34,006,020	33,463,018	3,645,886	3,875,593	37,651,906	37,338,611
Due from Water System	367,124	359,313	-	-	-	-
Materials and supplies	5,052,847	4,220,226	1,295,886	1,231,895	6,348,733	5,452,121
Prepaids	1,018,922	962,180	157,364	134,164	1,176,286	1,096,344
Option premiums short-term	1,101,632	381,872	-	-	1,101,632	381,872
Total current assets	153,656,795	170,447,927	37,988,972	36,519,752	191,278,643	206,608,366
Non-current assets						
Investments – designated	18,245,411	26,005,872	5,014,191	5,943,253	23,259,602	31,949,125
Investments – unrestricted	857,893	8,910,455	656,688	2,814,530	1,514,581	11,724,985
Investments – restricted	7,851,931	13,690,675	3,004,866	4,583,871	10,856,797	18,274,546
Receivables, conservation, and other	3,514,596	3,861,835	120,067	103,152	3,634,663	3,964,987
Due from Water System	6,781,253	7,133,833	-	-	-	-
Investment in WGA	3,752,194	3,019,316	-	-	3,752,194	3,019,316
Investment in Harvest Wind	19,995,274	21,122,631	-	-	19,995,274	21,122,631
Preliminary investigations	8,109,450	32,797,954	1,302,816	1,302,816	9,412,266	34,100,770
Other assets	18,260,621	33,838,796	8,518,546	7,171,567	26,779,167	41,010,363
Total non-current assets	87,368,623	150,381,367	18,617,174	21,919,189	99,204,544	165,166,723
DEFERRED OUTFLOWS OF RESOURCES	52,351,407	45,530,443	15,200,954	9,648,321	67,552,361	55,178,764
Total assets and deferred outflows of resources	$ 701,176,531	$ 734,117,256	$ 257,498,946	$ 243,697,976	$ 951,527,100	$ 970,322,086

Note: Inter-system obligations and payments are eliminated in the total systems columns.

See accompanying notes.

Eugene Water & Electric Board
Statements of Net Position
December 31, 2019 and 2018

	Electric System		Water System		Total System	
	2019	2018	2019	2018	2019	2018
LIABILITIES						
Current liabilities						
Payables	$ 22,735,996	$ 25,063,950	$ 1,002,012	$ 2,073,824	$ 23,738,008	$ 27,137,774
Accrued payroll and benefits	3,902,781	4,238,395	1,224,996	1,041,307	5,127,777	5,279,702
Due to Electric System	-	-	367,124	359,313	-	-
Payable from restricted assets						
Accrued interest on long-term debt	3,199,135	3,303,289	891,006	925,328	4,090,141	4,228,617
Long-term debt due within one year	8,540,000	8,445,000	2,325,000	2,230,000	10,865,000	10,675,000
Total current liabilities	38,377,912	41,050,634	5,810,138	6,629,772	43,820,926	47,321,093
Non-current liabilities						
Long-term debt	190,132,051	200,833,824	51,318,716	54,068,194	241,450,767	254,902,018
Due to Electric System	-	-	6,781,253	7,133,833	-	-
Net pension liability	58,544,416	73,641,246	18,487,710	16,165,151	77,032,126	89,806,397
Net OPEB liability	11,898,235	19,123,772	3,757,338	4,197,901	15,655,573	23,321,673
Other liabilities	2,508,453	1,531,026	268,431	346,374	2,776,884	1,877,400
Total liabilities	301,461,067	336,180,502	86,423,586	88,541,225	380,736,276	417,228,581
DEFERRED INFLOWS OF RESOURCES	21,276,767	11,810,972	6,396,488	2,480,130	27,673,255	14,291,102
NET POSITION						
Net investment in capital assets	241,619,954	206,740,056	126,446,037	119,474,131	368,065,991	326,214,187
Restricted	6,552,063	6,122,041	9,395,512	7,539,068	15,947,575	13,661,109
Unrestricted	130,266,680	173,263,685	28,837,323	25,663,422	159,104,003	198,927,107
Total net position	378,438,697	386,125,782	164,678,872	152,676,621	543,117,569	538,802,403
Total liabilities, deferred inflows of resources, and net position	$ 701,176,531	$ 734,117,256	$ 257,498,946	$ 243,697,976	$ 951,527,100	$ 970,322,086

Note: Inter-system obligations and payments are eliminated in the total systems columns.

Eugene Water & Electric Board
Statements of Revenues, Expenses, and Changes in Net Position
Years Ended December 31, 2019 and 2018

	Electric System		Water System		Total System	
	2019	2018	2019	2018	2019	2018
Residential	$ 100,560,494	$ 97,673,393	$ 19,491,803	$ 20,418,763	$ 120,052,297	$ 118,092,156
Commercial and industrial	100,605,227	102,213,819	14,767,851	15,315,216	115,373,078	117,529,035
Sales for resale and other	62,172,896	49,086,139	3,832,676	3,658,757	66,005,572	52,744,896
Operating revenues	263,338,617	248,973,351	38,092,330	39,392,736	301,430,947	288,366,087
Purchased power	153,922,009	125,271,625	-	-	153,922,009	125,271,625
System control	4,268,927	4,383,217	-	-	4,268,927	4,383,217
Wheeling	13,106,600	13,311,829	-	-	13,106,600	13,311,829
Steam and hydraulic generation	12,277,003	12,823,624	-	-	12,277,003	12,823,624
Transmission and distribution	24,526,361	22,585,431	5,840,408	6,081,694	30,366,769	28,667,125
Source of supply, pumping, and purification	-	-	6,795,617	6,875,770	6,795,617	6,875,770
Customer accounting	7,667,709	7,989,867	1,780,201	1,364,150	9,447,910	9,354,017
Conservation expenses	3,632,917	3,299,365	492,380	344,131	4,125,297	3,643,496
Administrative and general	20,466,788	21,892,241	4,490,847	3,906,444	24,957,635	25,798,685
Depreciation on utility plant	22,785,219	21,136,539	6,644,469	6,219,542	29,429,688	27,356,081
Operating expenses	262,653,533	232,693,738	26,043,922	24,791,731	288,697,455	257,485,469
Net operating income	685,084	16,279,613	12,048,408	14,601,005	12,733,492	30,880,618
Investment earnings	3,807,359	3,212,715	1,105,381	827,966	4,912,740	4,040,681
Interest earnings, Water	178,404	203,611	-	-	-	-
Other revenue	6,287,209	4,875,885	380,552	915,757	6,667,761	5,791,642
Non-operating revenues	10,272,972	8,292,211	1,485,933	1,743,723	11,580,501	9,832,323

Note: Inter-system obligations and payments are eliminated in the total systems columns.

See accompanying notes.

Eugene Water & Electric Board
Statements of Revenues, Expenses, and Changes in Net Position
Years Ended December 31, 2019 and 2018

	Electric System		Water System		Total System	
	2019	2018	2019	2018	2019	2018
Other revenue deductions	$ 1,729,912	$ 4,815,740	$ 92,276	$ 28,549	$ 1,822,188	$ 4,844,289
Interest expense and related amortization	6,992,977	7,240,453	1,979,532	2,041,350	8,972,509	9,281,803
Interest expense, Electric	-	-	178,404	203,611	-	-
Non-operating expenses	8,722,889	12,056,193	2,250,212	2,273,510	10,794,697	14,126,092
Income before capital contributions and special items	2,235,167	12,515,631	11,284,129	14,071,218	13,519,296	26,586,849
Contributions in aid of construction	1,704,748	2,156,060	1,443,114	784,423	3,147,862	2,940,483
Contributed plant assets	901,624	2,117,536	1,566,473	1,066,499	2,468,097	3,184,035
System development charges	-	-	1,664,943	1,220,040	1,664,943	1,220,040
Capital contributions	2,606,372	4,273,596	4,674,530	3,070,962	7,280,902	7,344,558
Intersystem transfer	-	531,573	-	(531,573)	-	-
Special items – Pension revenue	4,176,208	-	1,318,802	-	5,495,010	-
Special items – Pension expense	(16,704,832)	(26,271,516)	(5,275,210)	(8,296,268)	(21,980,042)	(34,567,784)
Change in net position	(7,687,085)	(10,013,862)	12,002,251	9,377,485	4,315,166	(636,377)
Total net position at beginning of year	386,125,782	396,139,644	152,676,621	143,299,136	538,802,403	539,438,780
Total net position at end of year	$ 378,438,697	$ 386,125,782	$ 164,678,872	$ 152,676,621	$ 543,117,569	$ 538,802,403

Note: Inter-system obligations and payments are eliminated in the total systems columns.

Eugene Water & Electric Board
Statements of Cash Flows
Years Ended December 31, 2019 and 2018

	Electric System		Water System		Total System	
	2019	2018	2019	2018	2019	2018
CASH FLOWS FROM OPERATING ACTIVITIES						
Receipts from customers	$ 275,929,543	$ 265,821,431	$ 38,276,953	$ 39,559,380	$ 314,206,496	$ 305,380,811
Other receipts	4,649,151	6,425,615	792,780	930,362	5,441,931	7,355,977
Power purchases	(155,522,419)	(124,632,205)	-	-	(155,522,419)	(124,632,205)
Payments to employees, employer paid benefits	(63,334,017)	(72,122,671)	(19,123,421)	(21,278,183)	(82,457,438)	(93,400,854)
Payments to suppliers	(36,668,716)	(37,623,125)	(6,575,058)	(4,927,232)	(43,243,774)	(42,550,357)
Contributions in lieu of taxes	(13,498,505)	(13,699,561)	-	-	(13,498,505)	(13,699,561)
Net cash from operating activities	11,555,037	24,169,484	13,371,254	14,284,327	24,926,291	38,453,811
CASH FLOWS FROM INVESTING ACTIVITIES						
Purchases of investment securities	(51,240,705)	(95,817,376)	(13,227,821)	(25,407,106)	(64,468,526)	(121,224,482)
Proceeds from sale and maturities of investments	106,639,120	95,252,500	25,260,880	20,614,502	131,900,000	115,867,002
Interest on investments	1,897,990	1,757,319	423,040	370,078	2,321,030	2,127,397
Distributions from equity investments	2,617,424	3,907,856	-	-	2,617,424	3,907,856
Net cash from investing activities	59,913,829	5,100,299	12,456,099	(4,422,526)	72,369,928	677,773
CASH FLOWS FROM NON-CAPITAL FINANCING ACTIVITIES						
Intersystem obligations paid to Electric from Water	344,067	1,617,788	(344,067)	(1,617,788)	-	-
Interest receipts/(payments) to Electric from Water	179,106	206,910	(179,106)	(206,910)	-	-
Net cash from non-capital financing activities	523,173	1,824,698	(523,173)	(1,824,698)	-	-

Note: Intersystem obligations and payments are eliminated in the total systems columns..

See accompanying notes.

Eugene Water & Electric Board
Statements of Cash Flows
Years Ended December 31, 2019 and 2018

	Electric System		Water System		Total System	
	2019	2018	2019	2018	2019	2018
CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES						
Principal payments	$ (8,445,000)	$ (8,370,000)	$ (2,230,000)	$ (2,160,000)	$ (10,675,000)	$ (10,530,000)
Additions to plant and non-utility property, net	(43,688,665)	(30,694,681)	(16,784,294)	(15,445,568)	(60,472,959)	(46,140,249)
Interest payments	(7,927,892)	(7,915,523)	(2,220,788)	(2,282,249)	(10,148,680)	(10,197,772)
Additions to preliminary surveys and other	(776,422)	(135,548)	-	-	(776,422)	(135,548)
Capital contributions	2,606,372	4,273,596	4,674,530	3,070,961	7,280,902	7,344,557
Net cash from capital and related financing activities	(58,231,607)	(42,842,156)	(16,560,552)	(16,816,856)	(74,792,159)	(59,659,012)
CHANGE IN CASH AND CASH EQUIVALENTS	13,760,432	(11,747,675)	8,743,628	(8,779,753)	22,504,060	(20,527,428)
CASH AND CASH EQUIVALENTS, beginning of year	59,370,020	71,117,695	11,600,267	20,380,020	70,970,287	91,497,715
CASH AND CASH EQUIVALENTS, end of year Including cash and cash equivalents restricted and designated: $37,564,870 and $10,371,505 ($33,203,844 and $7,821,178 in 2018) for Electric and Water, respectively	$ 73,130,452	$ 59,370,020	$ 20,343,895	$ 11,600,267	$ 93,474,347	$ 70,970,287

NON-CASH CAPITAL ACTIVITY

In 2019, plant assets contributed by developers were $901,624 for the electric system and $1,566,473 for the water system ($2,117,536 for the electric system and $1,066,499 for the water system in 2018).

Note: Inter-system obligations and payments are eliminated in the total systems columns.

See accompanying notes.

Eugene Water & Electric Board
Statements of Cash Flows
Years Ended December 31, 2019 and 2018

	Electric System		Water System		Total System	
	2019	2018	2019	2018	2019	2018
Net operating income	$ 685,084	$ 16,279,613	$ 12,048,408	$ 14,601,005	$ 12,733,492	$ 30,880,618
Adjustments to reconcile net operating income to net cash from operating activities						
Depreciation, including allocated	23,993,206	22,356,077	6,644,469	6,219,542	30,637,675	28,575,619
Other revenue	4,599,375	2,920,789	747,695	1,003,184	5,347,070	3,923,973
Other revenue deductions	(17,052,694)	(26,775,445)	(5,275,209)	(8,318,840)	(22,327,903)	(35,094,285)
(Increase) decrease in assets						
Receivables	970,613	7,433,807	229,707	116,394	1,200,320	7,550,201
Materials and supplies	(832,620)	(279,305)	(63,991)	(342,181)	(896,611)	(621,486)
Prepayments and special deposits	(56,743)	231,596	(23,201)	21,666	(79,944)	253,262
Conservation loans, net	(1,166,376)	(713,504)	-	-	(1,166,376)	(713,504)
Other assets	1,634,408	(257,700)	-	-	1,634,408	(257,700)
(Increase) decrease in deferred outflows						
Fair value of hedging derivatives	(1,063,280)	117,088	-	-	(1,063,280)	117,088
Increase (decrease) in liabilities						
Accounts payable, accrued payroll, and benefits	(1,641,984)	2,486,504	(936,624)	983,557	(2,578,608)	3,470,061
Other liabilities	977,426	(102,076)	-	-	977,426	(102,076)
Increase in deferred inflows of resources	508,622	472,040	-	-	508,622	472,040
Net cash from operating activities	$ 11,555,037	$ 24,169,484	$ 13,371,254	$ 14,284,327	$ 24,926,291	$ 38,453,811

See accompanying notes.

Eugene Water & Electric Board
Statements of Fiduciary Net Position – OPEB Trust
December 31, 2019 and 2018

	Retirement Benefits Trust	
	2019	2018
ASSETS		
Money market investments	$ 210,113	$ 209,969
Interest and dividends receivable	5,712	6,347
Prepaid expenses	1,214	1,227
Investments, at fair value		
Corporate bonds		
Domestic	385,019	384,022
Mutual funds and exchange traded funds		
Fixed income	7,081,247	6,502,818
International	4,248,903	2,577,802
Domestic	6,365,091	6,190,232
Real estate	975,639	968,976
Commodities	-	343,657
Total investments	19,055,899	16,967,507
Total assets	$ 19,272,938	$ 17,185,050
LIABILITIES		
Administrative costs payable	$ 22,516	$ 13,912
Net position restricted for postemployment benefits other than pensions	$ 19,250,423	$ 17,171,138

Eugene Water & Electric Board
Statements of Changes in Fiduciary Net Position – OPEB Trust
Years Ended December 31, 2019 and 2018

	Retirement Benefits Trust	
	2019	2018
ADDITIONS		
Contributions		
Employer	$ 1,137,500	$ 3,348,797
Members – EWEB group plan, only	716,560	775,345
Total contributions	1,854,060	4,124,142
Investment income		
Net increase (decrease) in fair value of investments	2,563,041	(1,640,413)
Interest	18,854	27,071
Dividends	476,664	363,491
Capital gain distributions	221,805	345,414
	3,280,364	(904,437)
Less investment expense	51,944	47,987
Net investment income (expense)	3,228,420	(952,424)
Total additions	$ 5,082,480	$ 3,171,718
DEDUCTIONS		
Benefits	$ 2,205,648	$ 2,586,617
Benefits funded by retirees – EWEB group plan	716,560	775,345
Administrative expenses	80,987	88,919
Total deductions	3,003,195	3,450,881
Net increase (decrease) in net position	2,079,285	(279,163)
NET POSITION RESTRICTED FOR POSTEMPLOYMENT BENEFITS OTHER THAN PENSIONS		
Beginning of year	17,171,138	17,450,301
End of year	$ 19,250,423	$ 17,171,138

See accompanying notes.

Note 1 – Summary of Significant Accounting Policies

Reporting entity
The Eugene Water & Electric Board (Board or EWEB) is an administrative unit of the City of Eugene, Oregon. However, as established by the Governmental Accounting Standards Board (GASB) definition of a reporting entity, the Board is a primary government and is not a component unit of another entity. The Board is responsible for the ownership and operation of the Electric and Water Systems, and the basic financial statements include these two Systems.

The Board has a trust for funding post-employment retirement benefits other than pensions (OPEB), which is a component unit of the Board. Financial statements for the OPEB trust are presented as a fiduciary fund.

The Board provides energy and water service to residential, commercial and industrial customers located in a 236 square mile area, including the City of Eugene and adjacent suburban areas. The Board has the authority to fix rates and charges. In order to secure power resources, the Board has taken ownership of various generation facilities, and entered into various power purchase agreements.

In addition, the Board has partial ownership in various generation facilities, which are joint ventures or separate entities where the Board has taken an equity position in various generation facilities. The operations and sale of energy generated from the Board's relationship with each of the facilities is subject to certain risks. Operations are contingent on various factors, such as regulation, licensing agreements, river flow levels and weather patterns.

The Board is subject to various forms of regulation under federal, state and local laws and is subject to various Federal Energy Regulatory Commission (FERC) regulations. Laws and regulations are subject to change and may have a direct impact on the operations of the Board.

Eliminations
Amounts receivable and payable between the Electric and Water Systems and related interest earnings and expenses are eliminated in the Total Systems columns of the financial statements (see Note 13).

Method of accounting
The Board maintains its accounting records in accordance with accounting principles generally accepted in the United States of America. The Board applies accounting and reporting standards of the GASB. The financial statements use a flow of economic resources measurement focus to determine financial position and the change in financial position. The accounting principles used are similar to those applicable to businesses in the private sector and are maintained on the accrual basis of accounting. Revenues are recognized when earned, and expenses are recognized when incurred.

Note 1 – Summary of Significant Accounting Policies (continued)

Effective January 1, 2019, the Board adopted GASB Statement No. 83, *Certain Asset Retirement Obligations* and GASB Statement No. 88, *Certain Disclosures Related to Debt, Including Direct Borrowings and Direct Placements*. Statement No. 83 requires recognition of liabilities when incurred and reasonably estimable and measurement using probability weighting of current costs. Statement No. 88 is to improve the information disclosed in the notes to the financial statements related to debt, including separate information for direct borrowings and direct placements, unused lines of credit, assets pledged as collateral for the debt, and terms specified in debt agreements related to other specific significant events. It also clarifies which liabilities should be included when disclosing information related to debt. The accounting and reporting standards established by these statements did not have any impact during the year of implementation.

Effective January 1, 2019, the Board adopted GASB Statement No. 84, *Fiduciary Activities*. The statement requires reporting of fiduciary funds like EWEB's Retirement Benefits Trust for other post-employment benefits (OPEB). Implementation added presentation of the Statements of Fiduciary Net Position and Statements of Changes in Fiduciary Net Position as well as related disclosures for the OPEB Plan to the Board's financial statements.

Effective January 1, 2018, the Board adopted GASB Statement No. 85, *Omnibus 2017*, and GASB Statement No. 86, *Certain Debt Extinguishment Issues*. The accounting and reporting standards established by these statements did not have any impact during the year of implementation.

Prior to January 1, 2019, the Board followed FASB EITF 03-11 to account for power related transactions that did not result in physical delivery of power. FASB's EITF is not applicable to the Board under GASB. Under the EITF, realized gains and losses on these transactions were reported net within wholesale sales and purchased power. Starting in 2019, the Board reported these transactions at gross amounts. The change is expected to reduce the complexity of budgeting and reporting for these transactions. The change has no effect on net operating income in 2019, and prior year amounts were not reclassified.

Use of estimates
The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions affecting the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Reclassifications
Certain reclassifications have been made to the prior year financial statements to conform to the current year presentation. Such reclassifications have no effect on previous net revenue or net position.

Note 1 – Summary of Significant Accounting Policies (continued)

Utility plant in service and depreciation
Utility plant is stated at original cost. Costs include labor, materials and related indirect costs, such as engineering, transportation and allowance for funds used during construction (i.e. interest). Additions, renewals, and betterments with a minimum cost of $5,000 or greater per item are capitalized. Repairs and minor replacements are recorded as operating expenses. Depreciation is computed using straight-line group rates. When property is retired, the property cost and any removal costs are charged to accumulated depreciation. The estimated useful lives of assets are those used commonly in the utility industry or they are based on the Board's experience with similar assets.

Asset Class	Estimated Depreciable Lives in Years	
	Electric System	Water System
Land	n/a	n/a
Intangible assets	n/a	n/a
Distribution plant	20–50	-
Hydraulic production	15–50	-
Steam production	15–50	-
Other production	15–50	-
Telecommunications	10	-
Transmission plant	25–50	-
General plant	3–50	3–50
Pumping plant	-	15–50
Supply plant	-	20–50
Treatment plant	-	15–50
Transmission & distribution plant	-	15–50

Cash equivalents
For purposes of these statements, cash equivalents are defined as short-term, highly liquid investments both readily convertible to known amounts of cash and so near maturity they present insignificant risk of changes in value because of changes in interest rates. Generally, only investments with original maturities of three months or less meet this definition. The Board considers money market accounts and government investment pool holdings to be cash equivalents.

Fair value of financial instruments
The carrying amounts of current assets, including unrestricted, designated and restricted cash and investments, and current liabilities approximate fair value due to the short-term maturity of those instruments. The fair value of the Board's investments and debt are estimated based on the quoted market prices for the same or similar issues.

Note 1 – Summary of Significant Accounting Policies (continued)

Restricted assets
Cash and investments restricted by provisions of bond resolutions and agreements with other parties are identified as restricted assets. When the restricted assets are expendable within the terms of the agreements, it is the Board's policy to spend restricted resources first, then unrestricted resources as needed.

Materials and supplies
Materials and supplies provide for additions and repairs to utility plant and are stated at weighted average cost.

Preliminary investigations – At December 31, 2019, the Electric System had $8.1 million ($32.8 million at December 31, 2018) in deferred costs for the preliminary investigation of projects it believes will be viable in the future. Most of the balance was for preconstruction relicensing costs of the Carmen-Smith Project.

At December 31, 2019, the Water System had $1.3 million ($1.3 million at December 31, 2018) in deferred costs for preconstruction activity related to the Willamette River water treatment plant.

Regulatory assets
The Board has other assets to be charged to future periods matching the reporting periods when the expenses are included for rate-making purposes.

