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***ANNUAL***

***TACOMA POWER***

**2017**

**FINANCIAL  
REPORT**





# Public Utility Board

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DEPARTMENT OF PUBLIC UTILITIES

CITY OF TACOMA



CITY OF TACOMA, WASHINGTON  
DEPARTMENT OF PUBLIC UTILITIES

## TACOMA POWER

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# FINANCIAL DATA

## **Report of Independent Auditors**

The Chair and Members of the Public Utility Board  
City of Tacoma, Department of Public Utilities, Power Division  
Tacoma, Washington

### **Report on the Financial Statements**

We have audited the accompanying financial statements of City of Tacoma, Department of Public Utilities, Power Division (the Division), which comprise the statements of net position as of December 31, 2017 and 2016, and the related statements of revenue, expenses, and changes in net position, and cash flows for the years then ended, and the related notes to the financial statements.

### ***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, and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit 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 financial position of City of Tacoma, Department of Public Utilities, Power Division as of December 31, 2017 and 2016, and the results of its operations and cash flows 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 accompanying management's discussion and analysis, schedule of proportionate share of net pension liability, and schedule of employer contributions, as listed in the table of contents, be presented to supplement the financial statements. Such information, although not a part of the financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the 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 financial statements, and other knowledge we obtained during our audit of the 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 an opinion on the financial statements taken as a whole. The statistical data on pages 46 through 62 and the superintendent's report on pages 63 through 81 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.

### ***Other Reporting Required by Government Auditing Standards***

In accordance with *Government Auditing Standards*, we have also issued our report dated April 18, 2018, on our consideration of the City of Tacoma, Department of Public Utilities, Power Division's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Division's internal control over financial reporting and compliance.



Tacoma, Washington  
April 18, 2018

## MANAGEMENT'S DISCUSSION AND ANALYSIS

The following discussion and analysis of Tacoma Power's (Utility) financial performance provides an overview of the financial activities for the years ended December 31, 2017, 2016 and 2015. This discussion and analysis is designed to assist the reader in focusing on the significant financial issues, provide an overview of the Utility's financial activities, and identify changes in the Utility's financial position. We encourage readers to consider the information presented here in conjunction with the financial statements and notes taken as a whole.

The management of the Finance Department of the City of Tacoma is responsible for preparing the accompanying financial statements and for their integrity. The statements were prepared in accordance with generally accepted accounting principles (GAAP) in the United States of America applied on a consistent basis and include amounts that are based on management's best estimates and judgment.

The basic financial statements, presented on a comparative basis for the years ended December 31, 2017 and 2016, include the Statements of Net Position, Statements of Revenues, Expenses and Changes in Net Position and Statements of Cash Flows. The Statements of Net Position present information on all of the Utility's assets, deferred outflows of resources, liabilities, and deferred inflows of resources, with the difference being reported as net position. The Statements of Revenues, Expenses and Changes in Net Position report all of the revenues and expenses during the time periods indicated. The Statements of Cash Flows provide information on cash receipts and disbursements during the year and report changes in cash resulting from operating, non-capital financing, capital and related financing, and investing activities.

The Notes to Financial Statements provide additional disclosures that are essential to a full understanding of the data provided in the financial statements. They are an integral part of the Utility's presentation of financial position, results of operations and changes in cash flows.

### Financial Highlights

- Tacoma Power reported an increase in total net position of \$8.2 million (307.6%) in 2017, compared to a decrease of \$3.9 million (150.6%) in 2016.
- Operating revenues increased \$27.7 million (6.6%) in 2017. Operating revenues in 2016 increased \$8.0 million (1.9%).
- Utility Plant in Service increased \$51.6 million (2.6%) in 2017 and \$143.1 million (7.7%) in 2016.
- Construction work in progress increased \$5.7 million (21.8%) in 2017 and decreased \$61.5 million (70.0%) in 2016.

## Overview of Financial Statements

Tacoma Power reported net operating income of \$43.1, \$30.4 and \$34.1 million in 2017, 2016 and 2015 respectively. Operating revenues increased \$27.7 million during 2017 and operating expenses increased \$15.0 million. For 2016, operating revenues increased \$8.0 million and operating expenses increased \$11.6 million compared to 2015. Tacoma Power reported an increase in net position of \$8.2 million in 2017 compared to a decrease of \$3.9 million in 2016 and a decrease of \$1.6 million in 2015.

The following tables highlight Tacoma Power's past three years' operating results and megawatt-hours billed.

### OPERATING RESULTS

(in thousands)

<u>Category</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>17/16 Increase (Decrease)</u>	<u>16/15 Increase (Decrease)</u>
Operating Revenues	\$ 446,343	\$ 418,614	\$ 410,626	\$ 27,729	\$ 7,988
Operating Expenses	403,210	388,220	376,576	14,990	11,644
Net Operating Income	43,133	30,394	34,050	12,739	(3,656)
Net Non-Operating Expenses	(13,460)	(12,716)	(20,036)	(744)	7,320
Capital Contributions	8,956	5,162	5,708	3,794	(546)
BABs and CREBs subsidies	3,688	3,684	3,676	4	8
Transfers Out	(34,142)	(30,462)	(24,969)	(3,680)	(5,493)
Change in Net Position (Net Income)	\$ 8,175	\$ (3,938)	\$ (1,571)	\$ 12,113	\$ (2,367)

### MEGAWATT-HOURS BILLED

(in thousands)

<u>Type of Customer</u>	<u>2017</u>	<u>2016*</u>	<u>2015</u>	<u>17/16 Increase (Decrease)</u>	<u>16/15 Increase (Decrease)</u>
Residential	1,975	1,856	1,801	119	55
Commercial/General/Industrial	2,777	2,772	2,791	5	(19)
Wholesale	2,836	2,731	1,918	105	813
Total	7,588	7,359	6,510	229	849

\*The 2016 type of customer has been updated to reflect the information in the Gross Generation report.

## Net Position

Net position may serve over time as a useful indicator of an entity's financial position. The following analysis highlights net position for the last three years.

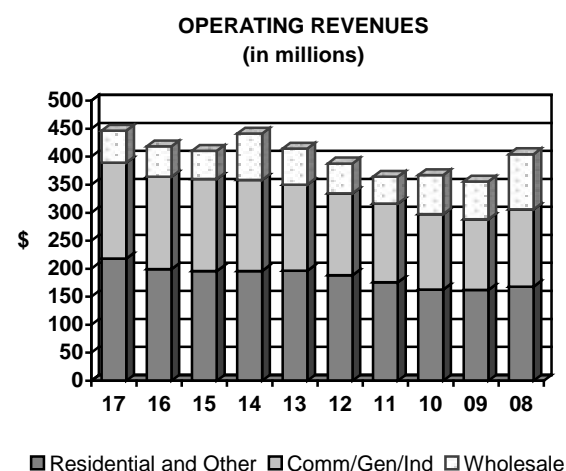
### Statements of Net Position (in thousands)

<u>Description</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>17/16 Increase (Decrease)</u>	<u>16/15 Increase (Decrease)</u>
Net Utility and Non-Utility Plant	\$ 1,037,958	\$ 1,033,591	\$ 1,002,993	\$ 4,367	\$ 30,598
Current Assets, Other Assets and Special Funds	357,561	384,884	392,482	(27,323)	(7,598)
<b>Total Assets</b>	<b>1,395,519</b>	<b>1,418,475</b>	<b>1,395,475</b>	<b>(22,956)</b>	<b>23,000</b>
Deferred Outflows	38,427	39,469	10,977	(1,042)	28,492
<b>Total Assets and Deferred Outflows</b>	<b>\$ 1,433,946</b>	<b>\$ 1,457,944</b>	<b>\$ 1,406,452</b>	<b>\$ (23,998)</b>	<b>\$ 51,492</b>
Net Position:					
Net Investment in Capital					
Assets	\$ 613,307	\$ 581,629	\$ 594,626	\$ 31,678	\$ (12,997)
Restricted	14,032	15,225	21,028	(1,193)	(5,803)
Unrestricted	202,832	225,142	210,279	(22,310)	14,863
<b>Total Net Position</b>	<b>830,171</b>	<b>821,996</b>	<b>825,933</b>	<b>8,175</b>	<b>(3,937)</b>
Long-Term Debt	417,800	457,602	441,928	(39,802)	15,674
Other Liabilities	130,070	128,058	86,555	2,012	41,503
<b>Total Liabilities</b>	<b>547,870</b>	<b>585,660</b>	<b>528,483</b>	<b>(37,790)</b>	<b>57,177</b>
Deferred Inflows	55,905	50,288	52,036	5,617	(1,748)
<b>Total Net Position, Liabilities and Deferred Inflows</b>	<b>\$ 1,433,946</b>	<b>\$ 1,457,944</b>	<b>\$ 1,406,452</b>	<b>\$ (23,998)</b>	<b>\$ 51,492</b>

## Revenues

### 2017 Compared to 2016

Operating revenues totaled \$446.3 million in 2017 compared to \$418.6 million in 2016, an increase of \$27.7 million (6.6%). Revenues from residential customers increased \$15.5 million (10.1%). There was a 5.9% rate increase effective April 16, 2017 coupled with an increase in consumption of 121,000 in MWh billed. Revenues from commercial, general, and industrial customers increased \$6.3 million (3.8%) primarily due to the rate increase effective April 16, 2017.



Wholesale revenues increased \$2.6 million (4.7%) as compared to 2016. The majority of the increase was due to higher volume.

In 2017 residential sales accounted for 43.2% of electric revenues, commercial and industrial revenues accounted for 42.6% and wholesale power revenues accounted for 14.2%.

### **2016 Compared to 2015**

Operating revenues totaled \$418.6 million in 2016 compared to \$410.6 million in 2015, an increase of \$8.0 million (1.9%). Revenues from residential customers increased \$4.9 million (3.3%). Wholesale revenues increased \$4.1 million (8.2%) as compared to 2015. The majority of the increase was due to higher volume. Streamflows were up 116% over 2015, and were 113% of average for 2016. Generation was up 27%, while purchases were down, which left more power to sell.

In 2016 residential sales accounted for 41.4% of electric revenues, commercial and industrial revenues accounted for 44.0% and wholesale power revenues accounted for 14.6%.

## **Expenses**

### **2017 Compared to 2016**

Total operating expenses increased \$15.0 million or 3.9% compared to 2016.

Purchased power increased \$9.0 million (7.1%). In 2016 Energy Conservation Agreement (ECA) credits were received in the amount of \$7.1 million. In 2017 only \$1.3 million in credits were received resulting in an increase of purchased power expense of \$5.8 million. The ECA credits are available in 2 year allotments beginning October 1 of odd years. In even years more is received than odd years. Other portfolio purchases also increased \$2.7 million to support the increased load and wholesale sales.

Generation expenses increased \$3.8 million (20.0%). Fish operations costs have had a sizable increase in 2017 as a result of operating two newly constructed fish hatcheries and expanded operations at three fish collection facilities. Also associated with the fish facilities are new studies to determine performance and identify necessary improvements.

Other expenses increased \$1.4 million (7.5%) primarily due an increase of the amortization of deferred conservation costs. These costs are amortized over a 10 year period and year 8 of 10 was added to the 2017 schedule.

Maintenance expenses decreased \$2.3 million (7.0%). Extraordinary maintenance projects were completed in 2016 that did not carry over into 2017 accounted for \$1.5 million of the change. A decrease of \$0.8 million was due to the discontinuation of contributions to the Fleet Internal Service Fund during 2017. An analysis of future purchase needs is currently underway.

Administration and general expenses increased \$2.5 million (6.2%). These were primarily due to an increase in assessments of \$1.2 million, claims of \$0.9 million, and bad debt write-off's of \$0.7 million.

## 2016 Compared to 2015

Total operating expenses increased \$11.6 million or 3.1% compared to 2015.

Pension expense increased \$10.0 million in 2016. This expense was allocated across the Power sections as follows: Admin & General \$2.9 million, Distribution \$2.9 million, Maintenance \$1.4 million, Generation \$1.0 million, Telecommunications \$0.8 million, Other \$0.7 million, and Transmission \$0.4 million.

Purchased power increased \$0.5 million (0.4%). The increase was primarily due to increased contract costs and renewable energy credits purchased offset by increased credits and decreased purchased power.

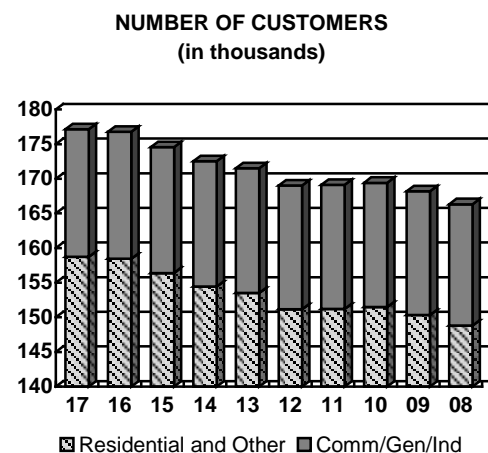
Transmission expenses increased \$6.1 million (28.0%) and distribution expenses increased \$10.3 million (101.5%). In 2015 Tacoma Power conducted a review of expenses and determined that a large amount of costs that were assigned to administration and general expense should be reclassified to non-administrative groups. The increases in transmission and distribution expenses are primarily due to reclassifying these expenses effective January 1, 2016.

Generation expenses increased \$5.1 million (35.7%), maintenance expenses increased \$4.6 million (16.7%) and other production expenses increased \$3.7 million (24.3%) primarily due to the reclassification of expenses previously mentioned.

Administration and general expenses decreased \$17.5 million (29.9%) primarily due to the reclassification of expenses previously mentioned.

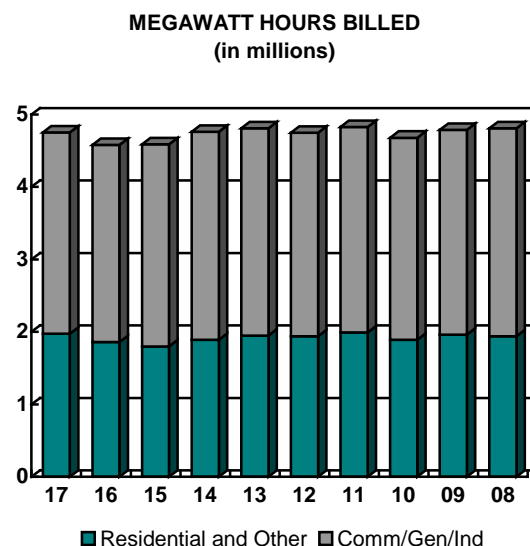
## Customer Counts

Tacoma Power's overall customer growth during the past 10 years has been relatively steady averaging between less than 1% and 3% per year. The customer count for 2017 is 177,153 compared to 176,784 in 2016 and 174,562 in 2015.