- *Conservation assets* – Conservation assets for the Electric System represent installations of energy saving measures at customer properties. The conservation asset balance is reduced as costs are recovered, which for the most part represent debt service payments included in rates for related borrowing.

- *Unamortized bond issue costs* – Unamortized bond issue costs represent the remaining expense related to various debt issuances. The asset is amortized over the duration of the related debt and recognition of these costs is included in the rate making process.

- *Pension debits* – Pension debits represent a portion of the change in net pension liability, as defined under GASB Statement No. 68. Regulatory accounting is used to recognize pension expense in accordance with the required employer contribution rates set by the Oregon Public Employees Retirement System.

- *Other Post-employment Benefits (OPEB) debits* – OPEB debits represent a portion of the change in net OPEB liability, as defined under GASB Statement No. 75. Regulatory accounting is used to recognize components of OPEB expense in accordance with employer contributions made by the Board.

Note 1 – Summary of Significant Accounting Policies (continued)

Debt refundings

For current and advance refundings resulting in defeasance of debt, the difference between the reacquisition price and the net carrying amount of the old debt (gain or loss) is deferred and amortized as a component of interest expense over the remaining life of the old debt or the new debt, whichever is shorter. These amounts are reported as a deferred outflow of resources on the statement of net position.

Net position

Net position consists of:

- *Net investment in capital assets* – Net investment in capital assets is capital assets, net of accumulated depreciation and outstanding balances of any bonds and other borrowings attributable to the acquisition, construction, or improvement of those assets.

- *Restricted* – Restricted components of net position have constraints placed on their use. Constraints include those imposed by creditors (such as through debt covenants), contributors, or laws or regulation of other governments or constraints imposed by law through constitutional provisions or through enabling legislation.

- *Unrestricted* – The unrestricted component of net position includes remaining amounts neither “restricted” nor “net investment in capital assets.”

Net position was as follows:

	2019		2018	
	Electric System	Water System	Electric System	Water System
Net investment in capital assets	$ 241,619,954	$ 126,446,037	$ 206,740,056	$ 119,474,131
Restricted for:				
Customer care program	1,126,491	-	916,139	-
Harvest Wind escrow	1,985,591	-	2,020,694	-
System development changes	-	7,887,954	-	6,100,233
Debt service	3,439,981	1,507,558	3,185,208	1,418,835
Wetland treatment	-	-	-	20,000
	6,552,063	9,395,512	6,122,041	7,539,068
Unrestricted	130,266,680	28,837,323	173,263,685	25,663,422
	$ 378,438,697	$ 164,678,872	$ 386,125,782	$ 152,676,621

Note 1 – Summary of Significant Accounting Policies (continued)

Operating revenue and expense
Operating revenues are recorded on the basis of service delivered while operating expenses include the cost of sales and services, administrative expenses, and depreciation on capital assets. All revenues and expenses not meeting this definition are reported as non-operating revenues and expenses.

Revenues are derived primarily from the sale and transmission of electricity and from the sale of water. Revenue is recognized when power or water is delivered to and received by the customer. Approximately 10% of 2019 Electric System retail revenues were the result of sales to one industrial customer (11% in 2018). Estimated revenues are accrued for power and water delivered but not yet billed to customers.

At the discretion of management, a deposit may be obtained from the customer. Concentrations of credit risk with respect to receivables for residential customers are limited due to the large number of customers comprising the Board's customer base. Credit losses have been within management's expectations. Similar to its evaluation of residential, commercial and industrial customers' credit reviews, the Board continually evaluates its wholesale power customers (sales for resale revenue) by reviewing credit ratings and financial credit worthiness of existing and new wholesale customers.

Receivables are recorded net of the allowance for doubtful accounts. The allowance is determined by an examination of write off experience in the preceding five years, and consideration of other influences as appropriate. Total amounts written off for the year ended December 31, 2019 were $582,000 ($582,000 for 2018) for the Electric System and $45,000 ($72,000 for 2018) for the Water System.

Contributions in lieu of taxes
In accordance with ORS 225.270, *Use of surplus earnings*, the Electric System makes contributions in lieu of tax (CILT) payments to the City of Eugene at the rate of 6% of retail sales and a fixed component equal to $882,000 for 2019 ($866,000 for 2018). The fixed amount is subject to certain annual inflationary adjustments. The Board makes CILT payments to the City of Springfield at the rate of 3% of retail sales for a customer within the boundaries of the City of Springfield. Total contributions in lieu of taxes for the year ended December 31, 2019 were $13.4 million ($13.6 million for 2018).

Environmental expenses
Fish and plant habitat enhancements, as well as pollution prevention improvements are expensed or capitalized depending on their future economic benefits. Most pollution remediation outlays, legal obligations to address existing pollution, do not qualify for capitalization and are accrued as liabilities and expenses according to the estimated remediation costs on a current cost basis (rather than present value of future costs).

Note 2 – Power Risk Management

The Board’s Power Risk Management Guidelines set forth policies, limits and control systems governing power purchase and sale activities for the Electric System. The objectives of such policies are to maximize benefits to the customers from wholesale activities while minimizing the risk wholesale activities will adversely affect retail prices. The Board does not enter into contracts for speculative purposes. During periods when resources are in excess of retail load, the Board may sell excess capacity into the wholesale markets, and is exposed to commodity price risk. The Board enters into forward contracts intended to manage the price risk associated with power sales in the wholesale market.

Derivative financial instruments

In accordance with policy guidelines, the Board utilizes derivative instruments to minimize its exposure to commodity price risk. Hedging derivatives are reported on the statement of net position at fair value. The fair value of options and swaptions are determined using the Black formula. The fair value of financial swaps is determined by comparing the contract prices with the forecasted market prices.

All potential hedging derivatives were evaluated for effectiveness using the consistent critical terms method. A derivative instrument is effective under criteria for consistent critical terms when the significant terms of the hedging instrument and the hedgeable item are alike. The significant terms for hedging derivatives are the time period, quantity, price index, and point of delivery.

As of December 31, 2019, hedging derivatives with a fair value of $1.0 million were reported as other assets and deferred inflows. Hedging derivatives with a fair value of $1.4 million were reported as other liabilities and deferred outflows. Changes in fair value are reported as an increase in other assets or other liabilities and deferred inflows or outflows of resources until the time of settlement. When hedging derivatives settle, revenue or expense is recorded as either purchased power or wholesale sales.

Investment derivatives

Hedging derivatives found through testing to be ineffective are classified as investment derivatives. At that time, the fair value, including any fair value changes previously deferred on the balance sheet, are recorded as investment revenue and a deferred inflow or outflow. As of December 31, 2019 and 2018, there were no investment derivatives or related investment revenue.

	Options and Swaps			
	Hedging Derivatives		Investment Derivatives	
	2019	2018	2019	2018
Notional value	$ 1,833,592	$ 381,872	$ -	$ -
Fair value – asset	1,021,222	512,600	-	-
Fair value – liability	1,445,152	381,872	-	-
Cash paid	1,833,592	381,872	-	-
Reference rates	Mid-C index	Mid-C index	-	-
Dates entered into	4/19 - 8/19	2/18 – 9/18	-	-
Dates of maturity	1/20 - 3/21	1/19 – 6/19	-	-

Note 2 – Power Risk Management (continued)

Credit risk
The Board enters into forward purchase and sale contracts for electricity with other industry participants such as public and investor owned utilities, financial institutions, gas and oil producers and energy marketers. Through this participation, the utility is exposed to credit risk related to the possibility of non-performance by its counterparties. To limit the risk of counterparty default or non-performance, the Board uses an evaluation process assigning an internal measure of credit worthiness to the Board's counterparties and sets limits to the dollar value of business transacted with counterparties. On a case-by-case basis, the Board may require letters of credit, cash collateral, pre-payment or other forms of credit support to ensure counterparty performance. Other assurances may include accelerated invoicing or pre-payment. In addition, the Board generally establishes netting arrangements with counterparties.

As of December 31, 2019, all derivative instrument assets were with three counterparties and the aggregate fair value was $1.0 million. This represents the maximum loss that would be recognized if the counterparty to the derivative instrument assets failed to perform as contracted. The counterparty credit rating is A+. This maximum exposure is reduced by $838,000 of liabilities included in a netting arrangement.

Termination risk
Hedging derivative contracts may be terminated by mutual agreement of the Board and the counterparty, or upon the occurrence of a termination event. Termination events include non-payment, non-delivery, deterioration of creditworthiness, or other material adverse changes. During the years 2019 and 2018, there were no terminations.

Note 3 – Utility Plant

The major classifications of utility plant in service are as follows:

	Electric Utility Plant			
	Balance December 31, 2018	Increases	Decreases	Balance December 31, 2019
Plant in service not subject to depreciation				
Land	$ 8,969,999	$ 367,836	$ -	$ 9,337,835
Intangible assets	231,716	23,526,562	-	23,758,278
Plant in service subject to depreciation				
Steam production	10,363,488	-	-	10,363,488
Hydro production	162,579,170	8,036,955	(10,864)	170,605,261
Wind production	11,789,767	-	(11,789,767)	-
Transmission	84,785,666	684,789	(1,263,445)	84,207,010
Distribution	313,808,256	14,964,158	(3,133,666)	325,638,748
Telecommunications	19,452,087	302,425	(809)	19,753,703
General plant	158,027,521	3,404,343	(245,144)	161,186,720
Completed construction, not yet classified	16,979,284	11,466,538	(16,979,283)	11,466,539
Total utility plant in service	786,986,954	62,753,606	(33,422,978)	816,317,582
Accumulated depreciation	(436,984,343)	(23,997,144)	14,062,451	(446,919,036)
Plant not subject to depreciation				
Property held for future use	782,512	562,343	-	1,344,855
Construction work in progress	16,972,396	33,613,421	(13,529,512)	37,056,305
Net utility plant	$ 367,757,519	$ 72,932,226	$ (32,890,039)	$ 407,799,706

Note 3 – Utility Plant (continued)

	Electric Utility Plant			
	Balance December 31, 2017	Increases	Decreases	Balance December 31, 2018
Plant in service not subject to depreciation				
Land	$ 8,643,245	$ 326,854	$ (100)	$ 8,969,999
Intangible assets	231,716	-	-	231,716
Plant in service subject to depreciation				
Steam production	10,363,488	-	-	10,363,488
Hydro production	158,157,810	5,781,416	(1,360,056)	162,579,170
Wind production	11,789,767	-	-	11,789,767
Transmission	84,456,973	582,494	(253,801)	84,785,666
Distribution	297,428,233	20,710,570	(4,330,547)	313,808,256
Telecommunications	19,008,899	443,188	-	19,452,087
General plant	155,295,511	5,700,095	(2,968,085)	158,027,521
Completed construction, not yet classified	15,050,755	16,979,283	(15,050,754)	16,979,284
Total utility plant in service	760,426,397	50,523,900	(23,963,343)	786,986,954
Accumulated depreciation	(422,004,832)	(22,358,397)	7,378,886	(436,984,343)
Plant not subject to depreciation				
Property held for future use	943,148	9,364	(170,000)	782,512
Construction work in progress	14,512,880	30,586,324	(28,126,808)	16,972,396
Net utility plant	$ 353,877,593	$ 58,761,191	$ (44,881,265)	$ 367,757,519

Note 3 – Utility Plant (continued)

	Water Utility Plant			
	Balance December 31, 2018	Increases	Decreases	Balance December 31, 2019
Plant in service not subject to depreciation				
Land	$ 1,258,733	$ -	$ -	$ 1,258,733
Intangible assets	58,188	-	-	58,188
Plant in service subject to depreciation				
Source of supply	24,411,213	259,684	-	24,670,897
Pumping	12,404,017	1,955,915	(114,771)	14,245,161
Water treatment	35,742,975	3,060,367	-	38,803,342
Transmission & distribution	171,666,471	9,496,135	(968,750)	180,193,856
General plant	37,847,775	1,021,504	(36,826)	38,832,453
Completed construction, not yet classified	6,418,961	2,759,123	(6,418,961)	2,759,123
Total utility plant in service	289,808,333	18,552,728	(7,539,308)	300,821,753
Accumulated depreciation	(123,146,121)	(6,932,826)	1,053,876	(129,025,071)
Plant not subject to depreciation				
Property held for future use	2,396,812	-	-	2,396,812
Construction work in progress	6,551,690	13,227,151	(8,280,489)	11,498,352
Net utility plant	$ 175,610,714	$ 24,847,053	$ (14,765,921)	$ 185,691,846

Note 3 – Utility Plant (continued)

	Water Utility Plant			
	Balance December 31, 2017	Increases	Decreases	Balance December 31, 2018
Plant in service not subject to depreciation				
Land	$ 1,435,733	$ -	$ (177,000)	$ 1,258,733
Intangible assets	58,188	-	-	58,188
Plant in service subject to depreciation				
Source of supply	24,411,213	-	-	24,411,213
Pumping	12,382,998	21,019	-	12,404,017
Water treatment	35,324,695	418,280	-	35,742,975
Transmission & distribution	163,569,125	8,097,346	-	171,666,471
General plant	36,758,474	1,716,228	(626,927)	37,847,775
Completed construction, not yet classified	2,720,942	6,418,961	(2,720,942)	6,418,961
Total utility plant in service	276,661,368	16,671,834	(3,524,869)	289,808,333
Accumulated depreciation	(117,297,391)	(6,514,264)	665,534	(123,146,121)
Plant not subject to depreciation				
Property held for future use	2,396,812	-	-	2,396,812
Construction work in progress	3,663,042	13,348,202	(10,459,554)	6,551,690
Net utility plant	$ 165,423,831	$ 23,505,772	$ (13,318,889)	$ 175,610,714

Capital contributions
Contributions in Aid of Construction and System Development Charges are paid by developers and customers to cover the cost of new electric and water infrastructure (capital assets). When developers install and cover the costs of the infrastructure directly, those assets are referred to as Contributed Plant Assets.

Note 4 – Cash and Investments

The Board maintains cash and investments in several fund accounts in accordance with bond resolutions and Board authorization. Descriptions of these fund account types are as follows:

Restricted cash and investments
Customer deposits and other – Used to account for 1) deposits collected from retail customers and held for future refund or application to customer account balances, and 2) donations to the Customer Care Program.

Harvest Wind escrow accounts – Funds include amounts held in escrow related to EWEB's investment in the Harvest Wind Project, consisting of funds deposited to escrow from the receipt of federal energy grant funds in 2010, and a deposit in lieu of letter of credit with regard to the Project's transmission contract with Klickitat PUD.

Note 4 – Cash and Investments (continued)

Construction funds – Used to account for legally restricted cash and investments for the purpose of construction of capital projects. Funds include proceeds from the issuance of bonds and notes.

System development charge reserves – Used to account for charges assessed and collected in conjunction with installation of new water services in the Water System and are restricted by State of Oregon Statutes to system enhancements and other related capital expenditures.

Debt service reserves – Deposits held for debt service coverage pursuant to bond indentures and/or in lieu of bond sureties.

Investments for bond principal and interest – Used to account for cash and investments restricted by Bond Indentures of Trust for future payment of principal and interest on debt.

Detailed amounts for restricted cash and investments were as follows:

	2019		2018	
	Electric System	Water System	Electric System	Water System
Debt service reserves	$ 6,638,349	$ 2,398,358	$ 6,487,818	$ 2,343,973
Customer deposit and other	1,800,310	-	2,192,046	20,000
Harvest Wind escrow accounts	1,985,591	-	2,020,694	-
Construction funds	19,465,578	-	35,156,986	5,675,771
System development charge reserves	-	7,935,754	-	6,274,395
Investments for bond principal and interest	766	206	678	190
Total restricted cash and investments	$ 29,890,594	$ 10,334,318	$ 45,858,222	$ 14,314,329

Designated cash and investments

Rate stabilization fund – Used to account for cash and investments the Board has designated to reserve for one time expenditures, with any allocations made at Board discretion.

Power reserve – Used to account for cash and investments the Board has designated to reserve for fluctuations in purchased power costs, load, generation levels, or margin requirements.

Capital improvement reserve – Used to account for cash and investments the Board has designated to reserve for capital improvements.

Second source fund – Used to account for cash and investments the Board has designated to reserve for costs incurred to create a secondary water source.

Operating reserves – Used to account for cash and investments the Board has designated for payments of emergency operating costs and self-insured claims.

Note 4 – Cash and Investments (continued)

Detailed amounts for designated cash and investments were as follows:

	2019		2018	
	Electric System	Water System	Electric System	Water System
Rate stabilization fund	$ 24,468,927	$ 1,000,000	$ 37,048,759	$ 1,307,263
Power reserve	17,000,000	-	17,000,000	-
Capital improvement reserve	22,188,327	11,206,669	25,692,598	10,283,765
Second source fund	-	5,861,521	-	6,377,023
Operating reserve	7,853,568	1,584,364	5,849,928	1,592,556
Total designated cash and investments	$ 71,510,822	$ 19,652,554	$ 85,591,285	$ 19,560,607

Deposits with financial institutions are comprised of bank demand deposits, certificates of deposit, and money market accounts. The total bank balances, as recorded in bank records at December 31, 2019, were $49.0 million. Of the bank balances, $4.1 million were covered by federal depository insurance and $44.9 million were collateralized with securities.

Custodial credit risk for deposits is in the event of failure of a depository financial institution a depositor will not be able to recover deposits or will not be able to recover collateral securities in possession of an outside party. Deposits not covered by depository insurance are exposed to custodial credit risk when collateral for deposits is held by the pledging institution or its trust department or agency, but not in the name of the depositor. Within the Public Funds Collateralization Program (PFCP) in Oregon, securities pledged by financial institutions are required to be held in the name of the pool, and, therefore, cannot be in the Board's name. However, provided an entity is recognized by the PFCP administrator as an entity covered by the pool, balances in excess of FDIC are covered by the collateral of the pool.

The Board's investments during the year, which included obligations of the U.S. Government, are authorized by State of Oregon Statutes and bond resolution and by the Board's investment policy. Authorized investments include the Oregon Local Government Investment Pool (LGIP), U.S. Treasury securities, U.S. Government Agency securities, public funds money market accounts, corporate commercial paper and bonds, and other investments enumerated in and authorized by ORS 294.035, *Investments of surplus funds of political subdivisions*.

The LGIP is included in the Oregon Short Term Fund (OSTF), which was established by the State Treasurer. The OSTF is not subject to SEC regulation. The OSTF is subject to requirements established in Oregon Revised Statutes, investment policies adopted by the Oregon Investment Council, and portfolio guidelines established by the OSTF Board. The Governor appoints the members of the Oregon Investment Council and OSTF Board. The fair value of the Board's position in the pool is the same as the value of the pool shares. Financial statements for the OSTF may be obtained from the Oregon State Treasurer's website.

Note 4 – Cash and Investments (continued)

As of December 31, 2019, the Board held the following investments (Electric and Water Systems combined):

Investment Type	Credit Rating	Carrying Value	Weighted Average Maturity (Years)	% of Portfolio
Local Government Investment Pool	Unrated	$ 49,528,363	0.00	36.2%
U.S. Agency Securities				
FHLB		15,762,207		11.5%
FNMA		5,299,224		3.9%
FHLMC		14,406,218		10.5%
FFCB		11,479,910		8.4%
FAMCA		7,259,676		5.3%
Other Agency		2,044,460		1.5%
Subtotal U.S. Agency	AA	56,251,695	1.00	41.1%
U.S. Treasury Securities	AAA	23,022,572	0.44	16.9%
Corporate Bonds	AA	7,882,452	1.24	5.8%
Subtotal all securities		87,156,719	0.93	63.8%
Total		$ 136,685,082	0.59	100.0%

As of December 31, 2018, the Board held the following investments (Electric and Water Systems combined):

Investment Type	Credit Rating	Carrying Value	Weighted Average Maturity (Years)	% of Portfolio
Local Government Investment Pool	Unrated	$ 48,991,021	0.00	24.2%
U.S. Agency Securities				
FHLB		34,739,120		17.2%
FNMA		13,022,762		6.4%
FHLMC		23,091,909		11.4%
FFCB		17,705,776		8.8%
FAMCA		7,139,032		3.5%
Other Agency		2,052,600		1.0%
Subtotal U.S. Agency	AA	97,751,199	1.03	48.3%
U.S. Treasury Securities	AAA	47,391,498	0.92	23.5%
Municipal Bonds	AA	389,045	0.49	0.2%
Corporate Bonds	AA	7,786,046	0.99	3.8%
Subtotal all securities		153,317,788	1.00	75.8%
Total		$ 202,308,809	0.76	100.0%

Note 4 – Cash and Investments (continued)

Concentration risk is when investments are concentrated in one issuer. This concentration presents a heightened risk of potential loss. This does not apply for pooled investments or investments directly in the U.S. government. ORS 294.035 limits investment in any single issuer of bonds to 5% of a portfolio; there is not a limit for investment in U.S. Agencies. Many government-sponsored agency securities are not backed by the full faith and credit of the U.S. government, including those held by the Board, although market participants widely believe the government would provide financial support to an agency if the need arose. The Board does not have a policy for investment concentration in those agencies. Regarding the LGIP, with the exception of pass-through funds, the maximum amount of pooled investments to be placed in the pool is limited by ORS 294.810, *Local governments authorized to place limited funds in pool*, to $50.4 million as of December 31, 2019.

The "weighted average maturity in years" calculation assumes all investments are held until maturity.

As a means of limiting its exposure to fair value losses resulting from changes in interest rates, the Board's investment policy limits at least 25% of its investment portfolio to maturities of less than 180 days. Investment maturities are limited as follows:

Maturity	Minimum Investment
Less than 180 days	25%
Less than 1 year	40%
Less than 3 years	100%

Custodial credit risk for investments is in the event of the failure of the counterparty, the Board will not be able to recover the value of its investments or collateral securities in the possession of an outside party because they are neither insured nor registered and they are held by the counterparty or the counterparty's trust department or agent, but not in the investor's name. All of the aforementioned investments, and the investments in the LGIP, which are not evidenced by securities, are held in the Board's name by a third-party custodian. The Board's policy, which adheres to Oregon statutes, is to limit its investments to the top two ratings issued by nationally recognized credit rating organizations. As a general practice, and in a further effort to minimize credit risk, the Board invests primarily in U.S. agency investments and in the LGIP.

Note 4 – Cash and Investments (continued)

Cash and investments consisted of the following:

	Restricted Cash and Investments	Cash and Cash Equivalents and Short-Term Investments	Designated Funds	Total Carrying Amount 2019	Total Carrying Amount 2018
ELECTRIC SYSTEM					
Cash on hand	$ -	$ 13,560	$ -	$ 13,560	$ 13,560
Cash in bank	3,113,658	31,812,781	-	34,926,439	20,483,440
Investments in the State of Oregon local government investment pool	7,570,376	3,739,243	26,880,836	38,190,455	38,873,020
Investments – U.S. Agencies, Treasuries, and Corp.	19,206,560	2,098,485	44,629,986	65,935,031	120,298,300
Total electric system	29,890,594	37,664,069	71,510,822	139,065,485	179,668,320
WATER SYSTEM					
Cash in bank	1,092	9,004,893	-	9,005,985	1,482,265
Investments in the State of Oregon local government investment pool	2,983,041	967,495	7,387,372	11,337,908	10,118,002
Investments – U.S. Agencies, Treasuries, and Corp.	7,350,185	1,606,321	12,265,182	21,221,688	33,019,487
Total water system	10,334,318	11,578,709	19,652,554	41,565,581	44,619,754
	$ 40,224,912	$ 49,242,778	$ 91,163,376	$ 180,631,066	$ 224,288,074

Note 5 – Fair Value Measurement

The Board categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset. Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; Level 3 inputs are significant unobservable inputs.

The Board determines disclosures related to these investments only need to be disaggregated by major type because investing is not a core part of the Board's mission. The Board has the following recurring fair value measurements:

As of December 31, 2019:

		Fair Value Measurements Using		
	2019	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Investments by fair value level				
Debt securities				
U.S. treasury securities	$ 23,022,572	$ 23,022,572	$ -	$ -
U.S. agencies	56,251,695	-	56,251,695	-
Corporate bonds	7,882,452	-	7,882,452	-
Total debt securities	$ 87,156,719	$ 23,022,572	$ 64,134,147	$ -
Derivative instruments				
Effective hedge-asset	$ 1,021,222	$ -	$ 1,021,222	$ -
Effective hedge-liability	(1,445,152)	-	(1,445,152)	-
Total derivatives	$ (423,930)	$ -	$ (423,930)	$ -

Note 5 – Fair Value Measurement (continued)

As of December 31, 2018:

		Fair Value Measurements Using		
	2018	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Investments by fair value level				
Debt securities				
U.S. treasury securities	$ 47,391,498	$ 42,430,928	$ 4,960,570	$ -
U.S. agencies	97,751,199	-	97,751,199	-
Corporate bonds	7,786,046	-	7,786,046	-
Municipal bonds	389,045	-	389,045	-
Total debt securities	$ 153,317,788	$ 42,430,928	$ 110,886,860	$ -
Derivative instruments				
Effective hedge-asset	$ 512,600	$ -	$ 512,600	$ -
Effective hedge-liability	(381,872)	-	(381,872)	-
Total derivatives	$ 130,728	$ -	$ 130,728	$ -

Debt securities classified in Level 1 of the fair value hierarchy are valued using prices quoted in active markets for those securities.

Debt securities classified in Level 2 of the fair value hierarchy are valued using various market and industry inputs, including institutional bond quotes.

Derivative instruments classified in Level 2 of the fair value hierarchy are valued using an approach considering contract prices with forecast market prices.

Note 6 – Receivables

Significant receivables were as follows:

	2019		2018	
	Electric System	Water System	Electric System	Water System
Current receivables				
Accounts receivable	$ 30,385,872	$ 3,505,329	$ 31,426,390	$ 3,701,181
Allowance for doubtful accounts	(414,708)	(29,972)	(443,356)	(20,868)
Net accounts receivable	29,971,164	3,475,357	30,983,034	3,680,313
Loans to customers	3,250,137	69,486	1,788,148	66,067
Receivable from FEMA	51,625	-	-	-
Interest receivable	297,616	101,043	454,796	129,213
Miscellaneous receivables	435,478	-	237,040	-
Receivables, less allowance	$ 34,006,020	$ 3,645,886	$ 33,463,018	$ 3,875,593
Long-term receivables				
Incentive loans to customers	$ 3,514,596	$ 120,067	$ 3,861,835	$ 103,152
Long-term receivables, conservation, and other	$ 3,514,596	$ 120,067	$ 3,861,835	$ 103,152

Note 7 – Payables

Current payables were as follows:

	2019		2018	
	Electric System	Water System	Electric System	Water System
Accounts payable	$ 6,218,459	$ 689,330	$ 6,220,668	$ 900,660
Accrued purchased power	12,908,326	-	13,445,457	-
Construction payables	1,469,368	162,841	1,815,920	518,865
Contributions in lieu of taxes	1,223,831	-	1,283,829	-
Customer deposits	673,819	-	1,275,907	-
Equipment purchases	175,274	118,239	850,307	591,854
Miscellaneous payables	66,919	31,602	171,862	62,445
Total payables	$ 22,735,996	$ 1,002,012	$ 25,063,950	$ 2,073,824

Note 8 – Other Assets and Other Liabilities

Other assets and other liabilities were as follows:

	2019		2018	
	Electric System	Water System	Electric System	Water System
Other assets				
Non-utility property	$ 196,585	$ 181,639	$ 231,685	$ 181,639
Research & demonstration projects	25,137	-	-	-
Derivatives at fair value	1,021,222	-	512,600	-
Option premiums long-term	343,520	-	-	-
Prepaid transmission expense – Harvest Wind	867,160	-	964,411	-
Regulatory assets				
Pension debits	9,654,702	6,142,460	26,729,643	5,867,481
OPEB debits	3,900,071	1,756,345	2,941,413	645,676
Conservation assets	1,077,582	-	1,148,679	-
Unamortized bond issue costs	1,174,642	438,102	1,310,365	476,771
Other assets	$ 18,260,621	$ 8,518,546	$ 33,838,796	$ 7,171,567
Other liabilities				
Derivatives at fair value	$ 1,445,152	$ -	$ 381,872	$ -
Environmental clean up	364,640	-	364,639	-
Sick leave – upon retirement	698,661	220,630	784,515	172,212
System development charge	-	47,801	-	174,162
Other liabilities	$ 2,508,453	$ 268,431	$ 1,531,026	$ 346,374

Note 9 – Deferred Outflows of Resources and Deferred Inflows of Resources

Deferred outflows of resources and deferred inflows of resources were as follows:

	2019		2018	
	Electric System	Water System	Electric System	Water System
Deferred outflows of resources				
Accumulated decrease in fair value of hedging derivatives	$ 1,445,152	$ -	$ 381,872	$ -
Unamortized losses on bond refunding	7,169,238	1,389,262	8,338,851	1,568,139
Pension – differences between expected and actual experience	3,228,553	1,019,542	2,505,055	549,890
Pension – changes of assumptions	7,942,218	2,508,069	17,121,450	3,758,366
Pension – differences between Board contributions and proportionate share of contributions	3,285,869	1,037,643	2,489,665	546,513
Pension contributions subsequent to measurement date	23,763,750	7,504,342	3,961,535	869,605
OPEB – net difference between projected and actual earnings on investments	-	-	879,033	192,958
OPEB – differences between expected and actual experience	-	-	2,387,471	524,079
OPEB – changes of assumptions	5,516,627	1,742,096	7,465,511	1,638,771
Deferred outflows of resources	$ 52,351,407	$ 15,200,954	$ 45,530,443	$ 9,648,321
Deferred inflows of resources				
Accumulated increase in fair value of hedging derivatives	$ 1,021,222	$ -	$ 512,600	$ -
Pension – net difference between projected and actual earnings on investments	1,659,674	524,108	3,270,088	717,824
Pension – changes in proportion	15,627,064	4,934,861	8,028,284	1,762,306
OPEB – net difference between projected and actual earnings on investments	2,968,807	937,519	-	-
Deferred inflows of resources	$ 21,276,767	$ 6,396,488	$ 11,810,972	$ 2,480,130

Note 10 – Investment in WGA

The Board is a party to an Intergovernmental Agency, which is governed equally by the Board and Clatskanie PUD. The Board was obligated to make equity investments in the Western Generation Agency (the Agency) as partial funding for the construction of the Wauna Cogeneration Project (the Project). As of December 31, 1996, the Board had made all required equity investments, totaling $15.1 million, to the Agency. The Project agreements allow the Board to be repaid its equity investment plus a cumulative preferred dividend at 7.875% should the operating revenues of the Project be sufficient to cover operating costs, debt service, plus other reserve requirements. In October 2006, the Agency accomplished a refunding of its debt, which allowed the Board to be repaid a significant portion of its remaining equity investment ($10.4 million was repaid in 2006). The balance of the original investment at December 31, 2006 was $2.2 million. Repayment of the equity investment was restricted from payment until the Agency's Series C 2006 debt was paid off, which was accomplished during 2016. During 2018, the Board received $1.6 million, full repayment from the Agency of the remaining original equity contribution and the preferred dividend which was in arrears. Revenue from preferred dividends is included with investment earnings.

The investment in Western Generation Agency consists of 50% of the Agency's net income and losses, and distributions from excess cash. Under bond agreements, distributions to the Board were limited to $400,000 per year until the outstanding balance of the Board's original investment was paid in full. During 2019, $1.0 million in distributions were received ($629,000 in 2018). The balance of the investment as of December 31, 2019 was $3.8 million including estimated income of $1.8 million ($3.0 million at December 31, in 2018 including estimated income of $1.5 million). Income is reported with investment earnings.

The Board is committed, through a power purchase agreement, to purchase the output from the Project through April 2021. The Board suspended its agreement with the Agency in favor of a separate purchase power agreement between the Agency and BPA, which was in effect through April 2016, after which the Board and Clatskanie PUD each purchase 50% of the output. Financial information for the Project is included in the financial statements of the Agency and may be obtained from the Agency's trustee, US Bank.

Note 11 – Investment in Harvest Wind

The Board is a party to a joint ownership agreement, whereby the Board made an equity investment in the Harvest Wind project, a 98.9 megawatt wind generating facility located in Klickitat County, Washington. The Board's ownership share of Harvest Wind is 20%. Other owners are Peninsula Light Co., 20%, Cowlitz PUD, 30%, and Lakeview Light & Power, 30%. Commercial operations began on December 15, 2009.

During 2009, the joint owners of Harvest Wind elected to classify the project as an association taxable as a corporation. At the time of the election, all project assets were treated as contributed to the corporation. The corporation received a 4% share, and the joint owners received shares in proportion to their ownership. Owners share in power output, income and expenses according to their ownership shares.

Note 11 – Investment in Harvest Wind (continued)

The investment in Harvest Wind consists of the Board's share of the costs to develop the project, 20% of the Project's net income and losses, and any distributions. At December 31, 2019, the balance of the Board's investment in Harvest Wind was $20.0 million ($21.1 million at December 31, 2018) including estimated income of $451,000 ($504,000 in 2018) and distributions of $1.6 million ($1.7 million in 2018).

The Board is committed, through an energy purchase agreement, to purchase its share of the output from the Project, and pay its share of project expenses through year 2029. Additionally, the Board is committed, through a transmission service agreement and a transmission payment agreement, to subsidize the construction and replacement of transmission lines, deposit funds to ensure contract performance, and purchase transmission from the owner of the transmission lines through the year 2029.

Under the terms of a payment agreement, the Board deposited $1,340,000 from 2010 treasury grant proceeds in an escrow account to ensure payment of its share of contingent liabilities of the corporation. If no such contingencies occur, the funds will be released from escrow.

Under the terms of a transmission agreement, the Board has $610,000 as of December 31, 2019 ($645,000 at December 31, 2018) on deposit in an escrow account to ensure the payment of monthly transmission interconnection expenses.

Financial information for the project is included in the financial statements of the project and may be obtained from the Board.

Note 12 – Long-Term Debt

The Board defeased bonds by placing proceeds and other sources of cash in an irrevocable trust to provide for all future debt service payments on the old bonds. Accordingly, the trust account assets and the liability for the defeased bonds are not included in the Board's financial statements. At December 31, 2019, $63,148,000 of Electric System bonds are considered defeased ($65,693,000 at December 31, 2018).

The resolutions authorizing the issuance of revenue bonds contain various covenants, sinking fund requirements and obligations with which the Board must comply. The principal and interest requirements are reflected in the supplementary schedule "Long-Term Bonded Debt and Interest Payment Requirements." To comply with sinking fund deposit requirements, the Board makes semi-annual deposits with the trustee, less accumulated interest earnings. The interest payments are made semi-annually on February 1 and August 1, and principal payments on August 1. At December 31, 2019 and 2018, no assets were pledged as security for the outstanding bonds of the Electric and Water Systems.

Note 12 – Long-Term Debt (continued)

Bonds and notes payable were as follows:

	2019	2018
Electric Utility System Revenue and Refunding Bonds		
2011 Series A, 6-08-11 issue		
Serial bonds 1.90%–2.85%, due 2017–2020	$ 2,475,000	$ 4,810,000
2011 Series B, 6-08-11 issue		
Serial bonds 1.00%–4.35%, due 2013–2023	3,720,000	4,560,000
2012 Series, 8-1-12 issue		
Serial bonds 2.00%–5.00%, due 2013–2032	14,510,000	14,960,000
Term bonds, 5.00%, due 2033–2038	10,165,000	10,165,000
Term bonds, 3.75%, due 2039–2042	8,475,000	8,475,000
2016 Series A, 9-7-16 issue		
Serial bonds 2.00%–5.00%, due 2017–2036	81,565,000	82,840,000
Term bonds 4.00%, due 2037–2040	8,065,000	8,065,000
2016 Series B, 9-7-16 issue		
Serial bonds .835%–1.840%, due 2017–2022	12,405,000	15,950,000
2017 Series, 9-21-17 issue		
Serial bonds 5.00%, due 2027–2043	24,450,000	24,450,000
Term bonds 5.00%, due 2047	9,345,000	9,345,000
	175,175,000	183,620,000
Add unamortized premium	23,497,051	25,658,824
Electric System bonds payable	198,672,051	209,278,824
Less current portion	8,540,000	8,445,000
Electric System bonds payable, net of current portion	$ 190,132,051	$ 200,833,824

Note 12 – Long-Term Debt (continued)

	2019	2018
Water Utility System Revenue and Refunding Bonds		
Serial bonds, 2.00%–4.25%, due 2014–2031	$ 6,790,000	$ 7,245,000
Term bonds, 4.50%–5.00%, due 2032–2040	7,935,000	7,935,000
2016 Series, 5-19-16 issue		
Serial bonds, 2.00%–5.00%, due 2017–2037	27,425,000	29,200,000
Term bonds, 4.00%, due 2038–2045	6,860,000	6,860,000
	49,010,000	51,240,000
Add unamortized premium	4,633,716	5,058,194
Water System bonds payable	53,643,716	56,298,194
Less current portion	2,325,000	2,230,000
Water System bonds payable, net of current portion	51,318,716	54,068,194
Total System long-term debt, net of current portion	$ 241,450,767	$ 254,902,018

The schedule of maturities for principal and interest on bonded debt is as follows:

	Electric System		Water System	
	Principal	Interest	Principal	Interest
2020	$ 8,540,000	$ 7,677,921	$ 2,325,000	$ 2,138,413
2021	6,745,000	7,432,356	2,415,000	2,050,113
2022	8,260,000	7,256,751	2,525,000	1,938,963
2023	9,095,000	7,015,067	1,850,000	1,821,375
2024	7,665,000	6,584,819	1,945,000	1,736,525
2025–2029	41,535,000	27,049,845	11,025,000	7,378,450
2030–2034	41,350,000	16,716,301	10,275,000	4,902,550
2035–2039	26,340,000	9,551,665	10,890,000	2,625,750
2040–2044	18,470,000	3,897,413	4,900,000	697,450
2045–2047	7,175,000	729,250	860,000	34,400
	$ 175,175,000	$ 93,911,388	$ 49,010,000	$ 25,323,989

Long-term debt activity for the year ended December 31, 2019 was as follows:

	Outstanding January 1, 2019	Additions	Reductions	Outstanding December 31, 2019	Due Within One Year
Electric revenue bonds	$ 183,620,000	$ -	$ (8,445,000)	$ 175,175,000	$ 8,540,000
Water revenue bonds	51,240,000	-	(2,230,000)	49,010,000	2,325,000
Total bonded debt	$ 234,860,000	$ -	$ (10,675,000)	$ 224,185,000	$ 10,865,000

Note 12 – Long-Term Debt (continued)

Long-term debt activity for the year ended December 31, 2018 was as follows:

	Outstanding January 1, 2018	Additions	Reductions	Outstanding December 31, 2018	Due Within One Year
Electric revenue bonds	$ 191,990,000	$ -	$ (8,370,000)	$ 183,620,000	$ 8,445,000
Water revenue bonds	53,400,000	-	(2,160,000)	51,240,000	2,230,000
Total bonded debt	$ 245,390,000	$ -	$ (10,530,000)	$ 234,860,000	$ 10,675,000

Note 13 – Intersystem Items

1. Obligations

	2019		
	Electric System	Water System	Total Systems
Due from Water, (Due to) Electric			
Current			
Interest	$ 14,544	$ (14,544)	$ -
Roosevelt Operations Center	352,580	(352,580)	-
	367,124	(367,124)	-
Non-current			
Roosevelt Operations Center	6,781,253	(6,781,253)	-
Totals	$ 7,148,377	$ (7,148,377)	$ -

	2018		
	Electric System	Water System	Total Systems
Due from Water, (Due to) Electric			
Current			
Interest	$ 15,246	$ (15,246)	$ -
Roosevelt Operations Center	344,067	(344,067)	-
	359,313	(359,313)	-
Non-current			
Roosevelt Operations Center	7,133,833	(7,133,833)	-
Totals	$ 7,493,146	$ (7,493,146)	$ -

Note 13 – Intersystem Items (continued)

Amounts receivable and payable between the Electric and Water Systems and related interest earnings and expense are eliminated in the Total System columns of the financial statements.

Roosevelt Operations Center
The Electric System financed the acquisition and construction of the Board's Roosevelt Operations Center consisting of land, buildings, equipment and personal property placed into service during November 2010. Both the Electric and Water Systems occupy the property. A payment schedule was established in November 2010 whereby the Water System will repay the Electric System for its estimated share of the fair value of the property and the associated financing costs incurred by the Electric System without gain to the Electric System. The Roosevelt Operations Center was recorded in equal amounts as Plant in Service and an obligation for the Water System, along with depreciation expense and a receivable for the Electric System.

Payments are revised for refinancing of underlying debt incurred by the Electric System. The obligation is also revised for capitalized improvements at the facility if they are financed by the Electric System. Monthly payments were approximately $44,000 as of December 31, 2019 and December 31, 2018 on a capitalized value of $17.6 million for the Water System.

Annual totals for payments (including interest) as of December 31, 2019 were as follows:

2020	$ 523,173
2021	523,173
2022	523,173
2023	523,173
2024	523,173
2025–2029	2,615,863
2029–2033	2,615,863
2034–2036	840,426
	$ 8,688,017

2. **Intersystem Transfer** – The Electric System has received rental income in part for property occupied by the Electric and Water Systems. The Water System does not have a capitalized interest in certain rental property; however it has made payments to the Electric System for capital improvements and ongoing maintenance of the property. In recognition of those investments, the Electric System transferred approximately $532,000 to the Water System in 2018, which was a measurement of cumulative rental income in proportion to the Water System's outlays.

Note 14 – Special Items

In 2019, the Board made a $22.0 million deposit to an Oregon Public Employees Retirement System (OPERS) side-account. It reduced EWEB's employer contribution rate as of November 1, 2019 and will provide ongoing savings. In addition, this deposit received a $5.5 million match from the state's Employer Incentive Fund.

In 2017 the Board elected to join the State & Local Government Rate Pool (SLGRP). Previously the Board's status was as an independent employer participating in the OPERS. As an independent employer, actuarial valuations to determine employer contribution rates used Board specific demographics. As a participant in the SLGRP, valuations to determine employer contribution rates use the demographics of pool participants. Based on OPERS actuarial calculations, $32.6 million of the Board's actuarial liability as an independent employer, was assigned as the transition liability to move from independent to SLGRP status. This maintained future rate equity among other SLGRP participants. The Board recognized the expense as a special item in 2018 and used cash reserves to pay the full amount.

The Board also made a one-time contribution of $2 million to the OPEB trust in 2018 in an effort to pay down its net OPEB liability. The contribution is significant to the plan and due to the infrequent nature, it is reported as a special item ($1,520,000 for the Electric System and $480,000 for the Water System).

Note 15 – Power Supply Resources

Bonneville Power Administration
Bonneville Power Administration Contracts – A contract was signed on December 4, 2008 providing power to EWEB from October 1, 2011 through September 30, 2028. The Board reselected a combination of both Block and Slice System power products from those offered by Bonneville Power Administration (BPA) in the previous contract which ended September 30, 2011. While Slice and Block are still the offered products, BPA implemented new policies on how it sells power and what it will charge to meet customer's future load growth. Under BPA's tiered rate methodology policy, BPA has allocated the power output and operational costs of the existing low-cost federal resources into a tier 1 pool. The tier 1 power was allocated to public power customers like EWEB based on each customer's 2010 actual weather-adjusted load. The allocation determined the maximum planned amount of tier 1 power.

Each product provides attributes bringing different kinds of flexibility to the Board's power portfolio. The Slice product provides a percentage of BPA's resources rather than a guaranteed amount of power and in exchange the Board pays its Slice contract percentage share of BPA's costs. Slice output, in combination with the Block and other EWEB resources, may be more or less than what is needed to serve EWEB's hourly retail loads. In the spring months, available must- run water in the Columbia system is typically high due to the runoff from snow melting, and the increased power generation may require BPA to rely on spilling water as a tool to balance generation with demand. However, in order to maintain safe water conditions to protect fish, spills are limited. The risk associated with the Slice product is managing the water variability and available Slice storage to economically meet hourly load obligations and to optimally dispatch the value of the surplus portion of the Slice product.

Note 15 – Power Supply Resources (continued)

The Slice product consists of a Slice share of BPA's Federal Base System generation. Under the contract, the Board's initial Slice percentage share is 1.81%, compared to the historical 2.40% in the previous Requirements contract. The amount of actual power received under the Slice product will vary with seasonal water year conditions, the performance of the Columbia Generating Station (CGS) nuclear plant and the performance and availability of all other Federal Base System resources. In years of heavy water flow and lack of overall storage in the Federal System, the Board may have rights to power in excess of their needs, and in low water years the Board would need to augment its share of Slice output with its own generation, market purchases, or storage releases from EWEB's share of Slice storage.

The second BPA product purchased is the Block, which provides a fixed hourly amount for the month, and varies by month. The value of the Block product is the certainty of a fixed volume of power shaped to monthly load requirement and the monthly predictability of prices for the known quantity of power.

The annual amount of power the Board is entitled to under this contract is based on the actual weather adjusted load during the period between October 1, 2009 and September 30, 2010, with some adjustments specified in BPA's tiered rate methodology, is approximately 250 aMW.

BPA Transmission Contract – In 2001, the Board signed the Network Integration Transmission Service contract with BPA to provide transmission for the Board's generation projects and BPA power to serve EWEB's load. The current contract term extends through September 30, 2028. EWEB has firm roll-over rights with this contract.

EWEB-owned resources

Carmen-Smith Hydroelectric Project – EWEB owns and operates the Carmen-Smith Hydroelectric Project (Carmen-Smith Project) within the McKenzie River basin. The Carmen-Smith Project includes the Carmen Power House with two generating units with a nameplate capacity of 52 MW each. The Carmen-Smith Project also includes the Trail Bridge re-regulating facility, with an additional generating unit with a nameplate capacity of 10 MW.