## Megawatt-hours Billed

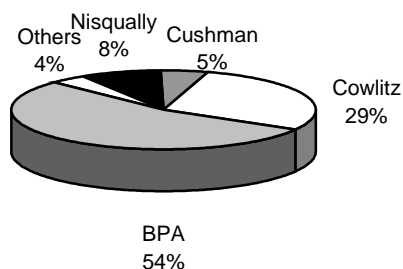
Megawatt-hours billed to residential and other customers increased 6.4% in 2017, while commercial / general / industrial billings increased 1.9%. Wholesale power billed in 2017 was 2,835,719 megawatt-hours compared to 2,731,076 in 2016, an increase of 104,643 megawatt-hours or 3.8%. During 2017 hydro generation decreased 6,711 megawatt-hours compared to the previous year. Streamflows into Tacoma Power's system were 115% of average in 2017 compared to 113% of average in 2016.



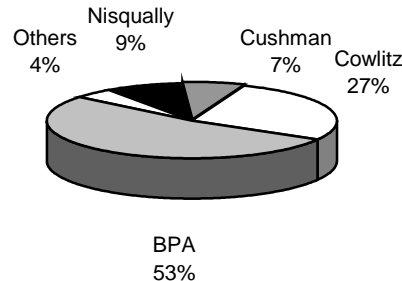
## Sources of Power

Tacoma Power's total resources for power supply to serve its retail and wholesale customers for the last two years are shown in the following graphs.

**Megawatt Hours Generated/  
Purchased - 2017**

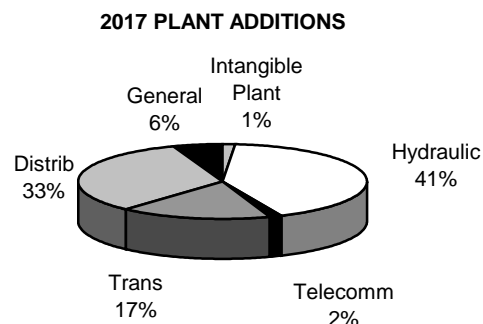
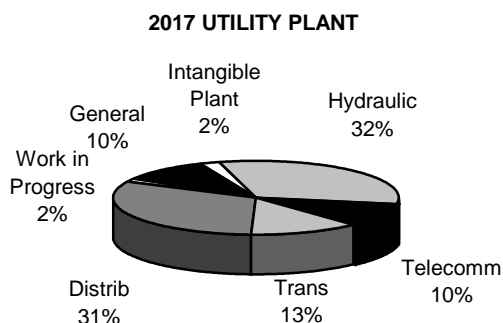


**Megawatt Hours Generated/  
Purchased - 2016**



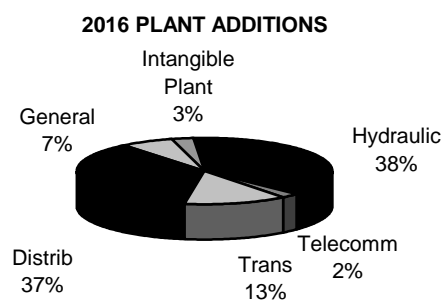
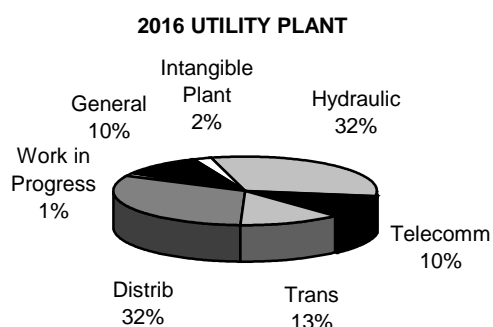
## Utility Plant and Plant Additions

Tacoma Power has \$2.1 billion invested in its utility plant assets on a cost basis. The largest portion is for the generation (hydroelectric) business unit followed by the combined distribution and transmission business unit. The following graphs show the allocation of plant additions and total investment in plant.



Additions to Hydraulic plant in 2017 were \$22.8 million, which included the Cowlitz license implementation and the hydro governor and exciter replacement program. Distribution plant additions were \$17.9 million, which included addition and replacement programs for new services, pole and cable, road related additions and replacements, distribution transformers and meters and devices. Transmission plant additions were \$9.2 million, which included Potlatch system ring bus, substation additions and replacements, Henderson Bay tower replacement, Pearl Cushman upgrade and protection and controls additions and replacements. General plant additions were \$3.1 million, which included the auditorium upgrade, communication tower upgrades, and the wellness center.

Interest during construction for prior years was applied to Hydraulic plant for \$9.1 million and Transmission plant for \$1.1 million.



Additions to Hydraulic plant in 2016 were \$89.2 million, which included the Cowlitz Falls downstream fish passage and the Cushman license implementation. Distribution plant additions were \$27.2 million, which included addition and replacement programs for new services, pole replacements, and road related additions and replacements.



Transmission plant additions were \$16.5 million, which included system reliability improvements and substation additions and replacements.

The following table summarizes Tacoma Power's capital assets, net of accumulated depreciation, for the years ended December 31, 2017 through 2015.

**Capital Assets, Net of Accumulated Depreciation**  
(in thousands)

<b><u>Net Utility Plant</u></b>	<b><u>2017</u></b>	<b><u>2016</u></b>	<b><u>2015</u></b>	<b><u>17/16 Increase (Decrease)</u></b>	<b><u>16/15 Increase (Decrease)</u></b>
Intangible Plant	\$ 31,448	\$ 32,030	\$ 29,404	\$ (582)	\$ 2,626
Hydraulic Plant	454,498	441,163	359,992	13,335	81,171
Transmission Facilities	125,610	125,357	118,765	253	6,592
Distribution Facilities	286,735	290,766	284,826	(4,031)	5,940
General Plant	73,509	77,081	78,190	(3,572)	(1,109)
Telecommunications Plant	33,819	40,600	43,682	(6,781)	(3,082)
Construction Work in Progress	32,157	26,412	87,952	5,745	(61,540)
Total Net Utility Plant	<u>\$ 1,037,776</u>	<u>\$ 1,033,409</u>	<u>\$ 1,002,811</u>	<u>\$ 4,367</u>	<u>\$ 30,598</u>

Additional information on Tacoma Power's capital assets can be found in Note 4 of the financial statements and also in the supplementary Statistical Data.

**Debt Administration**

At December 31, 2017 Tacoma Power had outstanding revenue bonds of \$404.6 million, an increase of \$33.5 million compared to 2016. Tacoma Power issued \$70.6 million of Electric System Revenue Bonds, Series 2017 in September 2017. The proceeds of the issuance and operating funds were used to pay down \$80 million of the Wells Fargo line of credit. In October 2017 Tacoma Power defeased \$24.3 million of 2013 Series A Electric System Revenue and Refunding Bonds.

No draws were taken in 2017 on the line of credit agreement with Wells Fargo. No draws have been taken on the 3-year line of credit agreement with Key Bank.

At December 31, 2016 Tacoma Power had outstanding revenue bonds of \$371.1 million, a decrease of \$14.7 million compared to 2015. No new revenue bonds were issued in 2016. On March 10, 2016 and August 16, 2016 Tacoma Power took draws of \$15 million respectively on the line of credit agreement with Wells Fargo bringing the total drawn to \$80.3 million. No draws have been taken on the 3-year line of credit agreement with Key Bank.

Also, on May 1, 2015 Tacoma Power entered into a 3-year line of credit agreement with Key Bank in the amount of \$50 million, of which no draws were taken.

All bonds are rated AA by Standard and Poor's and AA- by Fitch, Inc. Bonds prior to 2017 are rated Aa3 by Moody's Investors Service.

Additional information on Tacoma Power's long-term debt can be found in Note 5 of the financial statements.

### **Debt Service Coverage**

Tacoma Power is required by its bond covenants to maintain a debt service coverage ratio of 1.25. In 2017, principal and interest were covered 3.43 times compared to 2.94 times in 2016 and 2.54 times in 2015.

### **Summary**

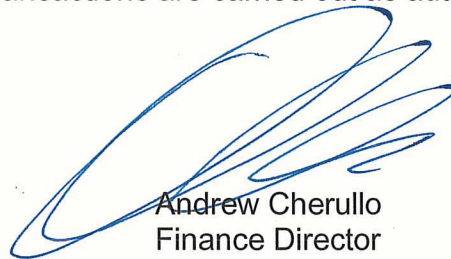
The management of the Finance Department of the City of Tacoma is responsible for preparing the accompanying financial statements and for their integrity. We prepared the financial statements according to GAAP in the United States of America, and they fairly portray Tacoma Power's financial position and operating results. The Notes to Financial Statements are an integral part of the basic financial statements and provide additional financial information.

The financial statements have been independently audited by Moss Adams LLP. We have made available to them all pertinent information necessary to complete the audit.

Management considers and takes appropriate action on audit recommendations. Management has established and maintains a system of controls which includes organizational, administrative and accounting processes. These controls provide reasonable assurance that records and reports are complete and reliable, that assets are used appropriately and that business transactions are carried out as authorized.



Linda McCrea  
Interim Director of Utilities/CEO



Andrew Cherullo  
Finance Director

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CITY OF TACOMA, WASHINGTON  
DEPARTMENT OF PUBLIC UTILITIES  
TACOMA POWER  
STATEMENTS OF NET POSITION

ASSETS AND DEFERRED OUTFLOWS	DECEMBER 31,	
	2017	2016
<b>UTILITY PLANT</b>		
In Service, at Original Cost .....	\$2,055,844,322	\$2,004,204,782
Less - Accumulated Depreciation .....	(1,050,225,152)	(997,207,625)
Total .....	1,005,619,170	1,006,997,157
Construction Work in Progress .....	32,156,858	26,411,907
Net Utility Plant .....	1,037,776,028	1,033,409,064
<b>NON-UTILITY PROPERTY</b> .....	182,051	182,051
<b>SPECIAL FUNDS</b>		
Construction Funds .....	6,849	13,387,867
Debt Service Funds .....	21,208,267	22,180,111
Special Bond Reserve Funds .....	4,967,361	4,981,885
Wynoochee Reserve Funds .....	2,578,307	2,557,943
Total Special Funds .....	28,760,784	43,107,806
<b>CURRENT ASSETS</b>		
Operating Funds Cash and Equity in		
Pooled Investments .....	195,175,918	214,474,287
Accounts Receivable .....	34,993,074	30,021,427
(Net of Allowance for Doubtful Accounts of \$3,093,046 in 2017 and \$2,174,162 in 2016)		
Accrued Unbilled Revenue .....	30,701,425	28,587,295
Materials and Supplies .....	6,987,004	7,468,481
Interfund Receivables .....	1,820,401	2,226,220
Prepayments and Other .....	6,808,178	6,384,609
Total Current Assets .....	276,486,000	289,162,319
<b>OTHER ASSETS</b>		
Regulatory Asset - Conservation .....		
(Net of Amortization of \$32,641,091 in 2017 and \$25,121,809 in 2016)		
	49,689,386	50,071,005
Conservation Loans Receivable .....	2,625,268	2,542,470
Total Other Assets .....	52,314,654	52,613,475
Total Assets .....	1,395,519,517	1,418,474,715
<b>DEFERRED OUTFLOWS OF RESOURCES</b>		
Deferred Outflow for Pensions.....	38,426,742	39,469,454
Total Deferred Outflows .....	38,426,742	39,469,454
<b>TOTAL ASSETS AND DEFERRED OUTFLOWS</b> .....	<u>\$1,433,946,259</u>	<u>\$1,457,944,169</u>

*The accompanying notes are an integral part of these financial statements.*

NET POSITION, LIABILITIES AND DEFERRED INFLOWS	DECEMBER 31,	
	2017	2016
<b>NET POSITION</b>		
Net Investment in Capital Assets .....	\$613,307,151	\$581,629,142
Restricted for:		
Wynoochee Reserve Funds .....	2,578,307	2,557,943
Debt Service Funds .....	11,453,009	12,667,207
Unrestricted .....	202,832,206	225,141,401
Total Net Position .....	<u>830,170,673</u>	<u>821,995,693</u>
<b>LONG-TERM DEBT</b>		
Revenue Bonds .....	417,800,137	377,351,726
Revolving Line of Credit .....	-	80,250,000
Total Long-Term Debt .....	<u>417,800,137</u>	<u>457,601,726</u>
<b>CURRENT LIABILITIES</b>		
Current Portion of Long-Term Debt .....	11,825,000	12,730,000
Taxes and Other Payables .....	28,147,416	27,457,682
Purchased Power Payable .....	13,219,076	12,639,142
Salaries, Wages and Compensated Absences Payable ..	3,036,398	2,912,713
Interest Payable .....	9,755,258	9,512,905
Customers' Deposits .....	2,791,006	2,772,395
Interfund Payables .....	67,461	2,140,909
Total Current Liabilities .....	<u>68,841,615</u>	<u>70,165,746</u>
<b>LONG-TERM LIABILITIES</b>		
Long Term Accrued Compensated Absences .....	9,398,115	9,681,941
Net Pension Liability .....	36,687,245	34,177,293
Other Long Term Liabilities .....	15,143,610	14,033,787
Total Long Term Liabilities .....	<u>61,228,970</u>	<u>57,893,021</u>
Total Liabilities .....	<u>547,870,722</u>	<u>585,660,493</u>
<b>DEFERRED INFLOWS OF RESOURCES</b>		
Deferred Inflow for Pensions .....	7,904,864	2,287,983
Rate Stabilization .....	48,000,000	48,000,000
Total Deferred Inflows .....	<u>55,904,864</u>	<u>50,287,983</u>
<b>TOTAL NET POSITION, LIABILITIES AND DEFERRED INFLOWS</b>	<u><u>\$1,433,946,259</u></u>	<u><u>\$1,457,944,169</u></u>

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CITY OF TACOMA, WASHINGTON  
DEPARTMENT OF PUBLIC UTILITIES  
TACOMA POWER

STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION

	YEAR ENDED DECEMBER 31,	
	2017	2016
<b>OPERATING REVENUES</b>		
Sales of Electric Energy .....	\$401,631,506	\$374,249,290
Other Operating Revenue .....	18,192,038	17,690,192
Click! Network Operating Revenue .....	26,519,861	26,674,906
Total Operating Revenue .....	446,343,405	418,614,388
<b>OPERATING EXPENSES</b>		
Operations		
Purchased and Interchanged Power .....	135,822,340	126,835,928
Generation .....	23,118,677	19,270,201
Transmission .....	27,562,757	28,075,318
Distribution .....	19,675,524	20,477,257
Other .....	20,077,132	18,677,827
Maintenance .....	30,074,370	32,342,896
Telecommunications Expense .....	25,309,470	26,059,166
Administrative and General .....	43,582,748	41,051,795
Depreciation .....	57,231,313	55,702,297
Taxes .....	20,755,847	19,727,313
Total Operating Expenses .....	403,210,178	388,219,998
Net Operating Income .....	43,133,227	30,394,390
<b>NON-OPERATING REVENUES (EXPENSES)</b>		
Interest Income .....	2,251,477	2,405,144
Contribution to Family Need .....	(100,000)	(480,000)
Other .....	(1,534,389)	1,555,659
Interest on Long-Term Debt (Net of AFUDC) .....	(18,209,650)	(15,893,207)
Gain/(Loss) on Defeasance or Refunding of Debt and Amortization of Debt Premium .....	4,132,856	(303,527)
Total Non-Operating Expenses .....	(13,459,706)	(12,715,931)
Net Income Before Capital Contributions and Transfers .....	29,673,521	17,678,459
Capital Contributions		
Cash .....	8,806,311	4,741,136
Donated Fixed Assets .....	149,323	421,334
BABs and CREBs Interest Subsidies .....	3,687,700	3,683,746
Transfers		
City of Tacoma Gross Earnings Tax .....	(34,141,875)	(30,460,098)
Transfers to/(from) Other Funds .....	-	(2,181)
<b>CHANGE IN NET POSITION</b> .....	8,174,980	(3,937,604)
<b>TOTAL NET POSITION - BEGINNING OF YEAR</b> .....	821,995,693	825,933,297
<b>TOTAL NET POSITION - END OF YEAR</b> .....	\$830,170,673	\$821,995,693

*The accompanying notes are an integral part of these financial statements.*

CITY OF TACOMA, WASHINGTON  
DEPARTMENT OF PUBLIC UTILITIES  
TACOMA POWER

STATEMENTS OF CASH FLOWS

	YEAR TO DATE	
	December 31, 2017	December 31, 2016
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>		
Cash from Customers .....	\$ 439,257,628	\$ 420,101,423
Cash Paid to Suppliers .....	(203,113,067)	(193,431,153)
Cash Paid to Employees .....	(113,801,766)	(111,575,956)
Taxes Paid .....	(19,994,454)	(19,155,309)
Conservation Loans .....	(82,798)	(1,119,433)
Net Cash from Operating Activities .....	102,265,543	94,819,572
<b>CASH FLOWS FROM NON-CAPITAL FINANCING ACTIVITIES</b>		
Transfer Out for Gross Earnings Tax .....	(34,141,875)	(30,460,098)
Transfer to/from Other Funds .....	-	(2,181)
Transfer to Family Need Fund .....	(100,000)	(480,000)
Net Cash from Non-Capital Financing Activities..	(34,241,875)	(30,942,279)
<b>CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES</b>		
Capital Expenditures .....	(60,000,285)	(82,126,418)
Proceeds from Issuance of Long-Term Debt .....	70,575,000	30,000,000
Debt Issuance Costs .....	(250,578)	-
Principal Payments on Long-Term Debt .....	(92,730,000)	(14,735,000)
Payments for Early Extinguishment of Debt .....	(24,300,000)	-
Premium on Sale of Bonds .....	9,881,268	-
Interest Paid .....	(19,415,965)	(20,013,668)
BABs and CREBs Interest Subsidies .....	3,687,700	3,683,746
Contributions in Aid of Construction .....	8,806,311	4,741,136
Other Long-Term Liabilities .....	1,109,823	908,523
Net Cash from Capital and Related Financing Activities .....	(102,636,726)	(77,541,681)
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>		
Interest Received .....	2,251,477	2,405,144
Other Non-Op Revenues and Deductions .....	(1,283,810)	1,555,659
Net Cash from Investing Activities .....	967,667	3,960,803
Net Change in Cash and Equity in Pooled Investments .....	(33,645,391)	(9,703,585)
Cash and Equity in Pooled Investments at January 1..	257,582,093	267,285,678
Cash and Equity in Pooled Investments at December 31	\$223,936,702	\$257,582,093

*The accompanying notes are an integral part of these financial statements.*



CITY OF TACOMA, WASHINGTON  
DEPARTMENT OF PUBLIC UTILITIES  
TACOMA POWER

STATEMENTS OF CASH FLOWS

	December 31, 2017	December 31, 2016
<b>Reconciliation of Net Operating Income to Net Cash Provided by Operating Activities:</b>		
Net Operating Income .....	\$43,133,227	\$30,394,390
Adjustments to reconcile net operating income to net cash provided by operating activities:		
Depreciation .....	57,231,313	55,702,297
Amortization of Regulatory Assets .....	7,519,282	6,492,341
Pension Expenses .....	9,169,545	5,860,495
Cash provided from changes in operating assets and liabilities:		
Accounts Receivable and Accrued Unbilled Revenue..	(7,085,780)	1,487,036
Conservation Loans Receivable .....	(82,798)	(1,119,433)
Interfund Receivables .....	405,819	(741,907)
Materials and Supplies, and Other .....	57,908	(1,777,443)
Taxes and Other Payables .....	689,734	7,100,914
Purchased Power Payable .....	579,934	625,664
Salaries, Wages and Compensated Absences Payable..	123,685	425,294
Long Term Accrued Compensated Absences .....	(283,826)	159,291
Customers' Deposits .....	18,611	(336,413)
Regulatory Asset - Conservation .....	(7,137,663)	(10,269,422)
Interfund Payables .....	(2,073,448)	816,468
Total Adjustments .....	59,132,316	64,425,182
Net Cash from Operating Activities .....	<u>\$102,265,543</u>	<u>\$94,819,572</u>
 Reconciliation of Cash and Equity in Pooled Investments to Balance Sheet:		
Cash and Equity in Pooled Investments in Special Funds .....	\$28,760,784	\$43,107,806
Cash and Equity in Pooled Investments in Operating Funds .....	195,175,918	214,474,287
Cash and Equity in Pooled Investments at December 31 .....	<u>\$223,936,702</u>	<u>\$257,582,093</u>

**CITY OF TACOMA, WASHINGTON  
DEPARTMENT OF PUBLIC UTILITIES  
TACOMA POWER**

**NOTES TO FINANCIAL STATEMENTS  
YEARS ENDED DECEMBER 31, 2017 AND 2016**

**NOTE 1 OPERATIONS**

**OPERATIONS OF TACOMA POWER** - The Light Division, doing business as Tacoma Power (Tacoma Power or the Division), is a division of the City of Tacoma, Washington (the City), Department of Public Utilities (the Department) and is included as an enterprise fund in the Comprehensive Annual Financial Report (CAFR) of the City. The Department consists of Tacoma Power, Tacoma Water and Tacoma Rail and is governed by a five-member Public Utility Board (the Board) appointed by the City Council. Certain matters relating to utility operations, such as system expansion, issuance of bonds and setting of utility rates and charges, are initiated and executed by the Board, but also require formal City Council approval. Tacoma Power owns and operates the City's electrical generation and distribution facilities and telecommunication infrastructure. Tacoma Power serves approximately of 177,153 retail customers and has 1,069 employees. Tacoma Power is organized into six business units: Generation, Power Management, Transmission and Distribution, Rates, Planning and Analysis, Click! Network, and Utility Technology Services.

**GENERATION** operates four hydroelectric generating projects (Cowlitz, Cushman, Nisqually and Wynoochee) and the associated recreational facilities, fish hatcheries and other project lands.

**POWER MANAGEMENT** manages the power supply portfolio, markets bulk and ancillary power supply services, schedules and dispatches division-owned generation and contract power supplies and performs power trading and risk management activities. Revenues and the cost of electric power purchases vary from year to year depending on the electric wholesale power market, which is affected by several factors including the availability of water for hydroelectric generation, marginal fuel prices and the demand for power in other areas of the country.

**TRANSMISSION AND DISTRIBUTION** plans, constructs, operates and maintains the transmission and distribution systems including substations, the underground network system, supervisory control and data acquisition (SCADA) systems, revenue metering facilities and all overhead transmission and distribution systems. Electricity use by retail customers varies from year to year primarily because of weather conditions, customer growth, the economy in Tacoma Power's service area, conservation efforts, appliance efficiency and other technology.

**RATES, PLANNING AND ANALYSIS** plans for and manages the retail rate process, financial planning, analysis and modeling, budget strategies, the capital program and risk management.

**CLICK! NETWORK** plans, constructs, operates and maintains a hybrid fiber coaxial (HFC) telecommunications network that supports the operation of Tacoma Power's electrical transmission and distribution system, provides retail cable TV and wholesale high-speed Internet services to residential and business customers, and data transport services to retail customers.

**UTILITY TECHNOLOGY SERVICES (UTS)** maintains communication networks, operational and informational technology systems, and related equipment and infrastructure to optimize utility operations and improve reliability and service quality. This includes a Project Management Office that establishes and leads Tacoma Public Utilities Information Systems project governance process and implements project portfolio management tools. UTS is responsible for all matters related to Tacoma Power's compliance with North American Electric Reliability Corporation (NERC) Reliability Standards, maintains overall responsibility for the NERC Reliability Standards and manages Tacoma Power's Internal Reliability and Compliance Project.

**NOTE 2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

**BASIS OF ACCOUNTING AND PRESENTATION** - The financial statements of the Division are prepared under the accrual basis of accounting in accordance with generally accepted accounting principles (GAAP) issued by the Governmental Accounting Standards Board (GASB) applicable to governmental entities that use proprietary fund accounting. 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 costs and expenses are recognized when incurred.

The Division follows the provisions set forth in regulatory accounting guidance. In general, regulatory accounting permits an entity with cost-based rates to defer certain costs or income that would otherwise be recognized when incurred to the extent that the rate-regulated entity is recovering or expects to recover such amounts in rates charged to its customers.

The Division accounts are maintained substantially in accordance with the uniform system of accounts prescribed by the Federal Energy Regulatory Commission and the Division of Audits of the State Auditor's Office.

**CASH, SPECIAL FUNDS AND EQUITY IN POOLED INVESTMENTS** - The Division's fund cash balances are a "deposit" with the City Treasurer's Tacoma Investment Pool (TIP) for the purpose of maximizing interest earnings through pooled investment activities. Cash and equity in pooled investments in the TIP are reported at fair value and changes in unrealized gains and losses are recorded in the Statements of Revenues, Expenses and Changes in Net Position. Interest earned on such pooled investments is allocated daily to the participating funds based on each fund's daily equity in the TIP.

The TIP operates like a demand deposit account in that all City departments, including the Division, have fund balances which are their equity in the TIP. Accordingly, balances are considered to be cash equivalents.

The City of Tacoma Investment Policy permits legal investments as authorized by state law including Certificates of Deposit with qualified public depositories (as defined in Chapter 39.58 of the Revised Code of Washington (RCW)), obligations of the U.S. Treasury, Government Sponsored Agencies and Instrumentalities, bonds issued by Washington State and its Local Governments with an A or better rating, general obligation bonds issue by any State or Local Government with an A or better rating, Bankers' Acceptances, Commercial Paper, Repurchase and Reverse Repurchase agreements, and the Washington State Local Government Investment Pool (LGIP). Daily liquidity requirement to meet the City's daily obligations is maintained by investing a portion of the City's Investment Pool in the LGIP and in certificates of deposit with East West Bank and Opus Bank.

The Division's equity in that portion of the City of Tacoma Investment Pool held in qualified public depositories at December 31, 2017 and 2016 is entirely covered by the Federal Deposit Insurance Corporation (FDIC) and the Washington State Public Deposit Protection Commission (WSPDPC).

Interest rate risk is the risk that changes in market interest rates will adversely affect the fair value of an investment. Generally, longer term investments have greater exposure to changes in market interest rates. The City of Tacoma investment policy allows for authorized investments up to 60 months to maturity. One way the City manages its exposure to interest rate risk is by timing cash flows from maturities so that portions of the portfolio are maturing over time to provide cash flow and liquidity needed for operations.

## **TACOMA POWER NOTES TO FINANCIAL STATEMENTS (continued)**

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Credit risk is generally the risk that an issuer of an investment will not fulfill its obligation to the holder of the investment. This is measured by the assignment of a rating by a nationally recognized statistical rating organization. Repurchase agreements and commercial paper are protected by the FDIC insurance up to \$250,000.

All deposits not covered by the FDIC are covered by the WSPDPC. The WSPDPC is a statutory authority established under RCW 39.58. It constitutes a fully insured or fully collateralized pool. The WA State Treasures LGIP is authorized by RCW 43.250. The LGIP is operated like a 2A7 fund and is collateralized by short-term legal investments.

**SPECIAL FUNDS** - In accordance with bond resolutions, agreements and laws, separate restricted funds have been established. These funds consist of cash and investments in pooled investments with restrictions externally imposed and legally enforceable, established by the City Council. Generally, restricted assets include bond construction, reserve and debt service funds and customer deposits.

**RECEIVABLES AND UNBILLED REVENUES** - Accounts receivable consist of amounts owed by private individuals and organizations for goods delivered or services rendered in the regular course of business operations. Receivables are shown net of allowances for doubtful accounts. The Division accrues an estimated amount for services that have been provided but not billed as of December 31<sup>st</sup>.

**ALLOWANCE FOR DOUBTFUL ACCOUNTS** - A reserve has been established for uncollectible accounts receivable based on historical write-off trends and knowledge of specific circumstances that indicate collection of an account may be unlikely. Generally accounts receivable are considered past due after 30 days.

**INTERFUND TRANSACTIONS** - Unsettled transactions between funds at year end are recorded as due to or due from other funds.

**MATERIALS AND SUPPLIES** - Materials and supplies consist primarily of items for maintenance and construction of Division assets and are valued at the lower of average cost or fair market value.

**BOND PREMIUM AND LOSS ON REFUNDING** - Bond premiums are amortized over the life of the bonds using a straight-line basis. Losses on refunding are amortized on a straight-line basis over the applicable bond period.

**REGULATORY ASSET CONSERVATION** - The Division has deferred conservation costs to be charged to future periods matching the time when the revenues and expenses are included in rates. Conservation assets represent installation of savings measures at the properties of its customers. The deferred balance is reduced as costs are recovered and are amortized as other operating expense on the statements of revenues, expenses and changes in net position.

**UTILITY PLANT AND DEPRECIATION** - Utility plant is stated at original cost, which includes both direct costs of construction or acquisition and indirect costs. The cost of maintenance and repairs is charged to expense as incurred, while the cost of replacements and betterments is capitalized. Assets are capitalized when costs exceed \$5,000 and the useful life exceeds one year.