A new 40-year federal operating license for the Carmen-Smith Project was issued on May 17, 2019. The license, which includes requirements for fish, wildlife, vegetation, water quality, land and road management and recreation enhancements, is supplemented by a Settlement Agreement that was filed with FERC in November 2016. Of note, EWEB will be modifying the Carmen-Smith Project for fish passage at Trail Bridge Dam. When complete, the Trail Bridge Powerhouse will transition from a re-regulating generation facility to the low-level outlet from Trail Bridge Reservoir. In addition, the Board is refurbishing the power plant to perform over the life of the new license.

International Paper Industrial Energy Center Cogeneration Project – The Board and International Paper Company jointly operate a cogeneration facility at the International Paper Springfield plant. The unit, which has a nameplate capacity of 25.4 MW (average output is approximately 20 aMW), is owned by the Board, with International Paper providing operation support and fuel. Under terms of the current agreement (which expires in September 2023), the project costs and output for this unit are shared equally by the parties.

Note 15 – Power Supply Resources (continued)

Leaburg Walterville Hydroelectric Project – The Board owns and operates the Leaburg Walterville Hydroelectric Project (L-W Project) on the McKenzie River in Lane County, Oregon. The L-W Project is comprised of two run-of-river facilities located at different points on the McKenzie River. The Leaburg facility includes a diversion dam on the McKenzie River, a canal and two generating units with a combined nameplate capacity of 15.9 MW. The Walterville facility includes a canal diverting water from the McKenzie River and one generating unit with a nameplate capacity of 8 MW. In April 2000, FERC granted the Board a new hydroelectric license for the L-W Project. The license is for a term of 40 years.

Stone Creek Hydroelectric Project – The Stone Creek Project has one turbine with a peak capacity of 12 MW. The facility is on the Clackamas River approximately 45 miles southeast of Portland. The project is a run-of-the-river development located between two hydroelectric facilities that are owned and operated by Portland General Electric (PGE). The Stone Creek facility is operated and maintained for EWEB by PGE and is licensed through August 2039.

Jointly-owned resources

Foote Creek I Wind Project – The Board and PacifiCorp were the joint owners of the Foote Creek I Wind Project with the Board having a 21.21% ownership, which translates to 8.8 MW of the project capacity. The project is located along the Foote Creek Rim in Carbon County, Wyoming. EWEB has sold 26% or 2.3 MW of its share to BPA under terms of a 25 year power purchase agreement, pursuant to which BPA has committed to purchase 15.3 MW of the Project’s total capacity. Net of sales to BPA, the Board received approximately 2.5 aMW per year from the Foote Creek I Project. EWEB sold its interest in the project in June of 2019.

Harvest Wind Project – The Board, Cowlitz PUD, Lakeview Light and Power, and Peninsula Light Company are the joint owners of the Harvest Wind Project, with the Board having a 20% ownership share. The project has a nameplate capacity of 98.9 MW and is located in Klickitat County, Washington. All project assets are held by a corporation formed by the owners. The Board and other owners have committed to purchase power from the corporation in proportion to their ownership shares through December 2029.

Western Generation Agency – The Board and Clatskanie People’s Utility District (CPUD) equally govern the Western Generation Agency, which owns a 36 MW nameplate cogeneration project at the Georgia Pacific mill in Wauna, Oregon. The generation facility includes a steam turbine and a fluidized bed boiler. EWEB and CPUD each purchase 50% of the output. The power purchase agreement expires in April 2021.

Contract resources

Stateline Wind Project – In 2002, the Board agreed to purchase 25 MW from Phase 1 of the Stateline Wind Project located in Walla Walla County, Washington and Umatilla County, Oregon. The project consists of 454 wind turbines with a total project nameplate capacity of 300 MW. The contract for this power expires on December 31, 2026.

Note 15 – Power Supply Resources (continued)

Klondike III Wind Project – In 2006, the Board agreed to purchase 25 MW from Phase 3 of the Klondike Wind project located near the town of Wasco in Sherman County, Oregon. The project consists of 125 wind turbines with a total nameplate capacity of 224 MW. The contract for this power expires on October 31, 2027.

Seneca Sustainable Energy – In 2010, the Board entered into a Renewable Power Purchase Agreement with Seneca Sustainable Energy LLC to purchase the total output of the biomass fueled electric cogeneration facility located in Eugene, Oregon. Nameplate capacity is 19.8 MW. Expected average output is approximately 14 aMW. The contract for this power expires on April 5, 2026.

Priest Rapids and Wanapum Hydroelectric Projects – The Board purchases power from the Priest Rapids Project composed of the Priest Rapids Dam and the Wanapum Dam, two large hydroelectric developments on the Columbia River in Washington owned by Public Utility District No. 2 of Grant County, Washington (Grant County PUD). Under this contract, EWEB's share of purchased physical power from Grant County PUD is 0.14% of the project output or about 1.4 aMW per year. The contract for this power continues through March 31, 2052.

Smith Creek Hydroelectric Project – The Smith Creek project is a run-of-the-river hydroelectric project on Smith Creek, a tributary of the Kootenai River in Northern Idaho. It is comprised of three units with a combined nameplate capacity of 38.3 MW. The Board sold this project for $22.3 million in May of 2016, entering into a three year power purchase agreement with the new owner. The current contract for this power expired on June 30, 2019.

Energy Northwest – Energy Northwest is a Washington municipal corporation, engaged in the construction of five nuclear generation facilities (Projects Nos. 1,2,3,4 and 5), of which EWEB purchased a 0.061 percent share of Project No 1. The Board is not a member of Energy Northwest. EWEB, Energy Northwest, and Bonneville entered into a separate Net Billing Agreement, under which EWEB purchased from Energy Northwest, and in turn, assigned to Bonneville, EWEB's share of the capability. Construction of Project No 1 was terminated in 1994. However, under the Net Billing Agreement, Bonneville is responsible for EWEB's percentage share of the total annual cost of Projects No 1, including debt service on revenue bonds issued to finance the cost of construction, whether or not the Project was completed. This has resulted in zero payments by, or credits to EWEB under the Net Billing Agreement. In the event that Bonneville fails to make a payment, or the parties terminate the agreement to directly pay, the original obligations of the Net Billing Agreements would resume. Bonneville has always met all of its obligations to Energy Northwest.

Solar PV Purchases – EWEB supports the development of Solar PV generation in Eugene through the provision of net metering rates to those customers with small systems that wish to self-generate power and renewable generation rates for customers with larger systems. To date, EWEB's Net Metered program has a total installed capacity of slightly over 5.5 MW and 0.68 aMW of energy and direct generation contracts with a total capacity of just over 2.5 MW and 0.34 aMW of energy.

Note 16 – Retirement Benefits

1. Pension Plan

Plan description – Board employees are provided with pensions through OPERS. It is a cost sharing multiple-employer defined benefit pension plan. All Board employees are eligible to participate in OPERS after six months of employment. Oregon PERS, a component unit of the State of Oregon, issues a comprehensive annual financial report, which may be obtained from the OPERS website, www.oregon.gov/pers.

Description of Benefit Terms – All benefits of the OPERS are established by the legislature pursuant to ORS Chapters 238 and 238A.

- **Tier One/Tier Two Retirement Benefit (Chapter 238)** Tier One/Tier Two Retirement Benefit plan is closed to new members hired on or after August 29, 2003.

  Pension benefits – The PERS retirement allowance is payable monthly for life. It may be selected from 13 retirement benefit options. These options include survivorship benefits and lump-sum refunds. Retirement benefits are determined as 1.67 percent of the employee's final average salary times the employee's years of retirement credit. Benefits may also be calculated under either a formula plus annuity (for members who were contributing before August 21, 1981) or a money match computation if a greater benefit results.

  A member is considered vested and will be eligible at minimum retirement age for a service retirement allowance if he or she has had a contribution in each of five calendar years or has reached at least 50 years of age before ceasing employment with the Board. General service employees may retire after reaching age 55. Tier One general service employee benefits are reduced if retirement occurs prior to age 58 with fewer than 30 years of service. Tier Two members are eligible for full benefits at age 60. The ORS Chapter 238 Defined Benefit Pension Plan is closed to new members hired on or after August 29, 2003.

  Death benefits – Upon the death of a non-retired member, the beneficiary receives a lump-sum refund of the member's account balance (accumulated contributions and interest). In addition, the beneficiary will receive a lump-sum payment from employer funds equal to the account balance, provided one or more of the following conditions are met:

  - the member was employed by a PERS employer at the time of death,
  - the member died within 120 days after termination of PERS-covered employment,
  - the member died as a result of injury sustained while employed in a PERS-covered job, or
  - the member was on an official leave of absence from a PERS-covered job at the time of death.

Note 16 – Retirement Benefits (continued)

Disability benefits – A member with 10 or more years of creditable service who becomes disabled from other than duty-connected causes may receive a non-duty disability benefit. A disability resulting from a job-incurred injury or illness qualifies a member (including PERS judge members) for disability benefits regardless of the length of PERS-covered service. Upon qualifying for either a non-duty or duty disability, service time is computed to age 58 (55 for police and fire members) when determining the monthly benefit.

Benefit changes after retirement – Members may choose to continue participation in a variable equities investment account after retiring and may experience annual benefit fluctuations due to changes in the market value of equity investments.

Under ORS 238.360 monthly benefits are adjusted annually through cost-of-living changes. Under current law, the cap on the COLA in fiscal year 2015 and beyond will vary based on 1.25 percent on the first $60,000 of annual benefit and 0.15 percent on annual benefits above $60,000.

- **OPSRP Pension Program (OPSRP DB) Pension Benefits**

Pension benefits – The Pension Program (ORS Chapter 238A) provides benefits to members hired on or after August 29, 2003.

This portion of OPSRP provides a life pension funded by employer contributions. Benefits are calculated with the following formula for members who attain normal retirement age: General service: 1.5 percent is multiplied by the number of years of service and the final average salary. Normal retirement age for general service members is age 65, or age 58 with 30 years of retirement credit.

A member of the OPSRP Pension Program becomes vested on the earliest of the following dates: the date the member completes 600 hours of service in each of five calendar years, the date the member reaches normal retirement age, and, if the pension program is terminated, the date on which termination becomes effective.

Death benefits – Upon the death of a non-retired member, the spouse or other person who is constitutionally required to be treated in the same manner as the spouse, receives for life 50 percent of the pension that would otherwise have been paid to the deceased member.

Disability benefits – A member who has accrued 10 or more years of retirement credits before the member becomes disabled or a member who becomes disabled due to job-related injury shall receive a disability benefit of 45 percent of the member’s salary determined as of the last full month of employment before the disability occurred.

Note 16 – Retirement Benefits (continued)

Benefit changes after retirement – Under ORS 238A.210 monthly benefits are adjusted annually through cost-of-living changes. Under current law, the cap on the COLA in fiscal year 2015 and beyond will vary based on 1.25 percent on the first $60,000 of annual benefit and 0.15 percent on annual benefits above $60,000.

Contributions

PERS funding policy provides for monthly employer contributions at actuarially determined rates. These contributions, expressed as a percentage of covered payroll, are intended to accumulate sufficient assets to pay benefits when due. This funding policy applies to the PERS Defined Benefit Plan and the Other Postemployment Benefit Plans.

Effective in 2017, the Board elected to join the State & Local Government Rate Pool (SLGRP) rather than continue as an independent employer. The Board made a one-time contribution of $32.6 million in 2018 to cover the transition liability associated with joining the pool. The transition liability was the estimated amount needed to achieve rate equity with other members of the pool. During 2019, the Board made a lump-sum contribution of $22 million to qualify for a matching contribution from the Oregon Employer Incentive Fund of $5.5 million. The decreased employer contribution rates effective November 1, 2019 include the impact of these contributions.

Employer contribution rates during the period were based on the December 31, 2015 actuarial valuation. The rates based on a percentage of payroll, first became effective July 1, 2017. Employer contribution rates changed during 2019, based on the December 31, 2017 actuarial valuation. The state of Oregon and certain schools, community colleges, and political subdivisions have made lump sum payments to establish side accounts, and their rates have been reduced. The Board has elected to make lump-sum payments to OPERS during 2019, 2007, and 2001, which has had the effect of lowering the employer contribution rate. The Board's contribution rates effective July 1, 2017 were 27.51% for Tier One/Tier Two members and 21.33% for OPSRP General service members. The Board's contribution rates effective July 1, 2019 were 30.5% for Tier One/Tier Two members and 24.94% for OPSRP General service members. Effective November 1, 2019 following a side-account deposit, employer contribution rates dropped to 19.35% for Tier One/Tier Two members and 13.79% for OPSRP. Employer contributions based on payroll for the year ended December 31, 2019 were $9.2 million ($9.5 million in 2018).

Pension liability, pension expense, deferred outflows of resources, and deferred inflows of resources related to pensions

At December 31, 2019, the Board reported a net pension liability of $69.3 million for its proportionate share of the OPERS net pension liability ($89.8 million in 2018). The net pension liability was measured as of June 30, 2019 and the total pension liability for each plan used to calculate the net pension liability was determined by an actuarial valuation as of December 31, 2018 rolled forward to June 30, 2019 using standard update procedures. The Board's proportion of the net pension liability was based on a projection of the Board's long-term share of contributions to the plan relative to the projected contributions for all participating employers, actuarially determined. The Board's proportionate share of the net pension liability as of June 30, 2019 was 0.44533405%.

Note 16 – Retirement Benefits (continued)

For the year ended December 31, 2019, the Board's proportionate share of system pension expense was $19.7 million ($17.4 million in 2018). The Board has elected to use regulatory accounting to recognize pension expense in conjunction with the required employer contribution rates. Accordingly, the Board recognized pension expense related to Tier One/Tier Two and OPSRP of $9.2 million.

As of December 31, 2019, the Board reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Net difference between projected and actual earnings on plan investments	$ -	$ 2,183,782
Differences between expected and actual experience	4,248,095	-
Changes in assumptions	10,450,287	-
Changes in employer proportion	-	20,561,925
Differences between employer contributions and proportionate share of contributions	4,323,512	-
Pension contributions subsequent to measurement date	31,268,092	-
	$ 50,289,986	$ 22,745,707

$31.2 million reported as deferred outflows of resources related to contributions subsequent to the measurement date will be recognized as a reduction of the net pension liability in the year ended December 31, 2020.

Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions are to be amortized as pension debits and pension credits as follows:

Fiscal year	Net Difference Between Projected and Actual Earnings on Investments	Differences Between Expected and Actual Experience	Changes of Assumptions	Changes in Proportion	Difference Between Employer Contributions and Proportionate Share of Contributions
2020	$ 1,496,467	$ 1,613,295	$ 6,837,084	$ (6,448,694)	$ 1,454,685
2021	(4,932,775)	1,128,617	1,926,566	(5,577,026)	1,223,966
2022	(343,530)	769,428	1,926,566	(4,389,470)	907,052
2023	1,596,056	615,945	(114,880)	(3,478,224)	622,355
2024	-	120,810	(125,049)	(668,511)	115,454
	$ (2,183,782)	$ 4,248,095	$ 10,450,287	$ (20,561,925)	$ 4,323,512

Note 16 – Retirement Benefits (continued)

Actuarial methods and assumptions used in developing the total pension liability
The total pension liability in the December 31, 2016 actuarial valuations were determined using the following actuarial assumptions.

Valuation date	December 31, 2016
Measurement date	June 30, 2019
Actuarial cost method	Entry age normal
Actuarial assumptions:	
Discount rate	7.20%
Inflation	2.50%
Payroll growth	3.50%
Projected salary increase	3.50%
Investment rate of return	7.20%

Mortality rates for healthy retirees and beneficiaries were based on the RP-2014 sex-distinct tables, as appropriate. Mortality rates for active members are a percentage of healthy retiree rates that vary by group, as described in the valuation. For disabled retirees, mortality rates are based on the RP-2014 generational disabled mortality sex-distinct table.

Actuarial valuations of an ongoing plan involve estimates of the value of projected benefits and assumptions about the probability of events far into the future. Actuarially determined amounts are subject to continual revision as actual results are compared to past expectations and new estimates are made about the future. Experience studies are performed as of December 31 of even numbered years. The methods and assumptions shown above are based on the 2016 Experience Study which reviewed experience for the four-year period ending on December 31, 2016.

Discount rate
The discount rate used to measure the total pension liability was 7.20 percent for the Defined Benefit Pension Plan. The projection of cash flows used to determine the discount rate assumed contributions from plan members and those of the contributing employers are made at the contractually required rates, as actuarially determined. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments for the Defined Benefit Pension Plan was applied to all periods of projected benefit payments to determine the total pension liability.

Long-term expected rate of return
To develop an analytical basis for the selection of the long-term expected rate of return assumption, the PERS Board reviewed long-term assumptions developed by both Milliman's capital market assumptions team and the Oregon Investment Council's (OIC) investment advisors. The table below shows Milliman's assumptions for each of the asset classes in which the plan was invested based on the OIC long-term target asset allocation. The OIC's description of each asset class was used to map the target allocation to the asset classes shown below. Each asset class assumption is based on a consistent set of underlying assumptions, and includes adjustment for the inflation assumption.

Note 16 – Retirement Benefits (continued)

These assumptions are not based on historical returns, but instead are based on a forward-looking capital market economic model.

Asset Class	Target	Compound Annual Return (Geometric)
Core Fixed Income	8.00%	3.49%
Short-Term Bonds	8.00%	3.38%
Bank/Leveraged Loans	3.00%	5.09%
High Yield Bonds	1.00%	6.45%
Large/Mid Cap US Equities	15.75%	6.30%
Small Cap US Equities	1.31%	6.69%
Micro Cap US Equities	1.31%	6.80%
Developed Foreign Equities	13.13%	6.71%
Emerging Market Equities	4.13%	7.45%
Non-US Small Cap Equities	1.88%	7.01%
Private Equity	17.50%	7.82%
Real Estate (Property)	10.00%	5.51%
Real Estate (REITS)	2.50%	6.37%
Hedge Fund of Funds – Diversified	2.50%	4.09%
Hedge Fund – Event-Driven	0.63%	5.86%
Timber	1.88%	5.62%
Farmland	1.88%	6.15%
Infrastructure	3.75%	6.60%
Commodities	1.88%	3.84%
Assumed Inflation – Mean		2.50%

Sensitivity of Net Pension Liability to Changes in the Discount Rate (in Millions) As of June 30, 2019:

Employers' Net Pension Liability	1% Decrease (6.2%)	Current Discount Rate (7.2%)	1% Increase (8.2%)
Defined Benefit Pension Plan	$ 123,360,204	$ 77,032,126	$ 38,261,766

Pension plan fiduciary net position
Detailed information about each pension plan's fiduciary net position is available in the separately issued OPERS financial reports.

Payable to the pension plan
The Board had no contributions payable to the pension plan for the year ended December 31, 2019.

Note 16 – Retirement Benefits (continued)

Changes in plan provisions during the measurement period
There were no changes in plan provisions during the measurement period.

Changes in plan provisions subsequent to the measurement period
There were no changes in plan provision subsequent to the measurement period.

Defined contribution pension – OPSRP Individual Account Program (OPSRP IAP)
Pension benefits – Participants in the OPERS defined benefit pension plan also participate in the OPERS defined contribution plan. An IAP member becomes vested on the date the employee account is established or on the date the rollover account was established. If the employer makes optional employer contributions for a member, the member becomes vested on the earliest of the following dates: the date the member completes 600 hours of service in each of five calendar years, the date the member reaches normal retirement age, the date the IAP is terminated, the date the active member becomes disabled, or the date the active member dies.

Upon retirement, a member of the OPSRP Individual Account Program (IAP) may receive the amounts in his or her employee account, rollover account, and vested employer account as a lump- sum payment or in equal installments over a 5-, 10-, 15-, 20-year period or an anticipated life span option. Each distribution option has a $200 minimum distribution limit.

Death benefits – Upon the death of a non-retired member, the beneficiary receives in a lump sum the member's account balance, rollover account balance, and vested employer optional contribution account balance. If a retired member dies before the installment payments are completed, the beneficiary may receive the remaining installment payments or choose a lump-sum payment.

Recordkeeping – PERS contracts with VOYA Financial to maintain IAP participant records.

Contributions – Covered employees are required to contribute 6% of their salary to the plan. The Board has chosen to pay the employees' contributions to the plan. For 2019, the Board contributed $2.6 million for employees.

2. Postemployment Benefits Plan Other than Pensions

Eugene Water & Electric Board Retirement Benefits Trust

Summary of significant accounting policies
Basis of accounting – The accrual basis of accounting is used; plan member contributions are recognized when they are due, benefit expenses and refunds are recognized when they are due and payable. Employer contributions are recognized only when they are due and accompanied by a formal commitment from the employer to pay them. Changes in the fair value of investments are recognized as increases or decreases to income.

Investment values – Investments are measured at fair value as provided by the Corporate Co-Trustee using recognized pricing services. Purchases and sales are recognized on a trade-date basis. Investment income is recognized as it is earned.

Note 16 – Retirement Benefits (continued)

Plan description
The Board provides postemployment health care and life insurance benefits to certain employees who retire under OPERS with at least 11 years of service at EWEB. The plan is administered by a board of trustees, acting solely on the authorization of EWEB, as the Eugene Water & Electric Board Retirement Benefits Trust (The Trust). The board of trustees consists of 5 voting members and on commissioner of EWEB who serves as an ex-officio member with no voting power. The plan is a single-employer defined benefits plan. Plan assets are dedicated solely to providing benefits to retirees and their beneficiaries, and plan assets are legally protected from creditors of the Board and the plan's administrators.

The life insurance benefit is a fixed amount of $5,000 per retiree. Health care coverage is provided in the form of a subsidy toward insurance premiums. The subsidy varies with years of service and the benefits offered by the Board at the time of an employee's hire and retirement. Medicare eligible retirees choose from Medicare supplement plans offered through OPERS. The subsidy for Medicare supplement coverage is established by the Board; however, the coverage is administered by OPERS as a cost sharing plan. Eligible retirees under the age of 65 receive coverage under the group plan the Board offers to its active employees, until such time as retirees reach Medicare eligibility. Those group benefit provisions are established by the Board, and coverage is generally 80% of eligible medical costs. Dental and/or vision benefits are offered through the group plan for retirees with earlier hire and retirement dates.

During 2016 and 2017, the Board changed plan provisions for active employees hired on or after January 1, 2003. At retirement, those employees will not receive a subsidy toward health care coverage. Employees retiring before age 65 continue to have access to EWEB healthcare insurance offered to the active employees; however, the retirees pay the insurance premiums in full. This access to coverage before age 65 is also required by Oregon law.

The obligation for payment of insured benefits rests with the insurance companies providing coverage. The Board does not guarantee benefits in the event of an insurance company's insolvency.

Plan membership
Enrolling in health care coverage is at the time of retirement. Therefore, there are no inactive plan members entitled to but not yet receiving benefits. Once a retiree opts out of coverage, there is no reinstatement. The plan's latest actuarial valuation dated August 31, 2019, rolled forward to December 31, 2019 included 531 retirees or surviving spouses of retired employees, of which 115 opted out of health care coverage, and 455 active employees.

Investments
The Trust has a third-party investment manager who has discretionary investment authority within the guidelines of the Trust's investment policy as approved by the board of trustees. The investment policy has a long-term objective of full funding for the plan through capital appreciation and reasonable consistency of earnings and growth. The policy acknowledges ongoing needs for liquidity to pay benefits and diversification of investments to minimize capital erosion. The Trust's adopted asset allocation as of July 31, 2019 was a target 40% fixed income, 55% equities and 5% real estate.