Depreciation is recorded using a straight-line composite method based on FERC recommended economic asset lives from 2 to 62 years for related operating assets placed in service at the beginning of the year. The original cost of property together with removal cost, less salvage, is charged to accumulated depreciation at such time as property is retired and removed from service.

## TACOMA POWER NOTES TO FINANCIAL STATEMENTS (continued)

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The economic lives for plant in service are as follows:

Intangible Plant	2-37 years
Hydraulic Production Plant	62 years
Transmission Plant	29 years
Distribution Plant	27 years
Regional Transmission	5-27 years
General Plant	19 years
Telecommunications Plant	5-19 years

**CONSTRUCTION WORK IN PROGRESS** – Capitalizable costs incurred on projects which are not in service or ready for use are held in construction in progress. When the asset is ready for service, related costs are transferred to capital assets. Upon determining that a project will be abandoned, the related costs are charged to expense.

**ASSET VALUATION** - The Division periodically reviews the carrying amount of its long-lived assets for impairment. An asset is considered impaired when estimated future cash flows are less than the carrying amount of the asset. In the event the carrying amount of such asset is not deemed recoverable, the asset is adjusted to its estimated fair value. Fair value is generally determined based on discounted future cash flows.

**ALLOWANCE FOR FUNDS USED DURING CONSTRUCTION (AFUDC)** - AFUDC represents the cost of borrowed funds used for the construction of utility plant, net of interest earned on unspent construction funds. Capitalized AFUDC is shown as part of the cost of utility plant and as a reduction of interest income and expense.

**INTANGIBLE ASSETS** - In accordance with Generally Accepted Accounting Principles, land use rights such as easements and right-of-ways are recorded as intangible assets.

**CAPITAL CONTRIBUTIONS** - In accordance with Generally Accepted Accounting Principles, capital grants and capital contributions are recorded as capital contributions.

**COMPENSATED ABSENCES** - The City has two different policies for compensated absences. The City's original policy allows employees to accrue vacation based on the number of years worked with a maximum accrual equal to the amount earned in a two-year period. These employees also accrue one day of sick leave per month without any ceiling on the maximum accrued. The City implemented a new policy in 1998 allowing employees to earn PTO (personal time off) without distinction between vacation and sick leave. Employees who worked for the City prior to the change could choose to stay with the original policy or opt to convert to the new policy. The amount of PTO earned is based on years of service. The maximum accrual for PTO is 960 hours, and upon termination, employees are entitled to compensation for unused PTO at 100%. Vacation pay and PTO are recorded as a liability and expense in the year earned.

Employees in the original policy accumulate sick leave at the rate of one day per month with no maximum accumulation specified. Employees receive 25% of the value at retirement or 10% upon termination for any other reason. In the event of death, beneficiaries receive 25% of the value. Sick leave pay is recorded as a liability and an expense in the year earned.

The accrued liability is computed at 100% vacation and PTO while sick leave is accrued at 10%, which is considered the amount vested or 25% if the employee meets retirement criteria. Based on historical information, 10% of compensated absences are considered short term.

## **TACOMA POWER NOTES TO FINANCIAL STATEMENTS (continued)**

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**RATE STABILIZATION ACCOUNT** - The Division has established a rate stabilization account to reduce significant year-to-year variations in rates. Amounts deposited into the account are excluded from the statement of revenues, expenses and changes in net position in accordance with regulated operations. Revenue will be recognized in subsequent periods when it is withdrawn in accordance with rate decisions.

**OPERATING REVENUE** - Service rates are authorized by the Tacoma City Council. Revenues are recognized as earned and include an estimate of revenue earned but not billed to customers as of year-end. Utility revenues are derived primarily from the sale and transmission of electricity. Utility revenue from power sales and power transmission is recognized when power is delivered to and received by the customer.

**NON-OPERATING REVENUES AND EXPENSES** – These are items that do not qualify as operating defined above.

**TAXES** – The City charges the Division a Gross Earnings Tax at the rate of 7.5% on electrical revenues and broadband revenues and 8.0% on cable television revenues. On Tacoma cable television revenues only, the City also charges the Division a franchise fee of 5.0% and a Public, Educational and Government access television (P.E.G.) fee of 1.0%. In addition, the Division pays a 3.8734% public utility tax to the State on a certain portion of revenues identified as utility revenues. The Division also pays business and occupation tax to the State at the rate of 1.5% on certain other non-utility revenues including cable television revenues, as well as 0.484% for Wholesaling and Broadcasting and 0.471% for Retailing. The Division is exempt from payment of federal income tax.

**NET POSITION** – The Statement of Net Position reports all financial and capital resources. The difference between assets and deferred outflows and liabilities and deferred inflows is net position. There are three components of net position: net investment in capital assets, restricted and unrestricted.

Net investment in capital assets consists of capital assets, less accumulated depreciation, reduced by the outstanding balances of any bonds, loans or other borrowings, less outstanding construction funds, that are attributable to the acquisition, construction, or improvements of those assets.

Net position components are restricted when constraints placed on net position use are either (1) externally imposed by creditors (such as through debt covenants), grantors, contributors, or laws or regulations of other governments or (2) imposed by law through constitutional provisions or enabling legislation.

Unrestricted net position components are those that are not “net investment in capital assets” or “restricted”.

**ARBITRAGE REBATE REQUIREMENT** – The Division is subject to the Internal Revenue Code (“IRC”), Section 148(f), related to its tax-exempt revenue bonds. The IRC requires that earnings on gross proceeds of any revenue bonds that are in excess of the amount prescribed will be surrendered to the Internal Revenue Service. As such, the Division would record such a rebate as a liability. The Division had no liability in the current or prior year.

**SHARED SERVICES** – The Division receives certain services from other departments and agencies of the City, including those normally considered to be general and administrative. The Division is charged for services received from other City departments and agencies.

**USE OF ESTIMATES** - The preparation of the financial statements in conformity with GAAP in the United States of America requires management to make estimates and assumptions that affect amounts reported in the financial statements and accompanying notes. The Division used estimates in determining reported unbilled revenues, allowance for doubtful accounts, accrued compensated absences, depreciation, Other Post Employment Benefits (OPEB), pension, self-insurance liabilities and other contingencies. Actual results may differ from these estimates.

**FAMILY NEED** - The Family Need program is Tacoma Power's low income bill assistance program. Contributions are received from customers, employees and Tacoma Power. The Family Need program is administered by the Metropolitan Development Council and Pierce County Community Services which identify and certify the eligibility of Tacoma Power customers for the program.

**SIGNIFICANT RISKS AND UNCERTAINTIES** - The Division is subject to certain business risks that could have a material impact on future operations and financial performance.

These risks include, but are not limited to, water conditions, weather and natural disaster-related disruptions, collective bargaining labor disputes, fish and other endangered species act issues, Environmental Protection Agency regulations, federal government regulations or orders concerning the operation, maintenance and/or licensing of facilities.

### NOTE 3 INVESTMENTS MEASURED AT FAIR VALUE

The City measures and records its investments 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, where fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. These guidelines recognize a three-tiered fair value hierarchy, as follows:

- Level 1 - Level 1 inputs are quoted (adjusted) prices in active markets for identical assets or liabilities that the government can access at the measurement date. Observable markets include exchange markets, dealer markets, brokered markets and principal-to-principal markets.
- Level 2 - Level 2 inputs are other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly. These inputs are sourced from pricing vendors using models that are market-based and corroborated by observable market data including: quoted prices; nominal yield spreads; benchmark yield curves; and other corroborated inputs.
- Level 3 - Level 3 inputs are unobservable inputs for the asset or liability and should only be used when relevant Level 1 or Level 2 inputs are unavailable.

The fair value evaluations are provided by Interactive Data. Interactive Data utilizes evaluated pricing models that vary by asset class and incorporate available trade, bid and other market information and for structured securities, cash flow and, when available, loan performance data. Because many fixed income securities do not trade on a daily basis, Interactive Data's evaluated pricing applications apply available information as applicable through processes such as benchmark curves, benchmarking of like securities, sector groupings, and matrix pricing, to prepare evaluations. In addition, Interactive Data uses model processes, such as the Option Adjusted Spread model to assess interest rate impact and development payment scenarios. Their models and processes take into account market convention. For each asset class, a team of evaluators gathers information from market sources and integrates relevant credit information, perceived market movements and sector news into the evaluated pricing applications and models.



## TACOMA POWER NOTES TO FINANCIAL STATEMENTS (continued)

Cash and cash equivalents include highly liquid investments including short-term investment funds. Cash and cash equivalents are valued at cost and, therefore, excluded from the fair value schedule.

Data regarding the City's investments, valued and categorized according to the above outlined levels, is below:

	As of 12/31/2017	Level 1	Level 2	Level 3
Debt Securities				
U.S. Treasury Securities	\$ 218,142,864	\$ -	\$ 218,142,864	\$ -
U.S. Agency Securities	517,345,818	-	517,345,818	-
Supranational Securities	19,966,040	-	19,966,040	-
Municipal Bonds	40,760,727	-	40,760,727	-
Total	<u>\$ 796,215,449</u>	<u>\$ -</u>	<u>\$ 796,215,449</u>	<u>\$ -</u>

	As of 12/31/2016	Level 1	Level 2	Level 3
Debt Securities				
U.S. Treasury Securities	\$ 146,824,628	\$ -	\$ 146,824,628	\$ -
U.S. Agency Securities	544,579,831	-	544,579,831	-
Municipal Bonds	61,450,051	-	61,450,051	-
Total	<u>\$ 752,854,510</u>	<u>\$ -</u>	<u>\$ 752,854,510</u>	<u>\$ -</u>

Tacoma Power's share of the City investments shown in the table above is 24.19% and 33.84% as of December 31, 2017 and 2016.

### NOTE 4 UTILITY PLANT

A summary of the balances and changes in utility plant for 2017 and 2016 follows:

	Balance December 31, 2016	Additions	Retirements	Transfers & Adjustments	Balance December 31, 2017
Intangible Plant	\$ 45,432,098	\$ 690,906	\$ (47,342)	\$ -	\$ 46,075,662
Hydraulic Production				-	
Plant	643,897,651	22,816,989	-	-	666,714,640
Transmission Plant	229,380,382	8,922,577	(224,262)	-	238,078,697
Distribution Plant	642,437,552	17,886,641	(2,608,125)	-	657,716,068
Regional Transmission	24,923,858	283,267	-	-	25,207,125
General Plant	205,551,865	3,085,910	-	-	208,637,775
Telecommunications					
Plant	212,581,376	832,979	-	-	213,414,355
Total Utility Plant in					
Service	2,004,204,782	54,519,269	(2,879,729)	-	2,055,844,322
Less Accumulated					
Depreciation	(997,207,625)	(57,231,313)	2,832,387	1,381,399	(1,050,225,152)
	<u>1,006,997,157</u>	<u>(2,712,044)</u>	<u>(47,342)</u>	<u>1,381,399</u>	<u>1,005,619,170</u>
Construction Work In					
Progress	26,411,907	66,166,265	-	(60,421,314)	32,156,858
Net Utility Plant	<u>\$ 1,033,409,064</u>	<u>\$ 63,454,221</u>	<u>\$ (47,342)</u>	<u>\$ (59,039,915)</u>	<u>\$ 1,037,776,028</u>



## TACOMA POWER NOTES TO FINANCIAL STATEMENTS (continued)

	Balance December 31, 2015	Additions	Retirements	Transfers & Adjustments	Balance December 31, 2016
Intangible Plant	\$ 41,682,352	\$ 3,797,958	\$ (48,212)	\$ -	\$ 45,432,098
Hydraulic Production Plant	554,637,653	89,259,998	-	-	643,897,651
Transmission Plant	219,918,041	9,721,911	(259,570)	-	229,380,382
Distribution Plant	618,397,975	27,229,473	(3,189,896)	-	642,437,552
Regional Transmission	18,147,561	6,776,297	-	-	24,923,858
General Plant	200,160,423	5,391,442	-	-	205,551,865
Telecommunications Plant	208,198,584	4,382,792	-	-	212,581,376
Total Utility Plant in Service	1,861,142,589	146,559,871	(3,497,678)	-	2,004,204,782
Less Accumulated Depreciation	(946,283,353)	(55,702,297)	3,449,466	1,328,559	(997,207,625)
	914,859,236	90,857,574	(48,212)	1,328,559	1,006,997,157
Construction Work In Progress	87,951,638	85,011,567	-	(146,551,298)	26,411,907
Net Utility Plant	<u>\$ 1,002,810,874</u>	<u>\$ 175,869,141</u>	<u>\$ (48,212)</u>	<u>\$ (145,222,739)</u>	<u>\$ 1,033,409,064</u>

Total Utility Plant in Service includes non-depreciable assets of \$76,906,141 for 2017 and \$75,780,466 for 2016.

The total amount of interest cost incurred and capitalized is \$1,448,668 for 2017 and \$3,752,735 for 2016.