Note 16 – Retirement Benefits (continued)

For the years ended December 31, 2019 and 2018, the annual money-weighted rate of return on investments, net of investment expense, was 19.8% and negative 5.6%, respectively. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for changing amounts actually invested.

The fixed income portfolio of the Trust is to be diversified with respect to average maturity, duration, and credit quality.

Credit ratings and maturities at December 31, 2019 were as follows:

			Maturity				
Investment type	Credit Rating	Fair Value	12 Months or Less	13 to 24 Months	25 to 36 Months	37 to 60 Months	More Than 60 Months
Corporate bonds	AA	$ 154,896	$ -	$ 154,896	$ -	$ -	$ -
Corporate bonds	AA-	76,480	76,480	-	-	-	-
Corporate bonds	A	153,644	-	153,644	-	-	-
Total		$ 385,020	$ 76,480	$ 308,540	$ -	$ -	$ -

Credit ratings and maturities at December 31, 2018 were as follows:

			Maturity				
Investment type	Credit Rating	Fair Value	12 Months or Less	13 to 24 Months	25 to 36 Months	37 to 60 Months	More Than 60 Months
Corporate bonds	AA	$ 153,260	$ -	$ -	$ 153,260	$ -	$ -
Corporate bonds	AA-	154,245	-	-	154,245	-	-
Corporate bonds	A	76,517	-	76,517	-	-	-
Total		$ 384,022	$ -	$ 76,517	$ 307,505	$ -	$ -

Custodial credit risk – Custodial credit risk for investments is the risk that in the event of the counterparty’s failure, the Trust would not be able to recover the value of its investments that are in the possession of an outside party. Investments of the Trust are book entry securities held by the Corporate Co-Trustee who is both the investment manager and custodial trustee. Investments are held in a trust account under the name of the Corporate Co-Trustee, however, custodial credit risk is avoided because the custodian’s internal records identify the Trust as the owner of the securities.

Bank trust accounts, being neither depository nor brokerage accounts are not insured.

Fair value measurements – Fair values are the estimated prices that would be received to sell these investments in their principal market. Level 1 inputs showing a quoted market price for an identical asset in an active market provides the most reliable evidence of fair value. Level 2 inputs are quoted prices for similar assets in active markets. Level 3 inputs, which is the last category, and doesn’t apply to the investments held at December 31, 2019 and 2018 for the OPEB Trust, would include valuation techniques which make use of unobservable inputs using the best information available under the circumstances.

Note 16 – Retirement Benefits (continued)

		Fair Value Measurements Using	
	12/31/2019	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)
Investments by fair value level			
Corporate bonds			
Domestic	$ 385,019	$ -	$ 385,019
Mutual funds			
Fixed income	7,081,247	7,081,247	-
International	4,248,903	4,248,903	-
Domestic	6,365,091	6,365,091	-
Real estate	975,639	975,639	-
Total investments by fair value level	$ 19,055,899	$ 18,670,880	$ 385,019

		Fair Value Measurements Using	
	12/31/2018	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)
Investments by fair value level			
Corporate bonds			
Domestic	$ 384,022	$ -	$ 384,022
Mutual funds			
Fixed income	6,502,818	6,502,818	-
International	2,577,802	2,577,802	-
Domestic	6,190,232	6,190,232	-
Real estate	968,976	968,976	-
Commodities	343,657	343,657	-
Total investments by fair value level	$ 16,967,507	$ 16,583,485	$ 384,022

Contributions

Contributions toward health care premiums required from retirees are established in the plan and may be amended by the Board. Contributions from participating retirees are either a flat rate or a percentage of premium costs and vary by participant according to the benefits in place when the participant was hired and/or retired. The Board’s subsidies toward premiums are capped for the more recent retirees. The cap is expressed as a percentage of the Board’s share of premium increases each year compared to premiums beginning in a base year of 2003. The cap was 6% beginning in 2017 and is to remain that amount each year thereafter.

Note 16 – Retirement Benefits (continued)

During 2019, the plan recognized $716,560 in contributions from retirees who had insurance coverage under the Board's group plan for active employees. The contributions are applied to insurance premiums. Retirees with Medicare Supplement coverage also pay a portion of their premiums, however, those contributions are recognized by the OPERS OPEB plan.

Funding
It is the Board's intent to pay the actuarially determined contribution (ADC) to the trust annually.

The ADC for year 2019 was approximately $501,000. The Board contributed the ADC and recognized it in administrative and general expenses ($381,000 for the Electric System and $120,000 for the Water System). This differs from the Board's OPEB expense determined on an actuarial basis, which was $3,866,361. The Board has elected to apply regulatory accounting to recognize OPEB expense based on the timing and amount of contributions included in the rate making process.

During the year ended December 31, 2018, the Board contributed the ADC of $1.3 million and also made a one-time contribution of $2 million to the trust in an effort to pay down its net OPEB liability. The plan recognized the total of these contributions from the Board for 2018: $3,348,798. The Board recognized the one-time contribution as a special item ($1,520,000 for the Electric System and $480,000 for the Water System) and the ADC was reported within administrative and general expenses ($1,025,087 for the Electric System and $323,711 for the Water System). This differs from the Board's OPEB expense determined on an actuarial basis, which was $5,342,636 for 2018.

Components of the actuarially determined OPEB expense are shown below:

	2019	2018
Service cost	$ 235,056	$ 279,685
Interest cost	1,468,903	1,747,818
Expected earnings	(1,086,400)	(1,248,809)
Administrative earnings	132,931	106,096
Change in benefits	-	-
Recognition of deferred outflows	3,568,730	4,681,969
Recognition of deferred inflows	(452,859)	(224,123)
	$ 3,866,361	$ 5,342,636

Note 16 – Retirement Benefits (continued)

At December 31, 2019 the Board reported deferred outflows of resources and deferred inflows of resources related to OPEB from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$ -	$ 3,011,179
Changes of assumptions	7,258,722	-
Net difference between projected and actual earnings on OPEB plan investments	-	895,147
Total	$ 7,258,722	$ 3,906,326

Amounts recorded as deferred inflows and outflows of resources will be subject to amortization and regulatory deferral in future years as follows:

	Net Deferred Outflows/ (Inflows) Amortization
2020	$ 3,115,871
2021	2,394,067
2022	(905,885)
2023	(1,251,657)
	$ 3,352,396

Net OPEB liability

Components of the net OPEB liability and funded percentage are below:

	2019	2018
Total OPEB liability	$ 34,905,996	$ 40,505,496
Plan fiduciary net position	(19,250,423)	(17,171,138)
EWEB's net OPEB liability	$ 15,655,573	$ 23,334,358
Plan fiduciary net position as a percentage of the total OPEB liability	55%	42%

Note 16 – Retirement Benefits (continued)

Changes in the net OPEB liability

The Board's total net OPEB liability of $15.6 million was measured as of December 31, 2019.

	Total OPEB Liability	Fiduciary Net Position	Net OPEB Liability
Beginning of year 1/1/2019	$ 40,505,496	$ (17,171,138)	$ 23,334,358
Employer contributions	-	(1,137,500)	(1,137,500)
Retiree contributions	(716,560)	716,560	-
Expected investment income	-	(1,086,100)	(1,086,100)
Difference between expected and actual investment income	-	(2,193,964)	(2,193,964)
Benefit payments – implicit	(672,219)	-	(672,219)
Benefit payments	(1,489,088)	1,489,088	-
Administrative and trust expenses	-	132,931	132,931
Service cost	235,056	-	235,056
Interest on total OPEB liability	1,468,903	-	1,468,903
Changes of assumptions	1,723,170	-	1,723,170
Difference between expected and actual experience	(6,148,762)	-	(6,148,762)
End of year 12/31/19	$ 34,905,996	$ (19,250,123)	$ 15,655,873

Actuarial assumptions

The total OPEB liability as of December 31, 2019 was determined using the following significant actuarial assumptions and inputs:

Discount rate	3.76%
Inflation rate	2.50%
Salary increases	3.50%
Healthcare cost trend rates	3.00%–7.00%

Mortality rates used are the same as those used in the December 31, 2018 Oregon PERS Actuarial Valuation and are based on the Pub-2010 tables.

Retirement and termination rates are based on an experience study covering data from 2010 through 2014.

The discount rate used to measure the total OPEB liability was 3.76%. Based on an expected 6.53% long- term rate of return on plan assets, the fiduciary net position was projected to be available to make projected OPEB payments for plan participants through 2034. Therefore, the expected long-term rate of return is blended with the December 31, 2019 rate of 2.74% from the 20-year General Obligation Municipal Bond Index as published by the Bond Buyer.

Note 16 – Retirement Benefits (continued)

The long-term expected rate of return on the Trust's investments was determined using a building-block method in which estimates of expected future real rates of return (expected returns, net of investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the current asset allocation percentage, and by adding expected inflation. The asset allocation estimates of arithmetic real rates of return for each asset class are summarized below:

Fund Type	% of Total Portfolio	Expected Long-Term Real Rate of Return
Domestic equity	33%	5.9%
Foreign equity	22%	6.3%
Fixed income	39%	1.5%
Real estate	5%	5.4%
Three-month treasury bills	1%	-0.5
	100%	4.2%

The following table presents the sensitivity of the net OPEB liability to changes in the discount rate, assuming the current rate, and rates that are one percentage point lower, and one percentage point higher than the current rate as of December 31, 2019:

	1% Decrease (2.76%)	Current Rate (3.76%)	1% Increase (4.76%)
Total OPEB liability	$ 39,269,994	$ 34,905,996	$ 31,312,386
Fiduciary net position	(19,250,423)	(19,250,423)	(19,250,423)
Net OPEB liability	$ 20,019,571	$ 15,655,573	$ 12,061,963

The following presents the sensitivity of the net OPEB liability to changes in the healthcare cost trend rates assuming the current rate, rates that are one percentage point lower, and one percentage point higher than the current rate:

	1% Decrease	Current Rates	1% Increase
Total OPEB liability	$ 31,309,233	$ 34,905,996	$ 39,213,568
Fiduciary net position	(19,250,423)	(19,250,423)	(19,250,423)
Net OPEB liability	$ 12,058,810	$ 15,655,573	$ 19,963,145

Note 16 – Retirement Benefits (continued)

The actuarial funding method used to determine the plan cost is the entry age normal cost method. Under this method the actuarial present value of the projected benefits of each active employee included in the valuation is allocated on a level percentage of pay basis over the service life of the employee between entry age (date of hire) and assumed exit age.

Note 17 – Deferred Compensation

The Board offers all employees a deferred compensation plan created in accordance with Internal Revenue Code (IRC) Section 457. The plan permits them to defer a portion of their salary until future years. Participation in the plan is optional. Payment from the plan is not available to employees until termination, retirement, death, or unforeseeable emergency.

The Board works with separate investment providers who also provide third-party administration for all deferred compensation program funds. Participating employees have several investment options with varying degrees of market risk. The Board has no liability for losses under the plan.

The Board has little administrative involvement with the plan and does not perform the investing function. Therefore, in accordance with GASB No. 32, Accounting and Financial Reporting for Internal Revenue Code Section 457 Deferred Compensation Plans, the plan assets are not included in the accompanying Statements of Net Position.

Note 18 – Trojan Nuclear Plant

The Trojan Nuclear Plant (Project) is jointly owned by Portland General Electric Company (PGE), 67.5%; the City of Eugene, acting by and through Eugene Water & Electric Board, 30%; and Pacific Power and Light Company, 2.5%; as tenants in common. The Project ceased commercial operation in 1993 and is decommissioned. The Project is now classified as an Independent Spent Fuel Storage Installation. In accordance with GASB No. 14, *The Financial Reporting Entity*, the Project is reported as a joint venture on the equity method of accounting.

Under the terms of the Net Billing Agreements, executed in 1970, BPA is obligated to pay the Board amounts sufficient to pay all of the Board’s costs related to the Project including decommissioning and debt service, notwithstanding the termination of plant output. BPA pays those costs primarily by issuing credits against the Net Billing Participant’s purchases of electricity from BPA, but in some cases also makes payments in cash. The Board is required to transfer from its Electric System Fund to the Trojan Project Fund an amount equal to all net billing credits received through this agreement. The Board is then responsible for making payments from the Trojan Project Fund to the Trojan Project for the Board’s share of costs.

Note 18 – Trojan Nuclear Plant (continued)

Since BPA is obligated to pay the Board's share of all Trojan Project costs and has provided the Board with legally binding written assurances of its commitment to that obligation, the Board does not expect the closure and decommissioning of the Trojan Project to have any adverse effect on the Board's Electric or Water Systems. As such, the equity interest in the Project is zero. However, under the terms of the original agreements, if one of the tenants in common fails to perform on their financial obligation, the other tenants may be liable. This obligation may not be covered under the Net Billing Agreement mentioned previously. However, the Board believes this risk is minimal.

A summary of the balance sheets for EWEB's share of the Trojan Project as of September 30, 2019 and September 30, 2018 is as follows.

	Unaudited September 30, 2019	Unaudited September 30, 2018
ASSETS		
Current assets	$ 1,905,206	$ 2,042,697
Long-term receivable, BPA, net	32,655,240	33,487,238
Total assets	$ 34,560,446	$ 35,529,935
LIABILITIES		
Current liabilities	$ 1,873,472	$ 1,910,000
Accumulated provision for decommissioning costs	32,686,974	33,619,935
Total liabilities	$ 34,560,446	$ 35,529,935

The Trojan Nuclear Plant financial statements can be obtained from the Board.

Note 19 – Commitments and Contingencies

Electric Projects

- *Construction* – Design and construction contracts, primarily for powerhouse upgrades at Carmen-Smith, were $16.8 million. Committed purchases and upgrades for the Carmen substation were $322,000 ($22.7 million for Carmen-Smith powerhouse upgrades and $1.6 million for substation transformers and a radio system at December 31, 2018).

- *Carmen-Smith relicensing* – Preconstruction contracts, primarily for fish passage and trap-and-haul design were $1.3 million, and $350,000 for spillway modifications at Trail Bridge.

Note 19 – Commitments and Contingencies (continued)

The Board has an arrangement with the U.S. Forest Service is to provide for maintenance and enhancement measures on the National Forest Service land where the project is located. The Board expects to make annual payments of varying, prescheduled amounts to the Forest Service in accordance with settlement provisions. The payments are to total approximately $1.5 million before inflation indexing over the life of the license.

Water projects
Construction contracts for the design of a water quality lab were approximately $131,000 ($565,000 at December 31, 2018 for reservoir rehabilitation and a disinfection system).

Other projects
Contractual commitments for construction at the Roosevelt Operations Center were $1.2 million, for advanced metering $1.4 million, and for software were $313,000 ($300,000 for software at December 31, 2018).

Self-insurance
The Board is exposed to various risks of loss because of the Board's self-insurance retention, up to the first $2,000,000 of exposure, per occurrence. Excess liability coverage protects the Board after the Board's self-insured limit is exhausted. However, public entities are also protected under State of Oregon tort limits ORS 30.260 – 30.300, *Tort actions against public bodies*, which reduce the liability for any single occurrence for property damage or personal injury. Limits are adjusted for the cost of living annually by the Oregon State Court Administrator. The most recent limits are $122,900 for a single claimant and $614,300 to call claimants for property damage. For injury or death, the most recent limits are $749,000 for a single claimant and $1,498,000 for multiple claimants. Consequently, except in extreme cases, the Board's exposure is mitigated by law. The limit is subject to change by State of Oregon legislation.

Claims liabilities recorded in the financial statements are based on the estimated ultimate loss as of the statement of net position date, adjusted from current trends through a case-by-case review of all claims, including incurred but not reported claims. Non-incremental claims adjustment costs such as salaries are not included in the claims estimates. At December 31, 2019 a total claims liability of approximately $99,290 is reported in the financial statements. All prior and current-year claim liabilities were fully reserved and have not been discounted.

		Liability Balance at Beginning of Year	Current Year Claims and Changes in Estimates	Claim Payments	Liability Balance at End of Year
2017	General Liability	$ 69,550	$ 311,845	$ (215,847)	$ 165,548
2018	General Liability	$ 165,548	$ 146,426	$ (105,119)	$ 206,855
2019	General Liability	$ 206,855	$ 233,291	$ (340,856)	$ 99,290

Claims and other legal proceedings
The Board is involved in various litigations. In the opinion of management, the ultimate outcome of these claims will not have a material effect on the Board's financial position beyond amounts already accrued as of December 31, 2019.

Required Supplementary Information

Eugene Water & Electric Board
Schedule of Proportionate Share of the Net Pension Liability
As of June 30, 2019
Last Ten Years*

	2014	2015	2016	2017	2018	2019
Proportion of the net pension asset	0.86138989%	0.79250364%	0.70531024%	0.62730522%	0.59283304%	0.44533405%
Proportionate share of the net pension asset/(liability)	$ 19,525,251	$ (45,501,290)	$ (105,883,444)	$ (84,560,981)	$ (86,806,397)	$ (77,032,126)
Covered-employee payroll	$ 41,130,143	$ 45,250,685	$ 44,141,193	$ 44,353,971	$ 39,905,750	$ 43,024,470
Proportionate share of the net pension asset/(liability) as percentage of covered-employee payroll	47%	101%	240%	191%	225%	179%
Plan's fiduciary net position	$ 65,401,492,664	$ 64,923,626,094	$ 62,082,059,102	$ 66,371,703,247	$ 69,327,500,445	$ 70,203,720,619
Plan's fiduciary net position as a percentage of the total pension liability	103.60%	91.90%	80.50%	83.10%	82.10%	80.20%

*10 year trend information will be presented prospectively.

Eugene Water & Electric Board
Schedule of Contributions
Pension
As of June 30, 2019
Last Ten Years*

	2014	2015	2016	2017	2018	2019
Contractually required contribution (actuarially determined)	$ 9,544,586	$ 9,734,173	$ 8,189,904	$ 8,256,069	$ 9,413,237	$ 7,660,562
Contributions in relation to the actuarially determined contribution	$ 9,544,586	$ 9,734,173	$ 8,189,904	$ 8,256,069	$ 9,413,237	$ 10,662,356
Contributions deficiency (excess)	$ -	$ -	$ -	$ -	$ -	$ (3,001,794)
Covered-employee payroll	$ 41,130,143	$ 45,250,685	$ 44,141,193	$ 44,353,971	$ 39,905,750	$ 43,024,470
Contributions as a percentage of covered-employee payroll	23.21%	21.51%	18.55%	18.61%	23.59%	24.78%

Notes to Schedule

Valuation date:

Methods and assumptions used to determine contribution rates:

	2014	2015	2016	2017	2018	2019
Single and agent employers	Entry age normal	Entry age normal	Entry age normal	Entry age normal	Entry age normal	Entry age normal
Experience study report	2012, published September 18, 2013	2012, published September 18, 2013	2014, published September 23, 2015	2014, published September 23, 2015	2016, published July 26, 2017	2016, published July 26, 2017
Amortization method	Level percentage of payroll, closed	Level percentage of payroll, closed	Level percentage of payroll, closed	Level percentage of payroll, closed	Level percentage of payroll, closed	Level percentage of payroll, closed
Remaining amortization period	Tier one/tier two – 20 year; OPSRP – 16 years	Tier one/tier two – 20 year; OPSRP – 16 years	Tier one/tier two – 20 year; OPSRP – 16 years	Tier one/tier two – 20 year; OPSRP – 16 years	Tier one/tier two – 20 year; OPSRP – 16 years	Tier one/tier two – 20 year; OPSRP – 16 years
Asset valuation method	Market value of assets	Market value of assets	Market value of assets	Market value of assets	Market value of assets	Fair value
Inflation	2.75%	2.75%	2.50%	2.50%	2.50%	2.50%
Salary increases	3.75%	3.75%	3.50%	3.50%	3.50%	3.50%
Investment rate of return	7.75%	7.75%	7.50%	7.50%	7.20%	7.20%
Retirement age	55 for Tier 1/Tier 2; 65 for OPSRP	55 for Tier 1/Tier 2; 65 for OPSRP	55 for Tier 1/Tier 2; 65 for OPSRP	55 for Tier 1/Tier 2; 65 for OPSRP	55 for Tier 1/Tier 2; 65 for OPSRP	55 for Tier 1/Tier 2; 65 for OPSRP
Mortality	RP-2000 Sex-distinct tables	RP-2000 Sex-distinct tables	RP-2000 Sex-distinct tables	RP-2000 Sex-distinct tables	RP-2014 Sex-distinct tables	RP-2014 Sex-distinct tables
Discount rate	7.75%	7.75%	7.50%	7.50%	7.20%	7.20%

*10 year trend information will be presented prospectively.

Eugene Water & Electric Board
Schedule of Employer Contributions
Post-Employment Health Care Benefits
As of December 31, 2019
Last Ten Years*

	2019	2018	2017
Actuarially determined contribution	$ 501,342	$ 1,284,204	$ 1,348,797
Contributions in relation to the actuarially determined contribution	1,137,500	3,348,797	980,298
Contribution excess (deficiency)	$ 636,158	$ 2,064,593	$ (368,499)
Covered-employee payroll	$ 47,799,139	$ 44,880,815	$ 44,353,971
Contributions as a percentage of covered-employee payroll	2.38%	7.46%	2.21%

*10 year trend information will be presented prospectively.

Valuation dates: August 31, 2019 and December 31, 2017

Methods and assumptions used to determine contribution rates:

Actuarial cost method	Entry age normal
Amortization method	Level percentage of payroll, closed
Amortization method	10 years
Asset valuation method	Market value
Inflation	2.5%
Healthcare cost trend increases	
OPERS Medicare and Medicare Supplemental RX	5%
Dental	5%
Vision	3%
Vision	3%
Salary increases	3.5%
Retirement age	Based on experience study years 2010–2014
Age 55–58	10%
Age 59–64	15%
Age 65	100%
Withdrawal age	
Age 18–29	6.3%
Age 30–49	4.7%
Age 50–64	3.7%

Methods and assumptions used to determine contribution rates, which varied by year:

Mortality	Pub 2010	RP-2014 General Service
Investment rate of return	3.76%	4.32%

Healthcare cost trend increases

EWEB group medical, December, 31 2017 valuation:	10%, decreasing to ultimate rate of 4% by 2025
EWEB group medical, December, 31 2019 valuation:	7%, decreasing to ultimate rate of 4% by 2027

Eugene Water & Electric Board
Schedule of Changes in Total OPEB Liability and Related Ratios
Post-Employment Health Care Benefits
As of December 31, 2019
Last Ten Years*

	Total OPEB Liability		
	2019	2018	2017
Service cost	$ 235,056	$ 279,685	$ 270,227
Interest	1,468,903	1,747,818	977,047
Changes in benefit terms	-	-	(263,950)
Differences between expected and actual experience	(6,148,762)	-	4,969,184
Changes in assumptions	1,723,170	-	15,538,406
Benefit payments	(2,877,867)	(3,402,142)	(3,280,201)
Net change in OPEB liability	(5,599,500)	(1,374,639)	18,210,713
Total OPEB liability – beginning	40,505,496	41,880,135	23,669,422
Total OPEB liability – ending	$ 34,905,996	$ 40,505,496	$ 41,880,135

	Plan Fiduciary Net Position		
	2019	2018	2017
Contributions	$ (1,137,500)	$ (3,348,797)	$ (980,298)
Contributions from plan members – EWEB group insurance	(716,560)	(775,345)	(740,089)
Net investment income	(3,280,364)	952,424	(2,204,942)
Benefit payments	2,922,208	3,361,962	3,385,729
Administrative expense	132,931	88,919	81,076
Net change in plan fiduciary net position	(2,079,285)	279,163	(458,524)
Plan fiduciary net position – beginning	(17,171,138)	(17,450,301)	(16,991,777)
Plan fiduciary net position – ending	$ (19,250,423)	$ (17,171,138)	$ (17,450,301)
Net OPEB liability	$ 15,655,573	$ 23,334,358	$ 24,429,834
Plan fiduciary net position as a percentage of the total OPEB liability	55.1%	42.4%	41.7%
Covered-employee payroll	$ 47,799,139	$ 44,880,815	$ 44,353,971
Net OPEB liability as a percentage of covered payroll	32.8%	52.0%	55.1%

*10 year trend information will be presented prospectively.