## TACOMA POWER NOTES TO FINANCIAL STATEMENTS (continued)

### NOTE 5 LONG-TERM DEBT

Tacoma Power's long-term debt is primarily for capital improvements. Long-term liability activity for the years ended December 31, 2017 and December 31, 2016 was as follows:

	Balance December 31, 2016	Additions	Reductions	Balance December 31, 2017	Due Within One Year
Revenue Bonds	\$ 371,065,000	70,575,000	\$ (37,030,000)	\$ 404,610,000	\$ 11,575,000
Plus: Unamortized					
Premium	19,016,726	9,881,268	(4,132,857)	24,765,137	-
Net Revenue Bonds	390,081,726	80,456,268	(41,162,857)	429,375,137	11,575,000
Line of Credit	80,250,000	-	(80,000,000)	250,000	250,000
Total Long-Term					
Debt	<u>\$ 470,331,726</u>	<u>\$ 80,456,268</u>	<u>\$ (121,162,857)</u>	<u>\$ 429,625,137</u>	<u>\$ 11,825,000</u>

	Balance December 31, 2015	Additions	Reductions	Balance December 31, 2016	Due Within One Year
Revenue Bonds	\$ 385,800,000	\$ -	\$ (14,735,000)	\$ 371,065,000	\$ 12,730,000
Plus: Unamortized					
Premium	20,613,130	-	(1,596,404)	19,016,726	-
Net Revenue Bonds	406,413,130	-	(16,331,404)	390,081,726	12,730,000
Line of Credit	50,250,000	30,000,000	-	80,250,000	-
Total Long-Term					
Debt	<u>\$ 456,663,130</u>	<u>\$ 30,000,000</u>	<u>\$ (16,331,404)</u>	<u>\$ 470,331,726</u>	<u>\$ 12,730,000</u>

## TACOMA POWER NOTES TO FINANCIAL STATEMENTS (continued)

Tacoma Power's long-term debt at December 31 consists of the following payable from revenues of Tacoma Power:

	<u>2017</u>	<u>2016</u>
2010B Revenue Bonds, with interest rates ranging from 5.791% to 5.966%, with a Build America Bond (BAB) rebate at 35% of interest, due in yearly installments of \$27,310,000 to \$31,630,000 from 2031 to 2035. Original Issue: \$147,070,000 Current Portion: \$0	\$ 147,070,000	\$ 147,070,000
2010C Revenue Bonds, with an interest rate of 5.641%, with Clean Renewal Energy Bond rebate at 67% of interest, due in one payment of \$24,185,000 in 2027. Original Issue: \$24,185,000 Current Portion: \$0	24,185,000	24,185,000
2013A Refunding Bonds, with interest rates ranging from 4.0% to 5.0%, due in yearly installments of \$7,470,000 to \$14,310,000 from 2018 to 2042. Original Issue: \$181,610,000 Current Portion: \$11,575,000	127,160,000	164,190,000
2013B Refunding Bonds, with interest rates ranging from 3.05% to 5.0%, due in yearly installments of \$3,795,000 to \$5,155,000 from 2022 to 2030. Original Issue: \$35,620,000 Current Portion: \$0	35,620,000	35,620,000
2017 Revenue Bonds, with interest rates ranging from 4.0% to 5.0%, due in yearly installments of \$2,150,000 to \$5,225,000 from 2022 to 2047. Original Issue: \$70,575,000 Current Portion: \$0	70,575,000	-
	404,610,000	371,065,000
Unamortized premium	24,765,137	19,016,726
Current Portion of Revenue Bond Debt	(11,575,000)	(12,730,000)
Long-term Portion of Revenue Bond Debt	417,800,137	377,351,726
Revolving Line of Credit	-	80,250,000
Total Long Term Debt	<u>\$ 417,800,137</u>	<u>\$ 457,601,726</u>

## TACOMA POWER NOTES TO FINANCIAL STATEMENTS (continued)

In 2015, Tacoma Power entered into a \$100 million line-of-credit agreement with Wells Fargo for working capital. The line matures in May 2018, and each advance will bear interest at the London Interbank Offered Rate (LIBOR) of 1.96044% at December 31, 2017. Each advance is secured by Revenues as set forth in the Note Ordinance. The balance outstanding is \$250,000 as of December 31, 2017.

Scheduled principal maturities on the bonds and interest payments are as follows:

	Principal	Interest
2018	11,575,000	19,826,810
2019	10,095,000	19,915,735
2020	9,365,000	19,454,235
2021	7,470,000	19,035,860
2022	5,945,000	18,702,985
2023-2027	51,000,000	88,475,821
2028-2032	79,030,000	72,816,517
2033-2037	120,460,000	37,650,167
2038-2042	85,475,000	14,242,200
2043-2047	24,195,000	2,495,100
	\$ 404,610,000	\$ 312,615,430

Tacoma Power's revenue bonds are secured by the net revenue of Tacoma Power and all cash and investments held in the bond and construction funds. The bonds are also subject to certain financial and non-financial covenants. The Division was in compliance with all loan covenants at December 31, 2017 and 2016.

In October 2017, Tacoma Power used cash to defease \$24,300,000 of the outstanding 2013 Series A Electric System Revenue and Refunding Bonds to levelize and reduce future debt service payments. This defeasance resulted in a loss of \$1,903,106. The Cash Flow impact of the defeasance was a reduction in principal and interest payments in the amount of \$22,025,000 in 2020 and \$5,130,000 in 2021.

As of December 31, 2017, the following outstanding bonds were considered defeased:

<u>Issue</u>	<u>Amount</u>
1964 Light & Power Bonds	\$ 1,235,000
1965 Light & Power Bonds	3,360,000
1967 Light & Power Bonds - Series A & B	2,825,000
1969 Light & Power Bonds	2,260,000
1979 Light & Power Bonds	5,475,000
2005 Electric System Revenue Bonds - Series A	230,000
2005 Electric System Revenue Bonds - Series B	27,460,000
2007 Electric System Revenue Refunding Bonds	14,540,000
2013 Electric System Revenue Refunding Bonds - Series A	24,300,000
.	\$ 81,685,000

## TACOMA POWER NOTES TO FINANCIAL STATEMENTS (continued)

These refunded bonds constitute a contingent liability of Tacoma Power only to the extent that cash and investments presently in the control of the refunding trustees are not sufficient to meet debt service requirements, and are therefore excluded from the financial statements because the likelihood of additional funding requirements is considered remote.

### NOTE 6 PURCHASED POWER

Tacoma Power purchased electric power and energy from BPA under a long-term contract that expires on September 30, 2028. The contract consists of a base rate per kWh and certain cost-recovery adjustment clauses can be invoked under particular circumstances.

On December 1, 2008, the Board authorized the execution of a twenty-year Slice/Block Power Sales and Creditworthiness Agreement with BPA. The agreement allows Tacoma Power to purchase a Slice/Block power product from BPA which began October 1, 2011 and continues through September 30, 2028. In broad terms, the agreement requires Tacoma Power to purchase a firm amount (Block) and proportionate share (Slice) of power based on a number of criteria and calculations. This is a take or pay arrangement which allows Tacoma Power to remarket excess capacity. The related Creditworthiness Agreement provides for BPA to conduct a credit review of Tacoma Power. To determine if a letter of credit or cash deposit would be required, BPA completed this review and determined that as long as Tacoma Power's credit rating remains above BBB-, no Letter of Credit or cash deposit will be required.

The power received under this contract averaged approximately 459,284 and 433,427 kilowatts per hour for 2017 and 2016, respectively. Charges for the BPA purchased power were approximately \$120 million and \$114 million for 2017 and 2016, respectively, and are based on the total amount of energy delivered and the monthly peak power demand.

Tacoma Power entered into an Energy Conservation Agreement (ECA) with BPA in 2009. Under this agreement, funds are collected in wholesale power rates to support regional energy efficiency programs. As utilities implement conservation programs and activities, BPA reimburses these funds per program specifications. For the years 2017 and 2016, Tacoma Power recovered \$1,263,968 and \$7,076,890 respectively through the ECA which are recorded as reductions of power purchase expense. Receipt of these funds is cyclical, resulting in a greater amount recovered in the first year of the biennium.

Under fixed contracts with other power suppliers, Tacoma Power has agreed to purchase portions of the output of certain generating facilities. Although Tacoma Power has no investment in such facilities, these contracts require Tacoma Power to pay minimum amounts (which are based at least in part on the debt service requirements of the supplier) whether or not the facility is operating. The cost of power obtained under the contracts, including payments made when a facility is not operating, is included in operations expense in the Statements of Revenues, Expenses and Changes in Net Position.

Information for the year ended December 31, 2017 pertaining to these contracts is summarized as follows:

<u>Tacoma Power's Current Share of</u>	<u>Grand Coulee Project Hydro Authority</u>	<u>Grant County PUD - Priest Rapids Project</u>
Energy Output .....	228,781 mWh	27,440 mWh
Megawatt Capacity .....	-	5 mW
Operating Costs .....	\$ 3,622,294	\$481,320
Incentive Payments .....	\$ 2,886,324	-
Contract Expiration Date .....	5/9/2024	4/1/2052

## TACOMA POWER NOTES TO FINANCIAL STATEMENTS (continued)

On April 17, 2008, the FERC issued a new license to the Public Utility District No. 2 of Grant County (Grant PUD) for the continued operation of the Priest Rapids Hydroelectric Project which consists of the Priest Rapids Development and the Wanapum Development. The original license for the Priest Rapids Project was issued on November 4, 1955 and expired on October 31, 2005. Since then, the Project had operated under annual licenses. The renewed license issued by FERC allows Grant PUD a 44-year license for the continued operation of the Project. The term of Tacoma Power's contract with Grant PUD is for the term of the FERC license. Tacoma Power's purchase quantity and costs are tied to the actual costs of the Project.

Total expenses under the above contracts for the years 2017 and 2016 were \$6,830,417 and \$6,412,705, respectively, for Grand Coulee Project Hydro Authority, however, proceeds under the contract exceeded expenses in 2016 and 2015 for Grant County PUD - Priest Rapids resulting in a gain of \$481,320 and \$80,802, respectively.

In addition, Tacoma Power is required to pay its proportionate share of the variable operating expenses of these projects.

**Other Power Transactions** - Other power transactions include purchases under short-term agreements and interchanges of secondary power between utilities in response to seasonal resource and demand variations. Fluctuations in annual precipitation levels and other weather conditions materially affect the energy output from Tacoma Power's hydroelectric facilities. Accordingly, the net interchange of secondary power in and out may vary significantly from year to year. Tacoma Power's trading activities are limited to purchasing power to meet native loads, optimizing the value of Tacoma Power's power supply portfolio and selling energy during times of surplus.

Tacoma Power records applicable energy contracts using accrual accounting and recognizes the revenue or expense at the time of contract performance, settlement or termination. As of December 31, 2017 Tacoma Power had forward sales contracts totaling \$16.6 million dollars extending out to June 2019 with a fair market value of \$14.8 million. These contracts meet the normal purchase normal sales scope exception for derivative reporting under GASB 53.

Tacoma Power's net power purchases or sales and interchanged activities are reflected in the Statements of Revenues, Expenses and Changes in Net Position.

A breakdown of the net interchange in kilowatt-hours is as follows:

<u>Interchange Summary</u>	<u>2017</u> (in kWh)	<u>2016</u> (in kWh)
Secondary Sales	(2,835,719,000)	(2,731,083,000)
Portfolio Purchases	369,775,000	263,105,000
Miscellaneous Exchanges	(1,193,000)	(1,533,000)
Other	(8,093,000)	26,228,000
Net Interchange	<u>(2,475,230,000)</u>	<u>(2,443,283,000)</u>

### NOTE 7 FLEET SERVICES FUND

The Department of Public Utilities has established a Fleet Services Fund to perform scheduled maintenance, repair and replacement of Department vehicles and related equipment.

Tacoma Power pays the Fleet Services Fund for its use of the vehicles and equipment to cover fleet operating expenses. Payments made by Tacoma Power in 2017 and 2016 were \$4,241,637 and \$6,733,591 respectively.

## **TACOMA POWER NOTES TO FINANCIAL STATEMENTS (continued)**

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Fleet Services' management makes an annual assessment of the capital replacement reserve balance for appropriate funding levels. It is the Fund's policy to maintain the Fund's maximum balance at a level that will provide adequate purchasing power for a three-year cycle. The solvency of the Replacement Fund allowed Fleet Services to return a portion of interest earned on fund investments for the year to their customers. In 2017 and 2016, Fleet Services returned 75% of the interest earned to Tacoma Power's replacement fund. The amount of the refund was \$108,119 and \$106,192 for 2017 and 2016, respectively, which was used to offset the corresponding year's fleet expenses.

### **NOTE 8 SELF-INSURANCE FUND**

The Department of Public Utilities maintains a self-insurance program and insurance policies. The Department has established a Self-Insurance Fund to insure Tacoma Power and other divisions within the Department for certain losses arising from personal and property damage claims by third parties. The major risks to Tacoma Power are flooding, wind damage, chemical spills and earthquakes. Mitigating controls and emergency and business resumption plans are in place. To the extent damage or claims exceed insured values, rates may be impacted.

Tacoma Power is required to make payments to the Self-Insurance Fund to cover claims incurred by Tacoma Power and administrative expenses of the Fund. Tacoma Power's premium payments totaled \$700,000 and \$900,000 in 2017 and 2016 respectively. Assets in the Self-Insurance Fund total \$7.0 million which exceeds accrued and incurred but not reported liabilities. Equity in the Self-Insurance Fund is transferred to the appropriate operating divisions in accordance with GASB 10. Management believes Tacoma Power's investment in the Self-Insurance Fund is more than adequate to settle all its known or estimated claims.

The City purchased a \$15 million Fiduciary Liability Policy with a \$100,000 deductible that provides for wrongful acts arising out of the administration of the City's employee benefit programs and a Crime policy with a \$1 million limit and \$75,000 deductible for employee dishonesty and for fraudulent or dishonest act by employees against the City for loss of money, securities and property.

Other insurance policies presently in effect include coverage on the Department's buildings and fleet vehicles as well as general liability and public official's liability. The current property insurance policy has a deductible of \$250,000 for buildings and property within buildings and \$10,000 per vehicle. General government obtains coverage on general government's buildings and property within buildings with a limit of \$500,000 and a retention of \$150,000 with exceptions. For the Department, there is a self-insured retention of \$1.5 million for general liability. The public official liability policy has a \$200,000 deductible. The Department's total liability limit is \$60 million any one occurrence and \$60 million annual aggregate.

The general government general liability and public official liability policies provide \$20 million of excess coverage with a \$3 million retention. The City has a policy to cover extraordinary worker's compensation claims with a statutory limit and a self-insured retention of \$1 million per occurrence and an additional \$250,000 for each 12-month policy period.

### **NOTE 9 TACOMA EMPLOYEES' RETIREMENT SYSTEM FUND (TERS)**

The Tacoma Employees' Retirement System (TERS or System), a pension trust fund of the City of Tacoma, issues a publicly available CAFR that includes financial statements and required supplementary information may be obtained by writing to:

Tacoma Employee's Retirement System  
3628 South 35th Street  
Tacoma, WA 98409

Or the TERS CAFR may be downloaded from the TERS website at [www.cityoftacoma.org/retirement](http://www.cityoftacoma.org/retirement).

## TACOMA POWER NOTES TO FINANCIAL STATEMENTS (continued)

**Administration of The System** - The "Tacoma Employees' Retirement System" is a cost-sharing, multiple-employer, defined benefit retirement plan covering substantially all employees of the City of Tacoma, with the exception of police officers, firefighters, and Tacoma Rail employees who are covered by state and federal retirement plans. Employees of the Tacoma-Pierce County Health Department, as well as, certain employees of the Pierce Transit and South Sound 911 (formerly known as Law Enforcement Support Agency) who established membership in the System when these agencies were still City of Tacoma departments, are also members. The Board of Administration of the Tacoma Employees' Retirement System administers the plan and derives its authority in accordance with Chapter 41.28 RCW and Chapter 1.30 of the Tacoma City Code.