Notes to schedule:

Benefit changes: During 2016 and 2017, the subsidy for employees hired on or after January 1, 2003 was discontinued.

Changes in assumptions: For the valuation dated December 31, 2017: The discount rate decreased from 6% to 4.32%. Health care cost trend increases for the Oregon PERS Medicare plans and EWEB supplemental Rx plans went up from 4% to 5%. The mortality table, RP-2000, projected to 2016 using Scale AA, was replaced with RP-2014.

For the August 31, 2019 valuation: The expected long-term rate of return was decreased from 7% to 6.53%; blended with the 20-year General Obligation Municipal Bond Index rate of 2.74% as of December 31, 2019, the investment and discount rate decreased from 4.32% to 3.76%.

Eugene Water & Electric Board
Schedule of Investment Returns
Post-Employment Health Care Benefits
As of December 31, 2019
Last Ten Years*

	2019	2018	2017
Annual money-weighted rate of return, net of investment expense	19.8%	-5.6%	14.1%

*10 year trend information will be presented prospectively.

Supplementary Information

Eugene Water & Electric Board
Electric System
Long-Term Bonded Debt and Interest Payment Requirements, Including Current Portion
Year Ended December 31, 2019

	Revenue and Revenue Refunding 2011 A Series 6-8-11		Revenue Refunding 2011 B Series 6-29-11		Revenue and Revenue Refunding 2012 Series 8-1-12		Revenue Refunding 2016 A Series 9-7-16	
	Principal	Interest	Principal	Interest	Principal	Interest	Principal	Interest
2020	$ 2,475,000	$ 99,000	$ 875,000	$ 155,983	$ 470,000	$ 1,415,269	$ 900,000	$ 4,109,550
2021	-	-	915,000	120,983	485,000	1,396,469	1,215,000	4,073,550
2022	-	-	945,000	83,010	515,000	1,377,069	2,345,000	4,024,950
2023	-	-	985,000	42,848	1,810,000	1,351,319	6,300,000	3,931,150
2024	-	-	-	-	1,040,000	1,278,919	6,625,000	3,616,150
2025	-	-	-	-	1,085,000	1,237,319	6,875,000	3,284,900
2026	-	-	-	-	1,135,000	1,183,069	6,675,000	2,941,150
2027	-	-	-	-	1,195,000	1,126,319	6,000,000	2,607,400
2028	-	-	-	-	1,255,000	1,066,569	6,400,000	2,307,400
2029	-	-	-	-	1,315,000	1,003,819	6,615,000	1,987,400
2030	-	-	-	-	1,360,000	962,725	6,945,000	1,656,650
2031	-	-	-	-	1,400,000	918,525	7,290,000	1,309,400
2032	-	-	-	-	1,445,000	873,025	6,935,000	1,017,800
2033	-	-	-	-	1,495,000	826,063	5,175,000	740,400
2034	-	-	-	-	1,570,000	751,313	1,685,000	533,400
2035	-	-	-	-	1,650,000	672,813	1,755,000	466,000
2036	-	-	-	-	1,730,000	590,313	1,830,000	395,800
2037	-	-	-	-	1,815,000	503,813	1,900,000	322,600
2038	-	-	-	-	1,905,000	413,063	1,975,000	246,600
2039	-	-	-	-	2,005,000	317,813	2,050,000	167,600
2040	-	-	-	-	2,080,000	242,625	2,140,000	85,600
2041	-	-	-	-	2,155,000	164,625	-	-
2042	-	-	-	-	2,235,000	83,813	-	-
2043	-	-	-	-	-	-	-	-
2044	-	-	-	-	-	-	-	-
2045	-	-	-	-	-	-	-	-
2046	-	-	-	-	-	-	-	-
2047	-	-	-	-	-	-	-	-
	2,475,000	99,000	3,720,000	402,824	33,150,000	19,756,669	89,630,000	39,825,450
Less current portion	2,475,000		875,000		470,000		900,000	
	$ -	$ 99,000	$ 2,845,000	$ 402,824	$ 32,680,000	$ 19,756,669	$ 88,730,000	$ 39,825,450

Eugene Water & Electric Board
Electric System
Long-Term Bonded Debt and Interest Payment Requirements, Including Current Portion
Year Ended December 31, 2019

	Revenue and Revenue Refunding 2016 B Series 9-7-16		Revenue 2017 9-21-17		Total Electric System Payments		
	Principal	Interest	Principal	Interest	Principal	Interest	Totals
2020	$ 3,820,000	$ 208,369	$ -	$ 1,689,750	$ 8,540,000	$ 7,677,921	$ 16,217,921
2021	4,130,000	151,604	-	1,689,750	6,745,000	7,432,356	14,177,356
2022	4,455,000	81,972	-	1,689,750	8,260,000	7,256,751	15,516,751
2023	-	-	-	1,689,750	9,095,000	7,015,067	16,110,067
2024	-	-	-	1,689,750	7,665,000	6,584,819	14,249,819
2025	-	-	-	1,689,750	7,960,000	6,211,969	14,171,969
2026	-	-	-	1,689,750	7,810,000	5,813,969	13,623,969
2027	-	-	945,000	1,689,750	8,140,000	5,423,469	13,563,469
2028	-	-	995,000	1,642,500	8,650,000	5,016,469	13,666,469
2029	-	-	1,045,000	1,592,750	8,975,000	4,583,969	13,558,969
2030	-	-	1,095,000	1,540,500	9,400,000	4,159,875	13,559,875
2031	-	-	1,150,000	1,485,750	9,840,000	3,713,675	13,553,675
2032	-	-	1,205,000	1,428,250	9,585,000	3,319,075	12,904,075
2033	-	-	1,270,000	1,368,000	7,940,000	2,934,463	10,874,463
2034	-	-	1,330,000	1,304,500	4,585,000	2,589,213	7,174,213
2035	-	-	1,400,000	1,238,000	4,805,000	2,376,813	7,181,813
2036	-	-	1,465,000	1,168,000	5,025,000	2,154,113	7,179,113
2037	-	-	1,540,000	1,094,750	5,255,000	1,921,163	7,176,163
2038	-	-	1,620,000	1,017,750	5,500,000	1,677,413	7,177,413
2039	-	-	1,700,000	936,750	5,755,000	1,422,163	7,177,163
2040	-	-	1,785,000	851,750	6,005,000	1,179,975	7,184,975
2041	-	-	1,875,000	762,500	4,030,000	927,125	4,957,125
2042	-	-	1,965,000	668,750	4,200,000	752,563	4,952,563
2043	-	-	2,065,000	570,500	2,065,000	570,500	2,635,500
2044	-	-	2,170,000	467,250	2,170,000	467,250	2,637,250
2045	-	-	2,275,000	358,750	2,275,000	358,750	2,633,750
2046	-	-	2,390,000	245,000	2,390,000	245,000	2,635,000
2047	-	-	2,510,000	125,500	2,510,000	125,500	2,635,500
	12,405,000	441,945	33,795,000	33,385,500	175,175,000	93,911,388	269,086,388
Less current portion	3,820,000				8,540,000		
	$ 8,585,000	$ 441,945	$ 33,795,000	$ 33,385,500	$ 166,635,000	$ 93,911,388	$ 269,086,388

Eugene Water & Electric Board
Water System
Long-Term Bonded Debt and Interest Payment Requirements, Including Current Portion
Year Ended December 31, 2019

	Revenue 2011 Series 6-29-11		Revenue and Revenue Refunding 2016 Series 5-9-16		Total Water System Payments		
	Principal	Interest	Principal	Interest	Principal	Interest	Totals
2020	$ 470,000	$ 647,963	$ 1,855,000	$ 1,490,450	$ 2,325,000	$ 2,138,413	$ 4,463,413
2021	480,000	633,863	1,935,000	1,416,250	2,415,000	2,050,113	4,465,113
2022	495,000	619,463	2,030,000	1,319,500	2,525,000	1,938,963	4,463,963
2023	510,000	603,375	1,340,000	1,218,000	1,850,000	1,821,375	3,671,375
2024	530,000	585,525	1,415,000	1,151,000	1,945,000	1,736,525	3,681,525
2025	550,000	566,975	1,470,000	1,094,400	2,020,000	1,661,375	3,681,375
2026	570,000	546,350	1,530,000	1,035,600	2,100,000	1,581,950	3,681,950
2027	590,000	524,975	1,610,000	959,100	2,200,000	1,484,075	3,684,075
2028	610,000	501,375	1,690,000	878,600	2,300,000	1,379,975	3,679,975
2029	635,000	476,975	1,770,000	794,100	2,405,000	1,271,075	3,676,075
2030	660,000	451,575	1,860,000	705,600	2,520,000	1,157,175	3,677,175
2031	690,000	423,525	1,125,000	631,200	1,815,000	1,054,725	2,869,725
2032	720,000	394,200	1,175,000	586,200	1,895,000	980,400	2,875,400
2033	755,000	358,875	1,225,000	539,200	1,980,000	898,075	2,878,075
2034	795,000	321,975	1,270,000	490,200	2,065,000	812,175	2,877,175
2035	830,000	283,250	1,320,000	439,400	2,150,000	722,650	2,872,650
2036	875,000	241,750	1,375,000	386,600	2,250,000	628,350	2,878,350
2037	920,000	198,000	1,430,000	331,600	2,350,000	529,600	2,879,600
2038	965,000	152,000	1,485,000	274,400	2,450,000	426,400	2,876,400
2039	1,010,000	103,750	680,000	215,000	1,690,000	318,750	2,008,750
2040	1,065,000	53,250	710,000	187,800	1,775,000	241,050	2,016,050
2041	-	-	735,000	159,400	735,000	159,400	894,400
2042	-	-	765,000	130,000	765,000	130,000	895,000
2043	-	-	795,000	99,400	795,000	99,400	894,400
2044	-	-	830,000	67,600	830,000	67,600	897,600
2045	-	-	860,000	34,400	860,000	34,400	894,400
	14,725,000	8,688,989	34,285,000	16,635,000	49,010,000	25,323,989	74,333,989
Less current portion	470,000		1,855,000		2,325,000		
	$ 14,255,000	$ 8,688,989	$ 32,430,000	$ 16,635,000	$ 46,685,000	$ 25,323,989	$ 74,333,989

Eugene Water & Electric Board
Electric System
Analysis of Certain Restricted Cash and Investments for Bond Service
Year Ended December 31, 2019

	Investments for Bond Principal & Interest	Debt Service Reserve	Construction Funds	Customer & Escrow Deposit Reserve	Total All Funds
Ending balance – December 31, 2018	$ 678	$ 6,487,818	$ 35,156,986	$ 4,212,740	$ 45,858,222
Deposits from general fund	16,371,871	-	-	255,980	16,627,851
Investment earnings	1,108	150,531	887,385	-	1,039,024
Other transfers	-	-	-	-	-
Receipts	16,372,979	150,531	887,385	255,980	17,666,875
Principal payments	8,445,000	-	-	-	8,445,000
Interest payments	7,927,892	-	-	-	7,927,892
Transfers to general fund	-	-	16,578,793	682,819	17,261,612
Disbursements	16,372,892	-	16,578,793	682,819	33,634,504
U.S. securities, at market	-	6,637,539	11,504,962	1,064,059	19,206,560
Cash in bank	765	810	1,031,126	2,080,957	3,113,658
State of Oregon Local Government Investment Pool	-	-	6,929,489	640,887	7,570,376
Ending balance – December 31, 2019	$ 765	$ 6,638,349	$ 19,465,577	$ 3,785,903	$ 29,890,594

	Investments for Bond Principal & Interest	Debt Service Reserves	SDC Reserves	Construction Funds	Total All Funds
Ending balance – December 31, 2018	$ 191	$ 2,343,973	$ 6,274,395	$ 5,675,771	$ 14,294,330
Deposits from general fund	4,450,515	-	1,497,695	-	5,948,210
Investment earnings	288	54,385	191,058	77,681	323,412
Receipts	4,450,803	54,385	1,688,753	77,681	6,271,622
Principal payments	2,230,000	-	-	-	2,230,000
Interest payments	2,220,788	-	-	-	2,220,788
Transfers to general fund	-	-	27,395	5,753,452	5,780,847
Disbursements	4,450,788	-	27,395	5,753,452	10,231,635
U.S. securities, at market	-	2,397,472	4,952,713	-	7,350,185
Cash in bank	206	886	-	-	1,092
State of Oregon Local Government Investment Pool	-	-	2,983,041	-	2,983,041
Ending balance – December 31, 2019	$ 206	$ 2,398,358	$ 7,935,754	$ -	$ 10,334,318

Eugene Water & Electric Board
Sustainability Accounting Standards Disclosures
Years Ended December 31, 2019 and 2018

The following metrics are standardized disclosures recommended by the Sustainability Accounting Standards Board for electric and water utilities. The disclosures are voluntary and are not meant to demonstrate compliance with laws or regulations.

Electric System

Topic	Metric	2019	2018	2017
Greenhouse Gas Emissions & Energy Resource Planning	Number of customers served in markets subject to renewable portfolio standards (RPS). (All retail customers)	94,000	93,000	93,000
	RPS target before exemptions	361,808 MWh	365,674 MWh	378,936 MWh
	Percentage fulfillment of RPS target by market	Greater than 100%	Greater than 100%	Greater than 100%
Water Management	Number of incidents of non-compliance with water quality and/or quantity permits, standards, and regulations	None	None	None
Workforce Health & Safety	Total recordable injury rate	3.9	4	2.62
	Fatality rate	1	0	0
End-Use Efficiency	Customer electricity savings from efficiency measures (In total across all customer types)	10,958 MWh 2.2 MW reduction in peak demand	13,238 MWh 3.5 MW reduction in peak demand	8,715 MWh 2.6 MW reduction in peak demand
Grid Resiliency	System Average Interruption Duration Index (SAIDI), per customer	69.37 minutes	53.63 minutes	52.85 minutes
	System Average Interruption Frequency Index (SAIFI), per customer	0.47 outages	0.44 outages	0.36 outages
	Customer Average Interruption Duration Index (CAIDI), per outage	146.91 minutes	121.19 minutes	148.87 minutes.

RPS compliance information above is preliminary. Final information is published to eweb.org annually by June 1. Savings from efficiency measures are calculated based on the Regional Technical Forum of the Northwest Power and Conservation Council as adopted by Bonneville Power Administration for its regional resource acquisitions. During December 2016, there was a significant ice storm affecting approximately 22,500 customers, requiring up to 8 days to restore service to some customers. Interruption results above are consistent with Institute of Electrical and Electronics Engineers (IEEE) standard 1336.2003, whereby 7 of the storm days were above the major event threshold and were excluded from the indices.

Water System

Topic	Metric	2019	2018	2017
Water Scarcity	Total fresh water sourced from regions with high or extremely high baseline water stress	None	None	None
	Fresh water purchased from a third party	None	None	None
	Volume of recycled water delivered	None	None	None
Drinking Water Quality	Number of acute health-based, non-acute health-based, and non-health-based drinking water violations	None	None	None
Distribution Network Efficiency	Water pipe replacement rate	.2% of 814 miles or 1.9 miles	.3% of 811 miles or 2.6 miles	.2% of 805 miles or 1.8 miles
Network Resiliency & Impacts of Climate Change	Water treatment capacity located in FEMA Special Flood Hazard Areas	Treatment plant is outside flood zone, intake is within	Treatment plant is outside flood zone, intake is within	Treatment plant is outside flood zone, intake is within
	Number of service disruptions, population affected, and average duration	286 1152 customers 125 minutes	268 973 customers 99 minutes	279 1,349 customers 257 minutes

Water pipe is distribution pipe for potable water measuring 2 inches to 60 inches in diameter. Replacements do not include new construction. Total miles for these pipelines is all pipe including new construction.

Audit Comments

Report of Independent Auditors on Compliance and on Internal Control Over Financial Reporting Based on an Audit of Financial Statements Performed in Accordance with *Oregon Minimum Audit Standards*

Board of Commissioners Eugene Water & Electric Board

We have audited the individual and combined financial statements of the Eugene Water & Electric Board (the "Board") as of and for the year ended December 31, 2019 and have issued our report thereon dated March 13, 2020. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the provisions of the *Minimum Standards for Audits of Oregon Municipal Corporations*, prescribed by the Secretary of State. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement.

Compliance

As part of obtaining reasonable assurance about whether the Board's basic financial statements are free of material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, grants, including provisions of Oregon Revised Statutes as specified in Oregon Administrative Rules OAR 162-10-0000 to 162-10-0330, as set forth below, noncompliance with which could have a direct and material effect on the determination of financial statement amounts:

- The accounting records and related internal control structure.
- The use of various depositories to secure the deposit of public funds.
- The requirements relating to insurance and fidelity bond coverage.
- The appropriate laws, rules and regulations pertaining to programs funded wholly or partially by other governmental agencies.
- The statutory requirements pertaining to the investment of public funds.
- The requirements pertaining to the awarding of public contracts and the construction of public improvements.

However, providing an opinion on compliance with those provisions was not an objective of our audit and, accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance that are required to be reported under *Minimum Standards for Audits of Oregon Municipal Corporations*, prescribed by the Secretary of State.

Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered the Board's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Board's internal control. Accordingly, we do not express an opinion on the effectiveness of the Board's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected, on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Purpose of the Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Minimum Standards for Audits of Oregon Municipal Corporations*, prescribed by the Secretary of State, in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Julie Desimone

Julie Desimone, Partner,
for Moss Adams LLP
Portland, Oregon
March 13, 2020

Rely on us.

EWEB

Eugene Water & Electric Board
500 East 4th Avenue
Eugene OR 97401

www.eweb.org

COMMUNICATIONS WITH THOSE
CHARGED WITH GOVERNANCE

EUGENE WATER & ELECTRIC BOARD

December 31, 2019

MOSSADAMS

Communications with Those Charged with Governance and Internal Control Related Matters

To the Board of Commissioners
Eugene Water & Electric Board

Dear Commissioners:

We have audited the financial statements of Eugene Water & Electric Board (EWEB or the Board) as of and for the year ended December 31, 2019, and have issued our report thereon dated March 13, 2020. Professional standards require that we provide you with the following information related to our audit.

Our Responsibility under Auditing Standards Generally Accepted in the United States of America

As stated in our engagement letter dated December 10, 2019, our responsibility, as described by professional standards, is to form and express an opinion about whether the financial statements prepared by management with your oversight are fairly presented, in all material respects, in conformity with accounting principles generally accepted in the United States of America. Our audit of the financial statements does not relieve you or management of your responsibilities.

Our responsibility is to plan and perform the audit in accordance with auditing standards generally accepted in the United States of America and to design the audit to obtain reasonable, rather than absolute, assurance about whether the financial statements are free from material misstatement. An audit of financial statements includes consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Board’s internal control over financial reporting. Accordingly, we considered the Board’s internal control solely for the purposes of determining our audit procedures and not to provide assurance concerning such internal control.

We are also responsible for communicating significant matters related to the financial statement audit that, in our professional judgment, are relevant to your responsibilities in overseeing the financial reporting process. However, we are not required to design procedures for the purpose of identifying other matters to communicate to you.

Planned Scope and Timing of the Audit

We performed the audit according to the planned scope and timing previously communicated to you in our planning communications letter dated December 10, 2019.

Significant Audit Findings and Issues

Qualitative Aspects of Accounting Practices

Management is responsible for the selection and use of appropriate accounting policies. The significant accounting policies used by the Board are described in Note 1 to the financial statements. The Board adopted GASB 84, *Fiduciary Activities*, which established new standards for accounting and financial reporting for fiduciary activities. As a result of adopting GASB 84, the Board identified the EWEB Retirement Benefits Trust (the "Trust") as a fiduciary component unit and has included the balances and activities of the Trust as a fiduciary fund in the current year financial statements. No other new accounting policies were adopted and there were no changes in the application of existing policies during 2019. We noted no transactions entered into by the Board during the year for which there is a lack of authoritative guidance or consensus. There are no significant transactions that have been recognized in the financial statements in a different period than when the transaction occurred.

Significant Accounting Estimates

Accounting estimates are an integral part of the financial statements prepared by management and are based on management's knowledge and experience about past and current events and assumptions about future events. Certain accounting estimates are particularly sensitive because of their significance to the financial statements and because of the possibility that future events affecting them may differ significantly from those expected. The most significant estimates affecting the financial statements were:

Unbilled Revenue – Unbilled revenue is a measure of revenue earned through the end of the reporting period that has yet to be billed. This generally represents accounts with billing cycles that start in the reporting year and end in the subsequent year. We have evaluated the key factors and assumptions used to develop unbilled revenue in determining that it is reasonable in relation to the financial statements taken as a whole.

Allowance for Doubtful Accounts – This represents an estimate of the amount of accounts receivable that will not be collected. We have evaluated the key factors and assumptions used to develop the allowance in determining that it is reasonable in relation to the financial statements taken as a whole.

Recovery Periods for the Cost of Plant – This represents the depreciation of plant assets. Management's estimate of the recovery periods for the cost of plant is based on regulatory-prescribed depreciation recovery periods. We have evaluated the key factors and assumptions used to develop the recovery periods in determining that they are reasonable in relation to the financial statements taken as a whole.

Other Post-Employment Benefit Obligations – This represents the amount of annual expense recognized for post-employment benefits. The amount is actuarially determined, with management input. We have evaluated the key factors and assumptions used to develop the annual expense in determining that it is reasonable in relation to the financial statements taken as a whole.

Mark-to-Market Adjustment – Certain derivative instruments are marked to market at year end. However, the impact to the statements of revenues, expenses, and changes in net position is deferred in accordance with GAAP. We have evaluated the key factors and assumptions used to develop year-end amounts and have determined that they are reasonable in relation to the financial statements taken as a whole.

Net Pension Liability – This represents the amount of pension liability. The amount is actuarially determined, with OPERS management input. We have evaluated the key factors and assumptions used to develop the annual expense in determining that it is reasonable in relation to the financial statements taken as a whole.