At the direction of the City Council, the System is administered by the Board of Administration (the Board) consisting of nine regular members and one alternate member. The members of the Board are: the Mayor, who serves as Chair; the Director of Finance; the City Manager (or designee); the Public Utilities Director (or designee); three elected employee representatives; one elected retired representative; and one City resident (not employed by the City) elected by the other eight members. The nine Board members appoint a TERS member, either active or retired, as an alternate Board member. The Board is required by the Tacoma Municipal Code to make annual reports to the City Council on the financial condition of the System. The Board, subject to City Council approval, appoints the Director who is responsible for managing the daily operations of the System.

The breakdown of membership as of December 31, 2016 (measurement date) is as follows:

Retirees and beneficiaries currently receiving benefits	2,303	
Terminated vested and other terminated participants	675	
Active members:		
City of Tacoma	2,687	
South Sound 911	2	
Pierce Transit	8	
Tacoma-Pierce County Health Department	267	
Total active members		2,964
Total membership		5,942

**Membership** - Substantially all employees of the City of Tacoma are members of the System, with the exception of police officers, firefighter, and Tacoma Rail employees, who are covered by state or federal retirement plans. Other members include employees of the Tacoma-Pierce County Health Department, and certain employees of the Pierce Transit and the South Sound 911 who established membership in the System when these agencies were still City of Tacoma departments.

**Benefits** - There are two formulas to calculate the retirement benefits. The benefit paid will be issued on the formula which provides the higher benefit. The most commonly applied formula, "service retirement", is a product of the member's average monthly salary for the highest, consecutive 24-month period, the number of years of membership credit, and a percentage factor (2% maximum) that is based on the member's age and years of service. The other formula is an annuity based on member contributions. There are several options available for the retiree to provide for their beneficiaries. The System also provides death, disability and deferred retirement. Additionally, the System provides cost of living adjustment (COLA) increases up to 2.125% as of July 1st of each year; the actual COLA granted is dependent on the Consumer Price Index (Seattle Area – all items) over the preceding calendar year.

Any active member who has not retired, and has five or more years of service as a member may purchase up to five additional years of service at the time of retirement. Total service including service purchased cannot exceed 30 years.



## TACOMA POWER NOTES TO FINANCIAL STATEMENTS (continued)

The System participates in the portability of public retirement benefits in Washington State public retirement. As provided under Chapter 4154 of the RCW, this allows a member to use all years of service with qualified Washington systems to determine retirement eligibility and percentage factor for benefits under the System.

**Contributions** - The participating employers are responsible for funding the System at a level sufficient to pay obligations and ensure the actuarial and financial soundness of the System. Contribution rates for the employer and the employee are recommended by the Board of Administration and final approval rests with the Tacoma City Council.

In fiscal year 2017, the required contribution rate for employees is 9.20% of their regular gross pay; the employer contributes 10.80%, for a combined total of 20.00%. On November 28, 2017 the Tacoma City Council approved the TERS Board's recommendation to increase the contribution rate by 1% (split 0.54% for employers and 0.46% for employees) effective the first pay period in February 2018, which is sufficient to amortize the Unfunded Actuarial Accrued Liability (UAAL) of the System if future experience follows all actuarial assumptions. Changes to the contribution rate are subject to Sections 1.30.340 and 1.30.360 of the Tacoma Municipal Code.

**Significant Assumptions** - The following actuarial methods were used in the funding valuation.

Measurement Date	December 31, 2016
Valuation Date	January 1, 2017
Actuarial Cost Method	Entry Age Normal
Amortization Method	Funding is based on statutory contributions rate.  This amount is compared to a 30-year amortization for the purposes of calculating the Actuarially Determined Contribution. The amortization method for the ADC is as follows: <ul style="list-style-type: none"><li>• Level percent</li><li>• Open periods</li><li>• 30 year amortization period at 01/01/2015</li><li>• 3.75% amortization growth rate</li></ul>
Asset Valuation Method	4 year smoothing period; Corridor - None
Inflation	2.75%
Salary Increases	Varies by service
Investment Rate of Return	7.00%
Cost of Living Adjustment	2.125%
Retirement Age	Varies by age, gender, and eligibility
Turnover	Varies by service, and gender
Mortality	RP-2014 Mortality for Employees, Healthy and Disabled Annuitants. Generational improvements with projection scale based on Social Security Administration Data.

**Benefit and Assumption Changes** - The comparability of the data from year to year can be affected by changes in actuarial assumptions, benefit provisions, accounting policies, and other factors. The following changes in assumptions occurred since the January 1, 2016 Actuarial Valuation:

1. The amortization growth rate decreased from 4% to 3.75%
2. The inflation rate decreased from 3% to 2.75%
3. The investment rate of return decreased from 7.25% to 7%

## TACOMA POWER NOTES TO FINANCIAL STATEMENTS (continued)

**Target Allocations** - The long-term expected rate of return is determined by adding expected inflation to expected long-term real returns and reflecting expected volatility and correlation. The capital market assumptions are per Milliman's (the System's actuary) investment consulting practice as of December 31, 2016. The target asset allocation is based on the Tacoma Employees' Retirement System Investment Policy Statement dated March 2016.

Asset Class	Target Allocation	Long-term Expected Arithmetic Real Rate of Return
Investment Grade Fixed Income	15.0%	1.63%
US Inflation-Indexed Bonds	5.0%	1.21%
High Yield Bonds	9.0%	5.00%
Emerging Market Debt	5.0%	3.74%
Global Equity	41.5%	5.50%
Public Real Estate	2.0%	5.80%
Private Real Estate	2.5%	3.56%
Private Equity	10.0%	9.04%
Master Limited Partnerships	4.0%	4.12%
Timber	2.0%	3.79%
Infrastructure	2.0%	5.03%
Agriculture	2.0%	4.33%
Assumed Inflation - Mean		2.75%
Assumed Inflation - Standard Deviation		1.85%
Portfolio Arithmetic Real Mean Return		4.76%
Portfolio Median Nominal Geometric Return		6.72%
Portfolio Standard Deviation		11.77%
Long-Term Expected Rate of Return, net of investment expenses		7.00%

**Sensitivity Analysis** - The following presents the net pension liability (asset) of the System, calculated using the discount rate of 7%, as well as what the System's net pension liability would be if it were calculated using a discount rate that is 1 percentage point lower (6%) or 1 percentage point higher (8%) than the current rate.

	1% Decrease 6.00%	Current Discount Rate 7.00%	1% Increase 8.00%
Net pension liability (asset)	\$ 117,478,293	\$ 36,687,245	\$ (28,877,776)

As of December 31, 2017, the deferred inflows and outflows of resources are as follows:

	Deferred Inflows of Resources	Deferred Outflows of Resources
Difference Between Expected and Actual Experience	\$ (7,896,446)	\$ -
Changes of assumptions	-	12,184,553
Net Difference Between Projected and Actual Earnings	-	16,695,395
Changes in Employer Proportion	(8,418)	17,895
Contributions Made Subsequent to the Measurement Date		9,528,899
Total	\$ (7,904,864)	\$ 38,426,742

## TACOMA POWER NOTES TO FINANCIAL STATEMENTS (continued)

The net amount of deferred inflows and outflows, other than contributions made subsequent to the measurement date, will be recognized as pension expense in each of the next four years.

Amounts will be recognized in pension expense as follows:

2018	\$	6,536,944
2019		6,536,943
2020		7,538,909
2021		(283,779)
2022		663,962
Thereafter		-
	\$	<u>20,992,979</u>

The proportionate share of the Power Division is 39.50% of total System's pension liability. The proportionate share was based on the actual contributions for the year.

### NOTE 10 OTHER POST EMPLOYMENT BENEFITS (OPEB)

**Plan Description** – The City charges some early retirees not yet eligible for Medicare a health premium based on the claims experience of active employees and retirees rather than based on the claims experience of retirees only. This difference is a benefit to the retirees, since health claims costs generally increase with age. GASB 45 requires that the portion of age-adjusted expected retiree health claims costs that exceed the premium charged to retirees be recognized as a liability for accounting purposes. The actuarial methods and assumptions used include techniques that are designed to reduce short-term volatility in actuarial accrued liabilities and are subject to continual revision as results are compared to past expectation and new estimates are made about the future.

**Funding Policy** – The City uses pay as you go funding; contributions to a separate trust are not required.

**Annual OPEB Cost and Net OPEB Obligation** – The Present Value of Benefits (PVB) is the present value of projected benefits discounted at the valuation interest rate (3.50%).

The Actuarial Accrued Liability (AAL) is the portion of the present value of benefits attributed to past service only. The portion attributed to future employee service is excluded. For inactive employees, the AAL is equal to the present value of benefits. For active employees, the actuarial present value of the projected benefits of each individual is allocated as a level percentage of expected salary for each year of employment between entry age (defined as age at hire) and assumed exit (until maximum retirement age). The portion attributed to service between entry age and the valuation date is the actuarial accrued liability.

The Normal Cost is that portion of the City provided benefit attributable to employee service in the current year.

The Annual Required Contribution (ARC) is the amount the City is required to report as an expense for the year under GASB 45. The ARC is equal to the Normal Cost plus an amount to amortize the UAAL on a closed basis of 30 years, beginning January 1, 2007. The remaining amortization period for 2017 is 20 years.

The ARC represents an accounting expense, but the City is not required to contribute the ARC to a separate trust. If the City does not set aside funds equal to the ARC (less current year benefit payments) each year, then the ARC (less benefit payments) will accumulate as a liability or Net OPEB Obligation on the statements of net position. The City has a Net OPEB Obligation as of December 31, 2017 as the City has not set aside funds for OPEB.

## TACOMA POWER NOTES TO FINANCIAL STATEMENTS (continued)

**Excise Tax for High Cost or “Cadillac” Health Plans in 2020 and Beyond** – An excise tax for high cost health coverage or “Cadillac” health plans was included in the Affordable Care Act (ACA) passed into law in March 2010.

The provision levies a 40% tax on the value of health plan costs that exceed certain thresholds for single coverage or family coverage. The Consolidated Appropriations Act (CAA), which was signed into law in December 2015, delays the tax for two years, until 2020.

GASB Statement No. 45, as well as GASB 74 and 75, indicate that the projection of benefits should include all benefits to be provided to retirees in accordance with the current “substantive” plan. The substantive plan refers to the plan terms as understood by the employer and plan members at the time of the valuation. The City believes that the current provisions of ACA should be reflected in the projection of benefits and therefore, the value of the excise tax is included in the valuation. It is assumed that there will be no changes to the current law and that there will be no changes in plan design to help mitigate the impact of the tax.

There is significant uncertainty with respect to the excise tax at this time. President Trump recently signed an executive order which gives instruction to the leaders of the new administration to unwind certain aspects of the ACA, especially those components deemed “burdensome.” It remains unclear how this would be implemented, especially due to the interconnected nature of the ACA. The City has continued to value the excise tax as it currently appears in the tax code, but will monitor this situation carefully going forward.

**Summary of Changes** – As of the January 1, 2017 valuation the total AAL was \$240,449,771, for the City, 12.5% higher than expected primarily due to changes demographic experience, medical cost expectations and medical trend assumptions, and demographic and economic assumptions.

The following table is a summary of valuation results with a comparison to the results from the last valuation.

	<u>January 1, 2015</u>	<u>January 1, 2017</u>
Active employees	3,404	3,492
Terminated vested employees	442	476
Retired employees & dependents	<u>744</u>	<u>691</u>
Total	<u><u>4,590</u></u>	<u><u>4,659</u></u>
Annual Benefit Payments	\$ 8,963,089	\$ 9,010,942
Discount rate	3.75%	3.50%
Present Value of Benefits (PVB)	\$ 262,184,195	\$ 289,047,229
Actuarial Accrued Liability (AAL)	\$ 208,814,312	\$ 240,449,771
Assets	<u>\$ -</u>	<u>\$ -</u>
Unfunded Actuarial Accrued Liability (UAAL)	<u><u>\$ 208,814,312</u></u>	<u><u>\$ 240,449,771</u></u>
Normal Cost	\$ 3,832,131	\$ 3,261,947
Annual Required Contribution (ARC)	\$ 16,966,964	\$ 19,529,549

## TACOMA POWER NOTES TO FINANCIAL STATEMENTS (continued)

The following table shows the total value of the benefits provided, the member paid premiums and the City paid benefits as of January 1, 2017.

Value of Subsidy at 3.50% Interest Rate	Total Value of Benefits	Member Paid Premiums	City Paid Benefits
Present Value of Benefits (PVB)	\$ 399,300,824	\$ 110,253,595	\$ 289,047,229
Actuarial Accrued Liability (AAL)	\$ 285,825,708	\$ 45,375,937	\$ 240,449,771
Normal Cost	\$ 7,595,595	\$ 4,443,955	\$ 3,151,640
Annual Benefit Payments	\$ 11,674,734	\$ 2,663,793	\$ 9,010,941

The following table shows the calculation of the Annual Required Contribution and Net OPEB Obligation for the City and for Tacoma Power as of December 31, 2017.

	City	Division
Determination of Annual Required Contribution:		
Normal Cost at Year-end	\$ 3,261,947	\$ 657,735
Amortization of UAAL	16,267,602	278,261
Annual Required Contribution (ARC)	<u>\$ 19,529,549</u>	<u>\$ 935,996</u>
Determination of NET OPEB Obligation:		
Annual Required Contribution (ARC)	\$ 19,529,549	\$ 935,996
Interest on prior year Net OPEB Obligation	2,895,939	381,185
Adjustments to ARC	(4,743,612)	(532,159)
Annual OPEB Cost	17,681,876	785,022
Actual benefits paid	(9,010,941)	(393,983)
Increase in Net OPEB Obligation	8,670,935	391,039
Net OPEB Obligation - beginning of year	82,741,128	10,890,990
Net OPEB Obligation - end of year	<u>\$ 91,412,063</u>	<u>\$ 11,282,029</u>

The Division has included the liability in the other long term liabilities on the Statement of Net Position.

### Funded Status and Funding Progress

The following table shows the annual OPEB costs and net OPEB obligation for three years. This table is based upon a 3.50% interest rate.

	Annual OPEB Cost		Benefits Paid		Net OPEB Obligation	
Year Ended	City	Division	City	Division	City	Division
12/31/2015	\$ 15,954,387	\$ 1,194,337	\$ 8,963,089	\$ 324,146	\$ 73,129,502	\$ 10,068,491
12/31/2016	\$ 18,151,028	\$ 1,166,592	\$ 8,539,402	\$ 344,092	\$ 82,741,128	\$ 10,890,990
12/31/2017	\$ 17,681,876	\$ 785,022	\$ 9,010,941	\$ 393,983	\$ 91,412,063	\$ 11,282,029

**Actuarial Methods and Assumptions** - The actuarial cost method used for determining the benefit obligations is the Entry Age Normal Cost Method. Under the principles of this method, the actuarial present value of the projected benefits of each individual included in

## TACOMA POWER NOTES TO FINANCIAL STATEMENTS (continued)

the valuation is allocated as a level percentage of expected salary for each year of employment between entry age (defined as age at hire) and assumed exit (until maximum retirement age).