Valuation of Investments – Management's estimate of investments is based on current market rates and conditions. We evaluated the key factors and assumptions used to develop the valuation of investments and determined that they are reasonable in relation to the financial statements taken as a whole.

Financial Statement Disclosures

The disclosures in the financial statements are consistent, clear, and understandable. Certain financial statement disclosures are particularly sensitive because of their significance to financial statement users. Significant disclosures include: Note 2 – Power Risk Management, Note 19 – Commitments and Contingencies and Note 16 – Retirement Benefits.

Significant Difficulties Encountered in Performing the Audit

We encountered no significant difficulties in dealing with management in performing and completing our audit.

Corrected and Uncorrected Misstatements

Professional standards require us to accumulate all factual and judgmental misstatements identified during the audit, other than those that are trivial, and communicate them to the appropriate level of management.

Corrected Misstatements: None of the misstatements detected as a result of audit procedures and corrected by management were material, either individually or in the aggregate, to the financial statements as a whole.

1) To close work orders in commercial operation at year end – $655,000 (Electric)

Disagreements with Management

For purposes of this letter, professional standards define a disagreement with management as a financial accounting, reporting, or auditing matter, whether or not resolved to our satisfaction, that could be significant to the financial statements or the auditor's report. We are pleased to report that no such disagreements arose during the course of our audit.

Management Representations

We have requested certain representations from management that are included in the management representation letter dated March 13, 2020.

Management Consultation with Other Independent Accountants

In some cases, management may decide to consult with other accountants about auditing and accounting matters, similar to obtaining a “second opinion” on certain situations. If a consultation involves application of an accounting principle to the Board’s financial statements or a determination of the type of auditor’s opinion that may be expressed on those statements, our professional standards require the consulting accountant to check with us to determine that the consultant has all the relevant facts. To our knowledge, there were no such consultations with other accountants.

Other Significant Audit Findings or Issues

We generally discuss a variety of matters, including the application of accounting principles and auditing standards, with management each year prior to retention as the Board’s auditors. However, these discussions occurred in the normal course of our professional relationship and our responses were not a condition to our retention.

Communication of Internal Control Related Matters

In planning and performing our audit of the financial statements of EWEB as of and for the year ended December 31, 2019, in accordance with auditing standards generally accepted in the United States of America, we considered the Board’s internal control over financial reporting (internal control) as a basis for designing audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Board’s internal control. Accordingly, we do not express an opinion on the effectiveness of the Board’s internal control.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A material weakness is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity’s financial statements will not be prevented, or detected and corrected, on a timely basis.

In addition to the required communications, we have identified the following matters for your consideration. Our recommendations are based on observations and testing during the course of our audit. These recommendations should be evaluated by management and the Commissioners for implementation and EWEB should conduct a cost benefit analysis including consideration of the risks for the recommended action. Management responses were provided by the Board and have not be subjected to audit procedures.

Other Matters

Work Order Controls

Timely closing of work orders
During our testing of open work orders, we noted that one of the work orders selected was in commercial operation in 2019 and should have been closed to plant in service prior to year-end.

Recommendation – We recommend that management generate a report at year end to show the date of the last charge for each of the open work orders. Once this report is generated, management should establish controls to review the report to help identify work orders that have not had a charge for several months, which could indicate the work order should be closed to plant in service at year end. This should be performed in conjunction with EWEB's review of open work orders at year end to further improve the ability to identify and close work orders that are in commercial operation at year end.

***Management Response: Tyler Nice, Electric Operations Manager* –**
Management agrees with the recommendation for additional reporting and open work order auditing. Controls will be developed around 'no-charge' duration in collaboration with Finance.

IT Controls

Operations
During our review of the IT control operations it was Noted that management was not performing formalized reviews of vendor SOC reports for SaaS Solutions, nor mapping of Complimentary User Control Considerations (CUEC's) to controls at the business.

Recommendation – We recommend regular review of SOC reports to assist in vendor and risk management activities. Mapping of CUEC's ensures the business understand their roles and responsibilities, as well as what controls they should have in place to ensure the application is functioning as the vendor intends.

User access review
In the prior year's Communication to Those Charged with Governance, we recommended that the user access review process continue to be formalized with application owners of SmartStream, WAM and CIS applications to help ensure user permissions are appropriate for each user's job responsibilities. In the current year we noted that such review is being routinely performed, however, we noted a few items below that should be considered in future reviews of user access:

- We noted that manager approval was not captured on the new hire ticket before one user was granted access to the network.

- Noted there are multiple SmartStream service accounts that are enabled and no longer in use.

Recommendation – We recommend that the user access review process continue to be formalized with application owners for SmartStream, WAM, and CIS applications to help ensure user permissions are appropriate for each user's job responsibilities. As part of this process, we recommend the following:

- A help desk ticket is created for all access provisioning, de-provisioning, and any changes requested for employees. Activities should be detailed as to the specific systems or applications, and should include effective start/end dates of the access.

- Dormant service accounts are disabled or removed from the SmartStream system if they are not functioning.

Management Response: Travis Knabe, Information Services Manager and TiaMarie Harwood, Corporate Systems Supervisor

With respect to the recommendations under operations, EWEB agrees a regular review of SOC reports would assist in vendor and risk management activities. EWEB's Cyber Security Team will create a formalized process to review SOC reports for critical SaaS Solutions and map Complimentary User Control Considerations, if any, to EWEB's controls. This process will be performed annually for all current SaaS providers.

In regard to the recommendations under User Access Review, the Information Services division is 75% of the way through redeveloping our internal processes and reconfiguration of the ticketing system. Both onboarding and departure processes are high on the priority list and IS plans to have new processes implemented by year-end. The new processes will include working with management to define standard access for new employees as well as work/approval flows for employee transfers, promotions, and terminations. All changes and approvals for user access will be tracked in our ticketing system, and all access removals will be tracked and resolved in a timely manner.

The Corporate Services team has looked into the dormant SmartStream service accounts and has determined they are no longer needed in the functioning of SmartStream. The team is currently testing to ensure system processing is not adversely affected by disabling these service accounts in the development environment and once testing has completed, they will move forward with disabling the accounts in the production environment.

This communication is intended solely for the information and use of the Board and members of management and is not intended to be and should not be used by anyone other than these specified parties.

Moss Adams LLP

Portland, Oregon
March 13, 2020

MOSSADAMS

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Eugene Water & Electric Board

2019 Financial Statement Audit Results

April 7, 2020

Agenda

- Nature of services provided
- Audit process
- Audit opinions / reports
- Required communications
- Upcoming accounting standards

Nature of Services Provided

- Independent Auditors' Report on the financial statements of the Eugene Water & Electric Board

  - Audit Opinion covers the following:
    - Electric System
    - Water System
    - Combined Total Systems
    - OPEB Retirement Benefits Trust

- Report of Independent Auditors’ on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance with Oregon Minimum Audit Standards

Audit Process

Internal Controls

- Information Technology
- Revenues / cash receipting
- Cash disbursements
- Payroll
- Capital assets
- Financial close & reporting

Analytical Procedures

- Revenue and expenses
- Trends, comparisons, and expectations

Substantive Procedures

- Confirm account balances
- Vouch to supporting documentation
- Representations from attorneys and management
- Examine objective evidence

Audit Opinion/ Reports

Financial Statements

Unmodified (clean) opinion on financial statement

Oregon Minimum Standards Report

No compliance findings

Communication to those charged with governance

No material weaknesses

Required Communication

- Auditor’s responsibility under auditing standards
- Significant accounting policies
- Management judgments & accounting estimates
- **Audit adjustments – see following slide**
- Management’s consultation with other accountants
- No disagreements with management
- No difficulties in performing the audit
- **Audit observations and recommendations – No material weaknesses noted**

Required Audit Communications

Audit Adjustments	Amount
To close work orders in commercial operation at December 31, 2019 (Electric)	$655,000

Passed Adjustments	Amounts
None	

Findings and Best Practices

Key Recommendations

- **Timely Closing of Work Orders**
- **IT User Access Reviews**
- **IT Review of Vendor SOC 1 Reports**

Audit Issues – NEW ACCOUNTING PRONOUNCEMENTS

New Standards	**Effective Date**
GASB 83 – Certain Asset Retirement Obligations	Effective now
GASB 88 – Certain Disclosures Related to Debt	Effective now
GASB 84 – Fiduciary Activities	Effective now
GASB 87 – Leases	Period beginning after 12/15/19

Acknowledgements

Thank you Frank Lawson, Deborah Hart, Aaron Balmer, and their staff for their excellent facilitation of the audit process.

- The audit progressed on time and in an orderly fashion; all requested schedules and draft financial statements were received on a timely basis.
- All personnel across all departments were courteous, responsive, and fulfilled all our requests in a timely manner.
- ‘Tone at the Top’ and attitude from management was one of helpfulness, candor, and openness in response to audit requests and discussion points.

M E M O R A N D U M

EUGENE WATER & ELECTRIC BOARD

Rely on us.

TO: Commissioners Mital, Schlossberg, Helgeson, Brown and Carlson

FROM: Susan Ackerman, Chief Energy Officer

DATE: April 7, 2020

SUBJECT: 2020 Power Market, Budget Hedging, and Generation Update

OBJECTIVE: Information Only

Issue

The purpose of this backgrounder is to provide an annual update of wholesale power markets and a generation resource outlook.

Background

The Power Planning and Trading Operations sections manage EWEB's power supply and wholesale market activities consistent with utility financial objectives, in accordance with Board Policy contained in SD8, and as further described in the EWEB Energy Risk Management Procedures. Generation manages EWEB's owned generation assets.

Summary

Wholesale markets averaged near historic lows in 2019, with a few shorter periods (days/weeks) of volatile pricing. For 2020 and beyond, staff expects market prices to remain low, but recognize that unplanned events may cause additional periods of volatility, which could impact purchased power costs and wholesale energy sales.

Maintenance and repair continues at several EWEB generation facilities. Where necessary, repairs are being coordinated with FERC. The winter has been dryer and warmer than normal. Maintenance and hydrologic conditions will likely result in less generation than is historically expected.

This update for markets and generation is reflected in our current financial projections.

Discussion

Market Price Update

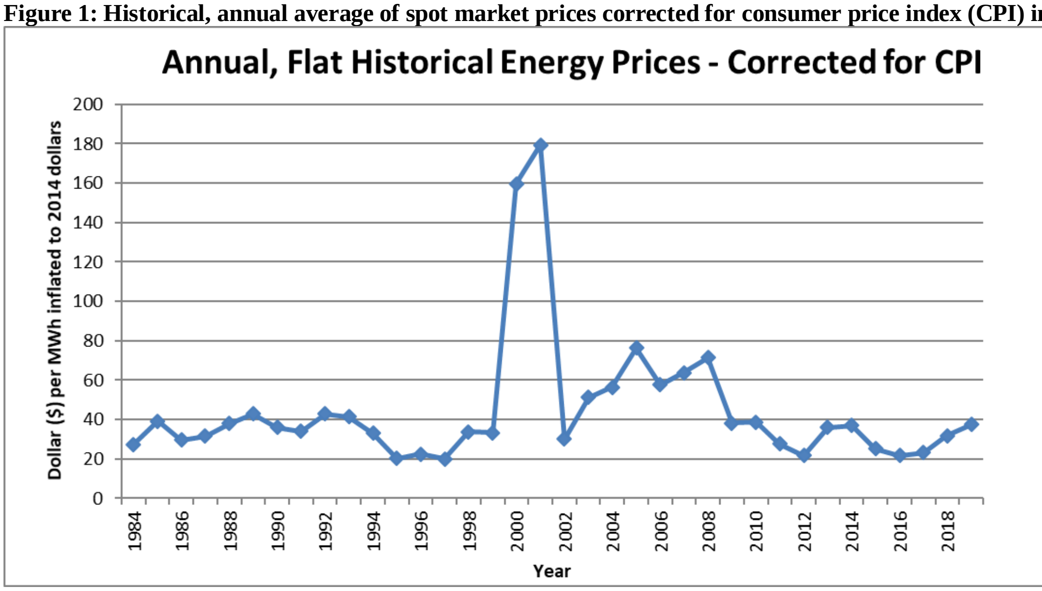
Wholesale energy markets can generally be described as either near term "spot markets" or longer term "forward markets"[1]. For spot markets, prices are impacted by weather (e.g., temperature and precipitation) and operational phenomena (e.g., generation and transmission availability), while forward markets tend to reflect longer term market expectations of energy supply and consumer demand.

Spot Markets

The 2019 average, annual spot market price finished higher than 2018 due in large part to short duration price excursions (over $900/MWh) in February and March. The primary cause of these events were shortages in natural gas supply[2] during a prolonged period of cold weather, though there were other complicating elements such as low hydro production and electric transmission outages. While there was some concern that market price volatility would last into the summer, these fears went mostly unrealized as various repairs to west coast gas infrastructure[3] went into effect and the gas supply issue resolved.

Year to date, spot market prices have been unseasonably weak (~$21/MWh). In contrast to 2019, 2020 has been warmer than normal[4] and natural gas market prices are at, or near, historical lows[5] from overproduction of supply[6]. Both of these factors have contributed heavily to some of the lowest regional wholesale electricity prices seen in several years.

Figure 1: Historical, annual average of spot market prices corrected for consumer price index (CPI) inflation



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[1] Spot markets typically refer to markets where commodities are traded for immediate (next day, next hour) delivery, whereas forward markets imply markets where the traded commodity is delivered in a future period.

[2] Natural gas generation typically determines energy market prices. When natural gas is short in supply, electric market prices can increase dramatically.

[3] While natural gas is relatively abundant, the west coast has recently suffered a series of natural gas compression, pipeline and storage issues, which at times, have created periods of localized supply scarcity

[4] https://www.wunderground.com/article/news/weather/news/2020-02-28-warm-winter-2019-20-what-does-that-mean-spring-2020-temperature

[5] https://www.eia.gov/todayinenergy/detail.php?id=42835

[6] https://www.eia.gov/todayinenergy/detail.php?id=42935

Forward Markets

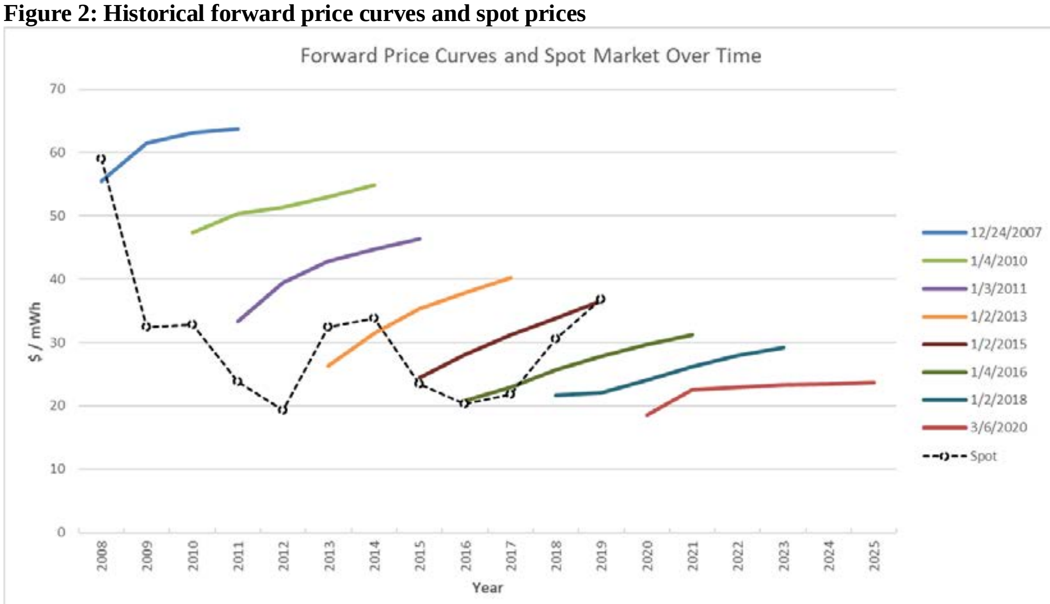
Forward prices had shown strength during last year's gas supply event, but that price support evaporated when gas infrastructure issues were corrected. Further, the U.S. Energy Information Administration ("EIA") anticipates that Henry Hub[7] natural gas commodity prices will stay relatively flat through 2021[8]. At this time, staff anticipates that forward power markets will continue to remain flat, but marked with periods of potential volatility due to extraneous issues, such as continued efforts to decarbonize the regional supply stack.[9]

Forward markets do not account for emergent policy issues like the development of complementary energy imbalance, capacity and carbon markets, which are expected to trade outside of traditional energy markets. The value of these emergent markets to EWEB will largely be a function of implementation. As such, staff continue to take a proactive advocacy role in these regional conversations.

Finally, forward market prices are subject to change with emergent conditions. Some recent factors that are driving market uncertainty include electrification efforts (e.g., transportation and space heating), the strength of the US economy, the impact of the COVID-19 pandemic, and the global oil trade (which is highly correlated with domestic natural gas production).

Figure 2, below, shows both forward market price curves, and spot market prices, over time. A forward curve reflects prices for future periods of delivery, which can be traded at today. The first line reflects a forward curve taken at the end of 2007. Trades executed during this time would likely reflect this sort of pricing. The subsequent lines reflect changing forward price curves for the years that followed. Over the last decade, forward market price curves have consistently declined and flattened.

Figure 2: Historical forward price curves and spot prices



Surplus Position Hedging Update

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[7] Henry hub (located in Louisiana) is the physical delivery point for natural gas traded on the NYMEX and ICE. As such, it generally serves as the primary benchmark reference for US natural gas commodity prices

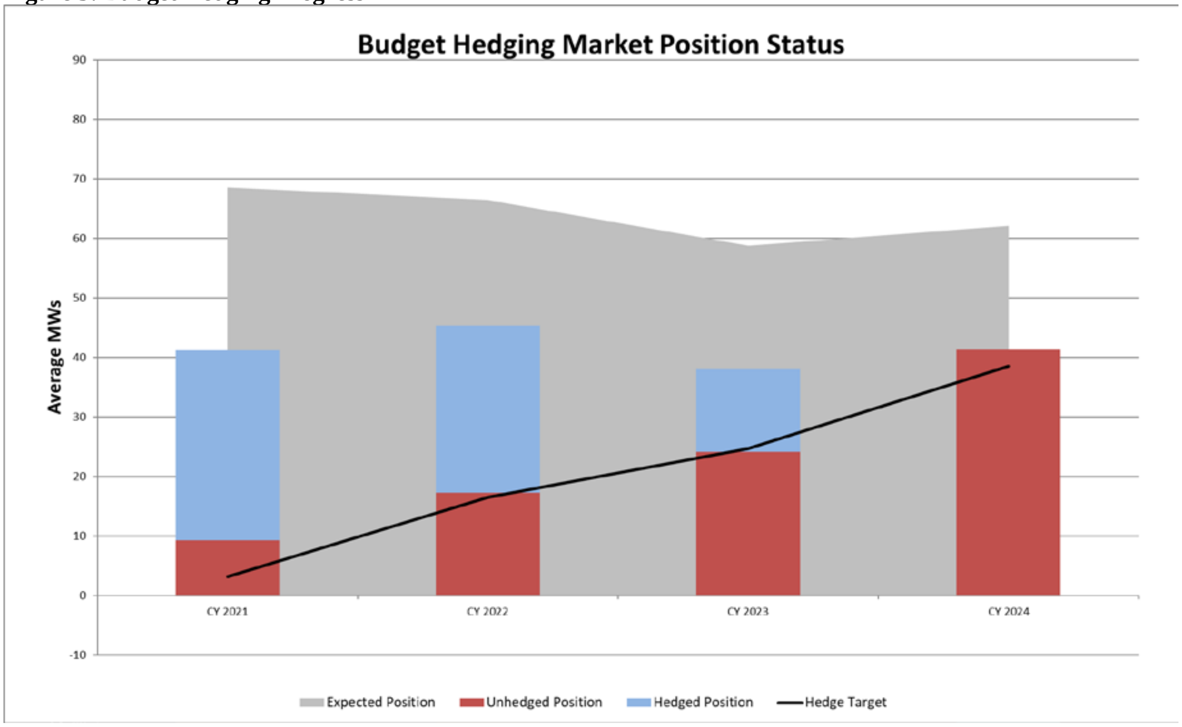
[8] https://www.eia.gov/todayinenergy/detail.php?id=42496

[9] Resource stack decarbonization, achieved by replacing base load resources (e.g., coal) with variable energy resources (e.g., wind and solar), can at times increase hourly and daily price volatility

In accordance with EWEB's Risk Management Procedures, staff hedges[10] a portion of its surplus position up to five years in advance. This provides two benefits: 1) it reduces financial exposure related to market prices; and 2) it results in sales executed at various times which diversifies the sales price by "dollar cost averaging" through time. This strategy results in near term years being fully hedged while year five is the least hedged, with interim years somewhere in between. Beyond five years EWEB does not hedge any surplus energy.

Figure 3, below, shows EWEB's surplus market position for 2021-2024 based on the budget hydro assumption which is 90% of expected hydro generation. The top of each stacked column indicates EWEB's original surplus market position; i.e., the amount of forecasted generation EWEB expects to realize in excess of that which is forecasted as being necessary for reliable load service. The blue bar represents the volume of energy hedged by staff. The red bar represents the remaining unhedged surplus. The black line reflects the desired pace of hedging activity the Risk Management Committee (RMC) would like to achieve over time. The gray area behind the stacked columns reflects EWEB's expected surplus, without the budget hydro assumption.

Figure 3: Budget Hedging Progress



[10] A hedge is a trade or set of trades that reduces the market price exposure risk inherent in EWEB's portfolio length. EWEB hedges to provide greater wholesale revenue certainty.

EWEB Owned-Generation Update

The Leaburg power canal and powerhouse remain offline due to dam safety concerns identified in late 2018. In 2019, EWEB completed investigation work approved by FERC necessary to inform the design of repair efforts. Design of the repairs necessary to return the canal to service are currently underway. EWEB has also initiated a risk-informed decision making process with FERC that will help guide EWEB's future decisions with regard to the Leaburg project. EWEB's current anticipated return to service date for the Leaburg project is the fourth quarter of 2021. The Carmen-Smith facility is operating again following the 2019 reconstruction of the Carmen substation. In 2020, EWEB is expecting to replace one of the two turbine runners and rewind one of the two generators at the Carmen Powerhouse, while the second turbine/generator unit continues operating. The second unit will be rebuilt in 2021. We continue to develop plans for FERC's approval that will address the sinkhole concerns identified at Carmen Diversion Reservoir.

Following a warmer and dryer winter in Oregon than normal, the 2020 hydrologic year for the Oregon Cascades, which will affect EWEB's owned hydroelectric resources, looks to be below average. As a result, we expect to operate the Walterville facility using low-flow guidance for the third year in a row following the planned May 2020 maintenance outage.

EWEB's other owned generation facilities continue to operate normally and are expected to do so throughout 2020. They are scheduled to have typical minor maintenance outages throughout the year. Excepting for unplanned revisions to schedule, these maintenance outages are included in the current budget.

Requested Board Action - None

M E M O R A N D U M

EUGENE WATER & ELECTRIC BOARD

Rely on us.

TO: Commissioners Mital, Schlossberg, Helgeson, Brown and Carlson

FROM: Jason Heuser, Public Policy and Government Affairs Program Manager

DATE: March 30, 2020

SUBJECT: 2020 State Legislative Session Summary and Post-Session Executive Order 20-04

Issue

The 2020 State Legislative Session convened February 3rd and adjourned March 7th. This memo is to apprise the Board of the final status of issues key to EWEB's adopted 2020 legislative agenda and to summarize Governor Brown's subsequent Executive Order on Climate.

Background

Prior to the start of each legislative session, the Board adopts general policy directives for advocacy at the Capitol, which guide the work of EWEB's lobbying activities. When political considerations test the applicability of those directives, the General Manager makes a determination as to whether a fundamental shift in direction is required. The Board may be asked to reaffirm its policy or direct staff to make necessary adjustments.

Discussion

In a replay of the conclusion of the 2019 Session, the 2020 Session was interrupted by a "walkout" by Senate and House Republicans, in protest of Carbon Pricing legislation. Without a quorum to do business, the legislature was unable to pass any further legislation from the time of the walkout on February 24th until the constitutionally mandated conclusion of the session on March 7th. Consequently, only 3 bills were passed by the legislature and dozens of advancing bills and budget decisions were blocked by the lack of a quorum.

The following is a summary of the final outcomes of legislative issues identified in EWEB's 2020 State Legislative Agenda:

<u>SB 1530 – State Carbon Cap and Trade Legislation – SUPPORT – FAILED</u>

SB 1530 was approved out of the Senate Environment and Natural Resources Committee on February 14th after several public hearings and referred to the Joint Ways and Means Committee. The bill had a public hearing and was approved out of the Joint Ways and Means Subcommittee on Natural Resources on February 19th where it remained at the conclusion of the 2020 session. SB 1530 was believed to have the necessary votes for passage in both the House and Senate on simple majority votes, if a quorum had been possible.

SB 1536 – Omnibus Wildfire Response Bill – SUPPORT – FAILED

SB 1536 was approved out of the Senate Wildfire Reduction and Recovery Committee and was referred to the Joint Ways and Means Committee on February 14th. Components of SB 1536 were amended into omnibus legislation, HB 4066, which remained in committee at adjournment. These components would have established a requirement that consumer owned utilities submit risk-based Wildfire Mitigation Plans by the end of 2021 and directed the Oregon Public Utility Commission to complete statewide workshops throughout 2020 to identify best wildfire mitigation practices for the utility sector. Regardless, the OPUC is expected to conduct workshops in 2020 and EWEB staff have been invited to participate.

HB 4135 – Utility Investment in Electric Vehicle Infrastructure – NEUTRAL – FAILED

This legislation was amended to eliminate any mandates that would set a floor of required utility investment at 1 percent of retail revenues. Instead the amended bill would have issued a directive on the use of revenues from the sale of credits generated in the Oregon Clean Fuels Program. HB 4135 did not advance out of committee, however, the components of HB 4135 were incorporated into an omnibus bill, HB 4066, which was approved by the House of Representatives on February 20th but received no action by the Senate after the Senate Republican walkout.

HB 4043 – Preemption of Local Authority on Water Pipe Materials – OPPOSE – FAILED

A public hearing was held for HB 4043 on February 11th. No further action was taken and the bill was procedurally eliminated from further consideration midway through the legislative session.

Governor Brown's Executive Order re: Climate Change – SIGNED Tuesday, March 10

Governor Kate Brown issued Executive Order 20-04 in response to the failure of SB 1530. Like SB 1530, the order updates the state's carbon reduction goals, setting targets of a 45% reduction below 1990 levels by 2035, and an 80% reduction by 2050. Instead of an economy-wide, market-based, and regionally-linked carbon pricing mechanism, EO-20-04 will employ sector-specific mandates to accomplish GHG reductions. Under the order, covered entities in the industrial, transportation and natural gas sectors would have their emissions capped by the state's Environmental Quality Commission and Department of Environmental Quality, with allowable emissions reduced over time. The electric sector will largely go unregulated in the order due to constraints on state authority to regulate imported electricity.

The exact rules and mandates will be the subject of an intensive and lengthy rule-making process — for which the legislature's Emergency Board approved $5 million in emergency funds towards staffing and resources at state agencies for the work ahead.

Recommendation/Requested Board Action

No action is recommended. This memo is an informational update on issues identified in EWEB's 2020 State Legislative Agenda as well as a related post-session Executive Order.

MEMORANDUM

EUGENE WATER & ELECTRIC BOARD

Rely on us.

TO: Commissioners Mital, Schlossberg, Helgeson, Brown and Carlson

FROM: Rod Price, Chief Engineering & Operations Officer; Lisa Krentz, Operations Manager; Nick Nevins, Engineering Technician

DATE: February 27, 2020

SUBJECT: Annual Rate Adjustment for Dark Fiber Lease Pricing

OBJECTIVE: Board Action

Issue Statement

In accordance with the provisions of Board Resolution No. 1304 which established a Dark Fiber Lease Rate in 2013 (DFL-1) and Board Resolution No. 1705, the rate is adjusted annually based on the City of Portland Consumer Price Index (CPI) when no Cost Of Service Analysis (COSA) is preformed that year; the implementation date is April 1 each year. EWEB's current 'public purpose' rate (public agencies, higher education and existing medical service providers) is $28.82 per fiber strand-mile per month. The published CPI is 2.7%

Background

In accordance with the provisions of Board Resolution No. 1705, the intention is to produce and updated COSA every other year. The years between EWEB staff will utilize the published CPI adjustment for pricing increase. The last study was conducted in 2018. The results of that study was adopted as the published 2019 pricing.

Discussion

Pursuant to past Board action, EWEB's three Dark Fiber rates will automatically be adjusted on April 1, 2020 per the published CPI results:

Customer Group	Current DF Rate	April 1, 2020 DF Rate
Public Agencies DFL-1	$28.82 per fiber strand-mile month	$29.60 per fiber strand-mile month
School Districts K-12	$5.13 per fiber strand-mile month	$5.27 per fiber strand-mile month
For-Profit Companies	$57.64 per fiber strand-mile month	$59.20 per fiber strand-mile month

Recommendation

There is no recommendation or requested board action.

Staff is informing the Board of the April 1, 2020 annual Dark Fiber rate increase of 2.7% in accordance with past Board actions.

Please contact Nick Nevins at 541-685-7751 or e-mail at nicholas.nevins@eweb.org with questions.

Attachments:

1) Revised Customer Service Policy, Appendix B – Electric Service Charges and Prices, Section R; Dark Fiber Lease

R. Dark Fiber Lease

1. Availability

EWEB's fiber optic cables run through public right-of-way and are owned and maintained by EWEB. This Price Schedule applies to public agencies and higher level educational institutions as well as medical service providers within EWEB's service territory, with the exception of any other price that may apply under a separate agreement or Price Schedule.

2. Character of Service

EWEB's Dark Fiber Lease Price Schedule (DFL-1) pertains to the available surplus fiber strands contained within EWEB's existing fiber-optic system, covering the Eugene metropolitan area and other areas within EWEB's service territory. Subscribing to EWEB's Dark Fiber Lease allows the interconnecting entity to obtain an indefeasible right of use of allocated EWEB-owned fiber strands for the purpose of transmitting voice, data and/or video signals between locations.

3. Interconnection

The Customer is responsible for providing a complete Conduit path from the termination point inside their facility to EWEB Facilities near the Customer premise, in accordance with EWEB's Fiber Optic Customer Standards. All Customer provided Conduit pathway facilities and patch panels shall be inspected and approved by EWEB prior to connection of the lateral extension. After connectivity, EWEB will own and maintain all Facilities up to and including the patch panel.

4. Advance Engineering Fee

All prospective EWEB Dark Fiber Lease subscribers must work with EWEB to complete an Advance Engineering Estimate of the cost and schedule for EWEB to provide dark fiber connectivity. A non-refundable $500.00 fee is required prior to completing the Advance Engineering Estimate.

Advance Engineering Fee $500.00
(Resolution No. 1304)

5. Construction Agreement

A signed "Dark Fiber Optic Circuit Construction Agreement" is required by EWEB before commencement of the detail Engineering design and construction of the lateral extension.

6. Non-Recurring Charges

The Customer shall pay an amount equal to 100 percent of the actual design and construction costs, payable upon completion of Dark Fiber connectivity.

7. Recurring Charges

The monthly charge for Dark Fiber Lease is determined by multiplying the length of the subscribed fiber strand(s) times the current monthly price. The length of each fiber strand is determined from EWEB's Geographic Information System (GIS) Fiber Manager Application rounded up to the nearest one-half mile length. This information will be recorded in the Lease Agreement.
Dark Fiber Lease bills shall be rendered quarterly.

~~2019~~ 2020 Monthly Price per Strand Mile* .... $~~28.82~~29.60

Note: *The Dark Fiber Lease Price Schedule will be adjusted annually based on updated Cost of Service Analysis (COSA) or the City of Portland Consumer Price Index if no COSA was performed. (Resolution No. 1907)

Dark Fiber Lease price to for-profit commercial customers shall be two-times the above published public purpose price. (Resolution No. 1705)

8. General Terms and Conditions

Service under this schedule is subject to the policies and procedures of EWEB.

MEMORANDUM

EUGENE WATER & ELECTRIC BOARD

Rely on us.

TO:	Commissioners Mital, Schlossberg, Helgeson, Brown and Carlson
FROM:	Deborah Hart, Chief Financial Officer; Adam Rue, Fiscal Services Supervisor;
	Timothy Poublon, Senior Financial Analyst
DATE:	March 27, 2020
SUBJECT:	Annual Report on Power Trading Compliance
OBJECTIVE:	Information Only

Issue

Board policy SD8, governing Power Risk Management, requires the Chief Financial Officer to present a report to the Board at least annually that covers trading and contracting compliance. This backgrounder provides information for calendar year 2019.

Background

Oregon statutes stipulate the appropriate scope for a governmental agency's investment of "surplus funds." Accordingly, EWEB's activities in the power markets must be associated with the provision of electricity to meet anticipated sales and generation forecasts. The Power Risk Management Committee (RMC) is responsible for oversight and compliance with Board policy SD8. This governance body sets limits and establishes Power Risk Management Procedures for power trading operations to protect the utility from financial instability and unacceptable risk.

Discussion

The eight specific responsibilities of the RMC outlined in Board policy SD8 are listed below with a characterization of compliance status and instances in which compliance was maintained through exception.

Anti-speculation Statutes: **In Compliance**

In order to comply with Board policy and anti-speculation statutes the Power Risk Management Procedures establish megawatt limits on market positions to monitor and reduce opportunities for speculation and to limit exposure to price volatility. However, occasional changes to forecasts, load, and/or generation result in position limits being exceeded. In those events, the Power Risk Management Procedures require positions to be brought back into compliance no later than the next trading day, unless approved by the Fiscal Services Supervisor and Power Planning Supervisor. EWEB was in compliance with this procedure in 2019, which includes forward market positions from 2019 through 2023.

The market position limit exceptions approved by the RMC or Fiscal Services Supervisor and Power Planning Supervisor are described below:

- In February, an updated water supply forecast created out of compliance positions in multiple periods throughout 2019 and 2020. The Fiscal Services Supervisor and Power Planning Supervisor approved to hold the positions until they could be traded back into compliance. These positions were cured as follows:
    - In order to allow the trading floor sufficient time to solicit competitive bids in the market, the 2019 out of compliance positions were traded into compliance the following week.
    - At February's RMC meeting, RMC voters approved to hold the Q3/Q4 2020 out of compliance positions until the updated annual load forecast was completed. The load forecast was finished in March, bringing Q3 2020 back into compliance. In March, RMC voted again to hold the Q4 2020 position until it could be traded back into compliance the following week.
- In May, generation from the Foote Creek resource was removed to reflect the upcoming sale of the project, creating an out of compliance position by 1 aMW for September 2019. In order to allow the trading floor sufficient time to solicit competitive bids for the small amount of energy needed, the Fiscal Services Supervisor and Power Planning Supervisor approved to hold the position until it could be traded back into compliance. The position was cured the following month.
- In June, an extension of the outage at Leaburg created out of compliance positions for all periods between November 2019 and September 2020. The Fiscal Services Supervisor and Power Planning Supervisor approved to hold the positions until they could be traded back into compliance. These positions were cured as follows:
    - In order to allow the trading floor sufficient time to solicit competitive bids in the market, the 2019 out of compliance positions were traded into compliance the following week.
    - At June's RMC meeting, RMC voters approved to hold the positions while staff assessed the use of options trade to cure the 2020 out of compliance positions. In August, three option trades were executed to move the positions back into compliance.
- In July, extended construction outages for the Carmen-Smith project created an out of compliance position for December 2019. The Fiscal Services Supervisor and Power Planning Supervisor approved to hold the position until it could be traded back into compliance, which occurred two weeks later.
- In August, a periodic update to EWEB's BPA entitlement which incorporates new information on outages, plant maintenance and water conditions, caused an out of compliance position in December 2019 by 5 aMW. The Fiscal Services Supervisor and Power Planning Supervisor approved to hold the position in order to allow coordination between the Mid-Term and Short-Term traders on the desired course of action. As a result, a daily option was purchased the following week to cure the compliance position, while also providing daily flexibility to the Short-Term traders to guard against volatile peak loads that can occur in December during cold weather.

On two occasions, EWEB's preschedule position at the end of the Short-Term trading day exceeded compliance limits. These cases included an update to Slice projections late in the day that put the position slightly outside of its compliance limit, while the other case was due to receiving outage information from a co-generation project after the day-ahead market closed. In both cases communication occurred between the Short-Term and Real Time traders to provide up-to-date information to the Real Time group.

Development of Detailed Control Procedures: **In Compliance**
SD8 requires that the RMC establish and maintain Power Risk Management Procedures. Within these procedures, processes are defined that govern roles and responsibilities, daily trade activity, and exception authorization. In late 2019, staff met with internal stakeholders to review the procedures and make recommended edits both for clarification and to reflect evolving business practices. Updated Power Risk Management Procedures have since been developed and have been unanimously approved by the RMC in mid-March 2020.

Notification of changes to compliance limits: **In Compliance**
Recent updates were made to the Power Risk Management Procedures, however, no changes to compliance limits were recommended or approved by the RMC during the 2019 calendar year.

Oversee control infrastructure and monitor compliance: **In Compliance**
The RMC meets monthly to monitor and review compliance limits. In addition, the RMC is updated on the status of Short-Term compliance measures weekly to provide insight in both current compliance status and market trends that may influence future compliance periods.

Power Risk Management Procedures require that trades be entered into the trade capture system no later than the close of business on the day they are executed. On four occasions, structured transactions (trades negotiated beyond standard terms and conditions) or other environmental commodity products were entered into the system in the days following contract execution. These trade types require collaboration between multiple internal work groups and are typically more complex. Delays in trade entry often are the result of timing between receipt of the counterparty's signature, routing for appropriate signatures and input of the trade into the system.

Authorize and monitor risk reports for financial results, market positions and credit exposure: **In Compliance**
RMC meetings are held monthly. Prior to each meeting, voting members receive up to date compliance reporting materials that provide the basis for monitoring financial results and compliance with market position limits and credit. In 2019, RMC meetings were held in-person each month, other than November, where standard meeting materials were still distributed via e-mail.

Review and approve contracts which impact EWEB's power portfolio: **In Compliance**
The RMC provides cross-functional oversight and review of any contracts that may have an impact on EWEB's portfolio to ensure that the Board mandate of risk mitigation and financial stability are maintained. Where contracts require Board approval, the RMC provides direction and preliminary review in advance of Board action. No contracts requiring Board approval under SD8 were executed in 2019 and no changes to the approval thresholds are being requested.

In 2019, the RMC approved three contracts that did not require Board approval, including:

- At staffs’ recommendation, in August, the RMC approved a change to the Operating Reserves supplier to achieve cost savings.
- Also in August, the RMC approved a four month extension of an industrial customer contract to better align the contract with the budget cycle and provide more time to negotiate with the customer. The customer subsequently chose to go to standard tariff rates rather than extend a new contract.
- In September, the RMC approved a contract extension for another contract customer through September 2023.

Recommendation and Requested Board Action

This item is information only and no Board action is being requested at this time.

MEMORANDUM

EUGENE WATER & ELECTRIC BOARD

Rely on us.

TO:	Commissioners Mital, Schlossberg, Helgeson, Brown and Carlson
FROM:	Daniel Huang, Chief Dam Safety Engineer, Mike McCann, Generation Manager, and Rod Price, Chief Operations Officer
DATE:	March 30, 2020
SUBJECT:	Draft of Strategic Policy – Board Dam Safety Policy
OBJECTIVE:	Request for Review and Feedback

Issue:

The Board's Strategic Direction Policy SD1 states the organizational core values as: safety, reliability, responsibility and community. In support of these core values, staff are proposing to establish a new stand-alone dam safety policy to guide the management of our organization's hydroelectric assets and infrastructure.

Background:

EWEB owns and operates three hydroelectric projects on rivers in Oregon. The projects consists of five power houses, three embankment dams and reservoirs, two diversion dams, and nine miles of power canals. All EWEB hydroelectric projects are regulated by the Federal Energy Regulatory Commission (FERC). Operation of the projects must be in compliance with the FERC dam safety regulations. Two of the embankment dams and a portion of the canals are classified as "High Hazard" according to federal guidelines. The High Hazard rating is attributed to facilities where any failure of the dams and canals can cause a downstream loss of human life.

Discussion:

FERC requires that all licensees of high hazard potential dams provide an Owner's Dam Safety Program (ODSP) in accordance with 18 CFR Part 12 Section 4(b) (2) (ii) regulation. The ODSP assures that dam safety is of the highest priority within the owner's organization.

In late 2018, EWEB commissioned three experts through the Association of State Dam Safety Officials (ASDSO) to audit our dam safety program, as required by FERC. The audit report concluded that many elements of the EWEB dam safety program were successful but significant improvements were necessary to establish a robust owner's dam safety program. The results of the audit report were presented to the Board in September 2019.

One recommendation from the audit report called for inclusion of a Dam Safety strategic level directive. Staff recommends that the Board adopt a Strategic Directive that will outline EWEB's dam safety program commitment to meet FERC requirements. A draft of the Dam Safety Strategic

Direction is included in the attachment for review and comments.

Staff will integrate Board feedback and bring the final version to the Board for adoption at the May Board meeting as a consent item.

Requested Board Action:

Review and provide feedback on the draft Dam Safety Strategic Direction.

References:

1. "Federal Guidelines for Dam Safety, Glossary of Terms", by FEMA, April 2004 https://www.ferc.gov/industries/hydropower/safety/guidelines/fema-148.pdf
2. "Federal Guidelines for Dam Safety, Hazard Potential Classification System for Dams", by FEMA, April, 2004 https://www.ferc.gov/industries/hydropower/safety/guidelines/fema-333.pdf
3. FERC Requirement Letter on ODSP and Components of ODSP Document https://www.ferc.gov/industries/hydropower/safety/initiatives/odsp/letter-submit-odsp.pdf
4. "Audit Report of the Owner's Dam Safety Program, Eugene Water & Electric Board", by Association of State Dam Safety Officials, March 2019

Attachment

ATTACHMENT

Policy Number: **SD xx**
Policy Type: **Strategic Direction**
Policy Title: **Dam Safety Policy**
Effective Date: **May 5, 2020**

Eugene Water & Electric Board (EWEB) is committed to ensuring public and employee safety, minimizing risk from our facilities and operations, and protecting the environment in which we work and live. This commitment extends to our electric generating dams, waterways and powerhouses through our Dam Safety Program.

Safety, including public safety and employee safety, takes priority in the operation, maintenance and management of our generation facilities and infrastructure. EWEB's dam safety risks will be identified, evaluated, prioritized and managed in a manner that minimizes these risks to the public. Dam safety risks will be communicated regularly to the EWEB Board, executives, employees and stakeholders.

EWEB's Dam Safety Program relies on commitment and engagement from all levels of the organization. Accordingly,

Roles and Responsibilities:

- The Federal Energy Regulatory Commission (FERC) regulates the hydroelectric projects owned and operated by EWEB under their FERC licenses and requires dam owners to establish an Owner's Dam Safety Program (ODSP) in accordance with federal regulations.

- The Board is committed to adopt the strategic plan and approve budgets that are necessary to support the EWEB's ODSP in order to ensure that all EWEB dam assets are designed, constructed, operated, and maintained as safely and effectively as is reasonably possible.

- The Chief Engineering and Operations Officer, as the Responsible Executive for the ODSP, is accountable for:
  - Establishing, communicating and maintaining EWEB policies pertaining to dam safety with the emphasis that public safety is paramount.
  - Ensuring that resources are properly aligned and sufficient to address public safety priorities, risks at EWEB dams and associated infrastructure, and successful execution of the EWEB's Dam Safety Program.
  - Engaging the General Manager, Generation Manager, and Chief Dam Safety Engineer (CDSE) on program performance.
  - Ensuring communication of dam safety program activities to all stakeholders.

- The Generation Department Manager is responsible for:
  - Aligning resources to address the program priorities as recommended by the CDSE and

approved by the responsible executive.
    - Developing and implementing effective procedures, instructions, and standards that fulfill the program elements.
    - Developing and implementing best practices in the design, construction, operation, and maintenance of EWEB dams and their appurtenances.
- The Chief Dam Safety Engineer is responsible for:
    - Administering, monitoring, and continuously improving the EWEB Dam Safety Program. This includes maintenance of the ODSP document which shall further define roles, responsibilities, and the program elements.
    - Prioritizing dam safety projects and activities in alignment with EWEB's capital and maintenance program policies.
    - Timely communication of significant dam safety issues and risk reduction measures to the responsible executive.
    - Serving as the program contact with the dam safety regulator.

- The Generation Department staff shall support the ODSP by escalating known or perceived dam safety issues to the CDSE for evaluation.

EWEB Owner's Dam Safety Program:

The EWEB ODSP shall be implemented in compliance with the FERC regulations, standards, and requirements including the following elements:

1. Surveillance and Monitoring – Monitor performance of dams and their appurtenances through inspections, instrumentation, and data collections and analyses.
2. Dam Safety Assessments –Evaluate asset conditions with modern standards and methodologies in compliance with FERC regulations.
3. Operations and Maintenance – Operate reservoirs and canals to ensure public safety and protect downstream communities; and maintain facilities to meet or exceed industry standards.
4. Procedures – Establish and document guidelines and procedures to ensure that dam safety is addressed in project planning, design, construction, and operation phases.
5. Risk Management – Prioritize dam safety issues with risk-informed approaches considering likelihood of failure and potential consequences.
6. Asset Management and Planning – Effectively plan, budget, and schedule dam assets update and renewal.
7. Emergency Preparedness – Maintain Emergency Action Plans (EAPs) and exercise the EAPs collaboratively with affected emergency management agencies and communities.
8. Communication – Timely communicate and report dam safety issues and program status to internal and external stakeholders.
9. Records Keeping – Assure retention of critical and relevant project documents and data.

10. Technical Expertise – Develop in-house expertise through hiring qualified staff and documented training programs. Partner with external experts.
11. Continuous Improvement – promote continuous improvement through self-assessment, performance metrics, and external audits.