The portion of the actuarial present value allocated to a valuation year is called the normal cost. The portion of this actuarial present value not provided for at a valuation date by the sum of (a) the actuarial value of the assets, and (b) the actuarial present value of future normal costs is called the UAAL. In determining the ARC, the UAAL is amortized as a level percentage of expected payrolls for non-LEOFF 1 groups. For LEOFF 1, the UAAL is amortized as a level dollar amount. The amortization period was 30 years in 2007 and the remaining is now 20 years.

### Actuarial Methods and Significant Actuarial Assumptions:

Valuation Date: .....	January 1, 2017
Census Date: .....	January 1, 2017
Actuarial Cost Method: .....	Entry Age
Amortization Method: .....	Combination of level percentage and level dollar amount, see note above.
Remaining Amortization Period: .....	20 years, closed
Demographic Assumptions: .....	Demographic assumptions regarding retirement, disability, and turnover are based upon pension valuations for the various pension plans.

### Actuarial Assumptions:

Discount Rate: ..... 3.50% for pay-as-you-go funding

Medical Cost Trend: .....	2017	9.10%
	2018	6.40%
	2019	5.80%
	2020	5.30%
	2030	5.40%
	2040	5.50%
	2050	5.20%

The trend for year 2017 reflects the amount by which 2018 medical costs are expected to exceed 2017 medical costs. The medical cost rate is assumed to continue grading downward until achieving the ultimate rate of 4.40% in 2073 and beyond. These trend rates assume that, over time, deductibles and out-of-pocket maximums will be periodically increased as medical trends increase. The trends above do not reflect increases in costs due to the excise tax.

Economic Assumptions – Discount  
Rate (Liabilities): ..... 3.50%

Demographic Assumptions:..... Eligibility:  
Disability - Five years of service are required for non-service connected disability.

Retirement - TERS members are eligible for retiree medical benefits after becoming eligible for service retirement pension benefits (either reduced or full pension benefits):

- Age 55 with 10 years of service
- Age 40 with 20 years of service

**NOTE 11 COMMITMENTS AND CONTINGENCIES**

**Capital Improvements** - The financial requirement for Tacoma Power's 2017/2018 biennial Capital Improvement Program is approximately \$190.5 million. As of December 31, 2017, the remaining financial requirement for the 2017/2018 biennial Capital budget was approximately \$140.9 million.

**Ted Coates, et al. v. Tacoma** On June 22, 2017, plaintiffs filed their suit in Pierce County Superior Court, alleging Tacoma Power has been unlawfully subsidizing the capital expenses and the operational and maintenance (O&M) expenses of its commercial telecommunications business (Click!). The plaintiffs have requested an immediate cessation of all such subsidies and to refund to the Tacoma Power electric utility customers funds spent subsidizing these operations for the past three years (alleged to be in excess of \$21 million). The law firm of K&L Gates has been retained by the City to defend Tacoma Power, Click! and the City. On March 2, 2018 the Court granted plaintiffs' motion for partial summary judgment ordering that Tacoma Power electric utility revenues and funds may not lawfully be used to pay for Click! Network expenses or capital improvements that are attributable or properly allocable to commercial telecommunications service rather than electric utility service. The City is considering pursuing an interlocutory appeal of the Court's order on partial summary judgment, which, if granted, would stay the underlying proceedings. Trial is scheduled for June 21, 2018. The insurance carrier is currently defending under a reservation of rights letter.

**General Legal Matters** - Tacoma Power has received several other miscellaneous claims that either do not allege significant amounts or that the Legal Department has determined do not pose a risk to liability to the Utility.

# **REQUIRED SUPPLEMENTARY INFORMATION**



Proportionate Share of the Net Pension Liability Last 10 Years\*

	Fiscal Year Ended December 31st,		
	2017	2016	2015
Employer's proportion of the net pension liability (asset) as a percentage	39.50%	39.47%	39.80%
Employer's proportion share of net pension liability (asset)	\$36,687,245	\$34,177,293	(\$3,823,476)
Employer's covered payroll (1)	\$91,704,363	\$93,063,240	\$86,312,354
Employer's proportionate share of net pension liability (asset) as a percentage of its covered employee payroll (1)	40.01%	36.72%	-4.11%
Plan fiduciary net position as a percentage the total pension liability	93.91%	93.94%	100.71%

Schedule of Contributions Last 10 Fiscal Years\*

	Fiscal Year Ended December 31st,		
	2017	2016	2015
Contractually required employer contribution	\$9,528,899	\$9,322,005	\$9,053,341
Contributions in relation to the contractually required employer contribution	(9,528,899)	(9,322,005)	(9,053,341)
Employer contribution deficiency (excess)			
Employer's covered employee payroll	\$95,163,955	\$91,704,363	\$93,063,240
Employer contribution as a percentage of covered-employee payroll	10.01%	10.17%	9.73%

(1) The 2016 covered payroll has been updated to accurately reflect the covered payroll, which therefore also updated the calculation for the Employer's proportionate share of net pension liability (asset) as a percentage of its covered employee payroll.

\* The above schedules are intended to show information for 10 years, the additional years' information will be displayed as it becomes available.

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# **STATISTICAL DATA (Unaudited)**

CITY OF TACOMA, WASHINGTON  
DEPARTMENT OF PUBLIC UTILITIES  
TACOMA POWER

TEN-YEAR FINANCIAL REVIEW

<b>STATEMENTS OF NET POSITION</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>
<b>ASSETS</b>				
Utility Plant - Net .....	\$1,037,776,028	\$1,033,409,064	\$1,002,810,874	\$978,885,275
Special and Other Assets .....	81,257,489	95,903,332	125,203,792	160,778,160
Current Assets .....	276,486,000	289,162,319	267,460,091	365,173,352
Deferred Charges .....	-	-	-	-
Total Assets .....	1,395,519,517	1,418,474,715	1,395,474,757	1,504,836,787
Deferred Outflows .....	38,426,742	39,469,454	10,977,517	8,026,229
<b>TOTAL ASSETS AND DEFERRED OUTFLOWS</b>	<b>1,433,946,259</b>	<b>1,457,944,169</b>	<b>1,406,452,274</b>	<b>1,512,863,016</b>
<b>NET POSITION</b> .....	<b>830,170,673</b>	<b>821,995,693</b>	<b>825,933,297</b>	<b>822,803,061</b>
<b>LIABILITIES</b>				
Long-Term Debt .....	417,800,137	457,601,726	441,928,130	530,580,510
Current Liabilities .....	68,841,615	70,165,746	63,906,544	86,776,174
Long-Term Liabilities .....	61,228,970	57,893,021	22,647,914	24,703,271
Total Liabilities .....	547,870,722	585,660,493	528,482,588	642,059,955
Deferred Inflows .....	55,904,864	50,287,983	52,036,389	48,000,000
<b>TOTAL NET POSITION, LIABILITIES, AND DEFERRED INFLOWS</b>	<b>\$1,433,946,259</b>	<b>\$1,457,944,169</b>	<b>\$1,406,452,274</b>	<b>\$1,512,863,016</b>
<b>STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION</b>				
<b>OPERATING REVENUES</b>				
Residential .....	\$169,583,337	\$154,091,270	\$149,195,092	\$150,972,050
Commercial .....	29,133,553	27,703,400	26,956,059	26,594,512
General .....	119,704,634	115,600,650	116,053,999	114,718,365
Contract Industrial .....	22,278,802	21,462,712	21,356,911	21,150,771
Bulk Power .....	57,062,247	54,506,535	50,380,147	82,796,740
Unbilled .....	2,114,131	(840,477)	677,091	(666,187)
Other .....	1,754,802	1,725,200	1,643,756	1,609,143
Total Electric Revenues .....	401,631,506	374,249,290	366,263,055	397,175,394
Other Operating Revenue .....	44,711,899	44,365,098	44,363,160	44,070,713
Total Operating Revenues ....	446,343,405	418,614,388	410,626,215	441,246,107
<b>OPERATING EXPENSES</b>				
Operation and Maintenance .....	325,223,018	312,790,388	299,200,704	294,741,044
Taxes .....	20,755,847	19,727,313	19,993,833	19,276,216
Depreciation .....	57,231,313	55,702,297	57,381,578	59,156,228
Loss on Asset Impairment .....	-	-	-	-
Total Operating Expenses ....	403,210,178	388,219,998	376,576,115	373,173,488
<b>NET OPERATING INCOME</b> .....	<b>43,133,227</b>	<b>30,394,390</b>	<b>34,050,100</b>	<b>68,072,619</b>
<b>NON-OPERATING REVENUES (EXPENSES)</b>				
Other Income and Expense (Net)	(1,534,389)	1,555,659	(1,923,329)	(728,908)
Interest Earned on Investments	2,251,477	2,405,144	1,796,071	3,780,834
Interest Charges (Net) .....	(14,076,794)	(16,196,734)	(19,428,673)	(27,290,021)
Contributions to Family Need ..	(100,000)	(480,000)	(480,000)	(900,000)
Gain on Sale of Utility Plant .	-	-	-	-
<b>Net Income Before</b>				
Contributions, Transfers & Extraordinary Items .....	29,673,521	17,678,459	14,014,169	42,934,524
Total Capital Contributions .....	12,643,334	8,846,216	9,383,844	7,788,292
Transfers Out .....	(34,141,875)	(30,462,279)	(24,969,422)	(26,998,415)
<b>CHANGE IN NET POSITION</b> .....	<b>\$8,174,980</b>	<b>(\$3,937,604)</b>	<b>(\$1,571,409)</b>	<b>\$23,724,401</b>

In accordance with Governmental Accounting Standards Board Statement No.65 both 2012 and 2011 were restated for comparative purposes. Years prior to 2011 are shown as originally reported.

2013	2012	2011	2010	2009	2008
\$959,885,269	\$954,141,423	\$944,969,878	\$933,796,881	\$900,879,652	\$855,373,200
213,192,582	154,745,677	196,860,001	223,057,734	104,606,844	122,629,299
328,974,357	333,694,736	313,457,995	279,967,672	288,083,393	312,006,708
-	-	-	17,651,421	7,304,736	1,990,596
1,502,052,208	1,442,581,836	1,455,287,874	1,454,473,708	1,300,874,625	1,291,999,803
15,941,231	7,848,910	8,213,239	-	-	-
1,517,993,439	1,450,430,746	1,463,501,113	1,454,473,708	1,300,874,625	1,291,999,803
799,078,660	779,206,485	762,944,507	744,735,781	735,593,799	695,305,259
564,960,765	518,251,959	563,718,608	582,930,840	459,202,498	490,528,958
82,905,132	84,070,814	82,861,816	95,884,868	83,385,715	100,219,839
23,048,882	20,901,488	17,976,182	30,922,219	22,692,613	5,945,747
670,914,779	623,224,261	664,556,606	709,737,927	565,280,826	596,694,544
48,000,000	48,000,000	36,000,000	-	-	-
\$1,517,993,439	\$1,450,430,746	\$1,463,501,113	\$1,454,473,708	\$1,300,874,625	\$1,291,999,803
\$149,662,791	\$141,236,063	\$136,944,688	\$127,908,143	\$125,807,518	\$131,188,854
25,110,481	23,499,735	22,324,063	21,147,156	21,005,151	22,138,244
109,046,936	103,586,233	99,958,156	96,579,940	90,782,730	100,142,959
19,804,613	18,870,807	18,341,067	16,898,845	14,101,372	15,430,080
64,210,259	53,532,081	48,118,090	69,518,730	67,338,457	98,545,139
1,651,808	4,615,802	369,424	(3,564,337)	(411,080)	1,576,914
1,562,082	1,558,268	1,373,168	1,472,125	1,190,013	1,387,629
371,048,970	346,898,989	327,428,656	329,960,602	319,814,161	370,409,819
43,413,115	40,983,752	36,895,939	36,892,658	35,691,490	33,998,632
414,462,085	387,882,741	364,324,595	366,853,260	355,505,651	404,408,451
276,558,723	267,457,626	247,409,057	259,366,287	220,849,709	246,856,188
19,562,858	17,494,729	16,970,015	15,553,041	15,187,859	16,075,356
56,397,306	57,842,109	56,555,538	55,717,463	53,049,558	48,377,708
-	-	-	-	-	-
352,518,887	342,794,464	320,934,610	330,636,791	289,087,126	311,309,252
61,943,198	45,088,277	43,389,985	36,216,469	66,418,525	93,099,199
(252,363)	3,055,848	1,226,132	2,202,089	1,322,007	3,255,797
1,899,829	5,835,775	8,444,683	7,786,710	8,721,608	12,539,619
(25,688,219)	(22,859,967)	(21,917,623)	(22,773,604)	(22,804,261)	(22,420,879)
(900,000)	(450,000)	(450,000)	(900,000)	(1,229,676)	(450,000)
-	-	-	-	-	2,923,465
37,002,445	30,669,933	30,693,177	22,531,664	52,428,203	88,947,201
8,839,960	9,480,111	14,222,934	10,224,518	9,844,736	10,219,425
(25,970,230)	(23,888,066)	(23,913,077)	(23,614,200)	(21,984,399)	(25,679,317)
\$19,872,175	\$16,261,978	\$21,003,034	\$9,141,982	\$40,288,540	\$73,487,309

CITY OF TACOMA, WASHINGTON  
DEPARTMENT OF PUBLIC UTILITIES  
TACOMA POWER

TEN-YEAR POWER SUMMARY

	2017	2016	2015	2014
MWh Available				
Generated				
Nisqually .....	631,627	630,483	511,592	635,121
Cushman .....	377,366	507,618	272,457	358,509
Cowlitz .....	2,138,980	1,989,438	1,630,130	2,111,686
Wynoochee .....	34,103	37,209	12,680	14,272
Hood Street .....	3,282	2,942	1,889	2,281
Grant Net Actual .....	-	-	-	(2,018)
Tacoma's Share of Priest Rapids	27,440	26,975	25,360	22,733
Tacoma's Share of GCPHA .....	228,781	253,625	258,679	272,846
Total Generated .....	3,441,579	3,448,290	2,712,787	3,415,430
Purchased .....	4,023,330	3,807,370	3,674,140	3,845,666
Interchange - Net .....	(2,458,785)	(2,438,369)	(1,569,981)	(2,339,277)
Losses - Net .....	27,919	(8,870)	10,340	14,057
Total System Load .....	5,034,043	4,808,421	4,827,286	4,935,876
MWh Billed				
Residential and Other.....	1,975,096	1,855,706	1,801,114	1,890,970
Commercial/General/Industrial....	2,777,190	2,771,822	2,786,233	2,838,966
Total Firm MWh Billed .....	4,752,286	4,627,528	4,587,347	4,729,936
MWh Available Over MWh Billed				
(Causes: Timing differences, internal use, and losses other than those reflected above.) .....	281,757	180,893	239,939	205,940
Percent of Power Generated .....	68.37%	71.71%	56.20%	69.20%
Average Load Factor .....	57.27%	60.02%	62.71%	55.31%
Average Number of Billings .....	177,153	176,784	174,562	172,531
Maximum Hourly Energy Load				
MWh .....	997	913	877	1,016
Date .....	1/5/17	12/17/16	12/31/15	2/6/14
Time .....	0800 hr	0900 hr	0900 hr	800 hr
Maximum Daily Energy Load				
MWh .....	20,525	19,641	18,675	21,686
Date .....	1/5/17	12/17/16	12/31/15	2/6/14
Minimum Hourly Energy Load				
MWh .....	350	351	354	348
Date .....	7/2/17	7/5/16	6/21/15	7/6/14
Time .....	0600 hr	0400 hr	0600 hr	0600 hr
Minimum Daily Energy Load				
MWh .....	10,315	10,110	10,262	10,221
Date .....	6/4/17	9/4/16	5/24/15	7/5/14
Average Hourly Energy Load .....	571	548	550	562

2013	2012	2011	2010	2009	2008
572,932	699,104	663,345	586,433	553,062	530,839
239,528	261,735	410,723	393,563	246,898	208,604
1,792,975	2,322,875	2,157,106	1,725,424	1,677,554	1,736,328
24,404	38,149	35,692	36,320	25,298	25,368
3,503	4,029	3,313	4,133	3,243	4,217
(3,279)	(3,285)	-	-	-	-
34,846	37,355	34,417	30,705	-	-
254,570	255,564	237,794	240,845	-	-
2,919,479	3,615,526	3,542,390	3,017,423	2,506,055	2,505,356
3,756,763	4,167,263	3,799,037	4,132,049	4,235,019	4,252,681
(1,665,811)	(2,814,479)	(2,266,720)	(1,993,911)	(1,729,701)	(1,677,704)
7,398	20,718	(8,112)	10,599	4,210	10,132
5,017,829	4,989,028	5,066,595	5,166,160	5,015,583	5,090,465
1,950,829	1,935,518	1,997,714	1,925,549	1,994,692	1,979,930
2,855,932	2,812,769	2,838,424	2,794,406	2,829,425	2,866,480
4,806,761	4,748,287	4,836,138	4,719,955	4,824,117	4,846,410
211,068	240,741	230,457	446,205	191,466	244,055
58.18%	72.47%	69.92%	58.41%	49.97%	49.22%
54.18%	61.47%	58.86%	52.82%	51.69%	56.68%
171,506	169,012	169,123	169,413	168,207	166,307
980	924	931	992	1,062	1,018
12/9/13	1/16/12	1/3/11	11/23/10	12/10/09	12/15/08
800 hr	1800 hr	0800 hr	1800 hr	800 hr	1900 hr
21,172	19,100	18,788	20,591	21,103	21,237
12/09/13	1/16/12	1/11/11	11/23/10	12/9/09	12/15/08
349	340	310	303	295	349
9/8/13	9/19/12	7/5/11	9/3/10	7/5/09	7/6/08
0500 hr	0400 hr	0400 hr	0300 hr	0700 hr	0700 hr
10,379	10,160	9,171	9,041	9,036	10,235
7/4/13	9/2/12	7/3/11	9/5/10	8/15/09	8/31/08
572	566	548	524	549	577

CITY OF TACOMA, WASHINGTON  
DEPARTMENT OF PUBLIC UTILITIES  
TACOMA POWER

GROSS GENERATION REPORT - December 31, 2017 AND December 31, 2016

	YEAR ENDED		2017 OVER (UNDER) 2016	PERCENT CHANGE
	Dec 31 2017	Dec 31 2016		
KWH GENERATED, PURCHASED AND INTERCHANGED - Gross				
Generated - LaGrande .....	399,198,000	378,898,000	20,300,000	5.4%
Generated - Alder .....	232,429,000	251,585,000	(19,156,000)	-7.6%
TOTAL NISQUALLY .....	631,627,000	630,483,000	1,144,000	0.2%
Generated - Cushman No. 1 .....	145,908,000	185,318,000	(39,410,000)	-21.3%
Generated - Cushman No. 2 .....	231,458,000	322,300,000	(90,842,000)	-28.2%
TOTAL CUSHMAN .....	377,366,000	507,618,000	(130,252,000)	-25.7%
Generated - Mossyrock .....	1,267,003,000	1,203,631,000	63,372,000	5.3%
Generated - Mayfield .....	871,977,000	785,807,000	86,170,000	11.0%
TOTAL COWLITZ .....	2,138,980,000	1,989,438,000	149,542,000	7.5%
Generated - Wynoochee .....	34,103,000	37,209,000	(3,106,000)	-8.3%
Generated - Hood Street .....	3,282,487	2,942,400	340,087	11.6%
Tacoma's Share of Priest Rapids .....	27,440,000	26,975,000	465,000	1.7%
Tacoma's Share of GCPHA .....	228,781,000	253,625,000	(24,844,000)	-9.8%
TOTAL KWH GENERATED - TACOMA SYSTEM .....	3,441,579,487	3,448,290,400	(6,710,913)	-0.2%
Purchased Power				
BPA Slice Contract .....	2,475,180,000	2,265,823,000	209,357,000	9.2%
BPA Block Contract .....	1,548,150,000	1,541,547,000	6,603,000	0.4%
Interchange Net .....	(2,458,785,000)	(2,438,369,000)	(20,416,000)	0.8%
TOTAL KWH GENERATED, PURCHASED AND INTERCHANGED ..	5,006,124,487	4,817,291,400	188,833,087	3.9%
Losses .....	37,621,097	41,976,966	(4,355,869)	-10.4%
Baldi Replacement .....	1,172,164	1,864,094	(691,930)	-37.1%
Ketron .....	297,065	262,023	35,042	13.4%
NT PC Mutuals Schedules.....	(31,634,000)	(28,498,000)	(3,136,000)	11.0%
PC Mutual Inadvertent .....	20,462,383	(24,475,004)	44,937,387	-183.6%
TACOMA SYSTEM FIRM LOAD .....	5,034,043,196	4,808,421,479	225,621,717	4.7%
PIERCE COUNTY MUTUAL LOAD .....	1,530,309,000	1,435,535,000	94,774,000	6.6%
KWH BILLED				
Residential Sales .....	1,938,642,781	1,817,931,140	120,711,641	6.6%
Commercial Sales .....	327,155,195	316,085,742	11,069,453	3.5%
General .....	1,940,256,895	1,947,062,423	(6,805,528)	-0.3%
Contract Industrial .....	509,777,460	508,673,780	1,103,680	0.2%
Public Street and Highway Lighting .....	28,948,502	31,555,485	(2,606,983)	-8.3%
Sales to Other Electric Utilities .....	7,505,100	6,219,000	1,286,100	20.7%
TOTAL FIRM .....	4,752,285,933	4,627,527,570	124,758,363	2.7%
Bulk Power Sales .....	2,835,719,000	2,731,076,000	104,643,000	3.8%
TOTAL KWH BILLED .....	7,588,004,933	7,358,603,570	229,401,363	3.1%



CITY OF TACOMA, WASHINGTON  
DEPARTMENT OF PUBLIC UTILITIES  
TACOMA POWER

DEBT SERVICE REQUIREMENTS  
DECEMBER 31, 2017

<u>YEAR</u>	<u>PRINCIPAL</u>	<u>INTEREST</u>	<u>TOTAL</u>
2018 .....	11,575,000	19,826,810	31,401,810
2019 .....	10,095,000	19,915,735	30,010,735
2020 .....	9,365,000	19,454,235	28,819,235
2021 .....	7,470,000	19,035,860	26,505,860
2022 .....	5,945,000	18,702,985	24,647,985
2023 .....	6,240,000	18,398,359	24,638,359
2024 .....	6,555,000	18,078,484	24,633,484
2025 .....	6,885,000	17,785,335	24,670,335
2026 .....	7,135,000	17,517,281	24,652,281
2027 .....	24,185,000	16,696,362	40,881,362
2028 .....	7,420,000	15,828,723	23,248,723
2029 .....	7,785,000	15,448,598	23,233,598
2030 .....	8,180,000	15,049,474	23,229,474
2031 .....	27,310,000	14,054,213	41,364,213
2032 .....	28,335,000	12,435,509	40,770,509
2033 .....	29,335,000	10,732,501	40,067,501
2034 .....	30,460,000	8,948,818	39,408,818
2035 .....	31,630,000	7,096,673	38,726,673
2036 .....	14,165,000	5,799,025	19,964,025
2037 .....	14,870,000	5,073,150	19,943,150
2038 .....	15,615,000	4,311,025	19,926,025
2039 .....	16,395,000	3,574,375	19,969,375
2040 .....	17,090,000	2,867,000	19,957,000
2041 .....	17,810,000	2,129,425	19,939,425
2042 .....	18,565,000	1,360,375	19,925,375
2043 .....	4,470,000	878,400	5,348,400
2044 .....	4,645,000	696,100	5,341,100
2045 .....	4,830,000	506,600	5,336,600
2046 .....	5,025,000	309,500	5,334,500
2047 .....	5,225,000	104,500	5,329,500
	<u>\$404,610,000</u>	<u>\$312,615,430</u>	<u>\$717,225,430</u>

CITY OF TACOMA, WASHINGTON  
DEPARTMENT OF PUBLIC UTILITIES  
TACOMA POWER

FUNDS AVAILABLE FOR DEBT SERVICE

	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>2013</u>
Total Income .....	\$450,724,229	\$425,755,909	\$413,680,801	\$447,043,485	\$418,841,237
Less: Operating Exp	<u>345,978,867</u>	<u>332,517,701</u>	<u>319,194,537</u>	<u>314,017,260</u>	<u>296,121,581</u>
Income Available for Debt Service .....	<u>\$104,745,362</u>	<u>\$93,238,208</u>	<u>\$94,486,264</u>	<u>\$133,026,225</u>	<u>\$122,719,656</u>
Bond Redemption ....	\$11,575,000	\$12,730,000	\$14,735,000	\$32,115,000	\$28,295,000
Bond Interest .....	<u>18,949,910</u>	<u>19,025,810</u>	<u>22,420,035</u>	<u>26,626,411</u>	<u>24,112,971</u>
Debt Service Payable on All Debt .....	\$30,524,910	\$31,755,810	\$37,155,035	\$58,741,411	\$52,407,971
Times Debt Service Covered .....	3.43	2.94	2.54	2.26	2.34

CITY OF TACOMA, WASHINGTON  
DEPARTMENT OF PUBLIC UTILITIES  
TACOMA POWER

RESOURCES  
AS OF DECEMBER 31, 2017

GENERATING FACILITIES	GENERATING UNITS	AGGREGATE NAME PLATE RATING (kW)	APPROX. RATED 4-YR. AVERAGE ANNUAL OUTPUT (1,000 kWh)
Hydro:			
Alder .....	2	50,000	230,853
LaGrande .....	5	64,000	370,909
Cushman No. 1 .....	2	43,200	142,697
Cushman No. 2 .....	3	81,000	236,279
Mayfield .....	4	162,000	775,750
Mossyrock .....	2	300,000	1,191,716
Wynoochee .....	1	12,800	24,566
Total Hydro .....		713,000	2,972,770

Tacoma Power and the City of Seattle Light Department have entered into a 40-year purchase power contract with three Eastern Washington irrigation districts that have combined to develop the Grand Coulee Project Hydroelectric Authority. Tacoma Power and the City of Seattle Light Department share equally the output of the project which has a combined capacity of 128,700 kW and an annual energy capability of about 476,000,000 kWh.

CUSTOMERS BY CLASS	AVERAGE NUMBER BILLINGS	AVERAGE HOURLY ENERGY (kW)
Residential .....	157,813	1.397
Incidental .....	15,859	2.355
General .....	2,558	109.672
Public Streets and Highways .....	923	3.580
Total System .....	177,153	3.062

Circuit Miles of Transmission Lines

115 kV .....	308
230 kV .....	44

Circuit Miles of Distribution Lines

Overhead .....	1,174
Underground .....	848

CITY OF TACOMA, WASHINGTON  
DEPARTMENT OF PUBLIC UTILITIES  
TACOMA POWER

TAXES AND EMPLOYEE WELFARE CONTRIBUTIONS  
FOR THE YEAR 2017

**FEDERAL**

Power Social Security (FICA) .....	\$7,007,988	
Total .....		\$7,007,988

**STATE OF WASHINGTON**

Retail Sales and Use Taxes .....	2,164,183	
Power Utilities and Business Operations Tax .....	14,057,018	
Power State Employment Security .....	151,586	
Total .....		16,372,787

**COUNTY**

Lewis County - In Lieu of Taxes .....	1,562,667	
Mason County - In Lieu of Taxes .....	170,780	
Pierce County School Support - Eatonville .....	7,000	
White Pass School Support .....	113,334	
Mossyrock School Support .....	98,432	
Morton School Support .....	2,766	
Lewis County Fire Protection District .....	11,032	
Pierce County Fire Protection District .....	21,216	
Pierce County Drainage District .....	18,748	
Thurston County .....	2,396	
Total .....		2,008,371

**MUNICIPALITIES**

City of Tacoma Power Gross Earnings Tax .....	32,083,430	
Click!Network Gross Earnings Tax/Franchise Fees ....	3,285,846	
City of Fife Power Franchise Fee .....	1,228,892	
City of University Place Power Franchise Fee .....	1,090,041	
City of Lakewood Power Franchise Fee .....	888,463	
City of Fircrest Power Franchise Fee .....	250,361	
City of Steilacoom Power Franchise Fee .....	5,300	
Total .....		38,832,333
TOTAL TAXES .....		<u>\$64,221,479</u>

Taxes as a % of Operating Revenues of \$ 446,343,405 ..		14.39%
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**EMPLOYEE WELFARE CONTRIBUTIONS**

Power Industrial Insurance and Medical Aid.....	\$1,379,690	
Power City of Tacoma Pension Fund .....	9,503,790	
Power Medical/Life Insurance .....	17,578,632	
TOTAL EMPLOYEE WELFARE CONTRIBUTIONS .....		<u><u>\$28,462,112</u></u>

CITY OF TACOMA, WASHINGTON  
DEPARTMENT OF PUBLIC UTILITIES  
TACOMA POWER

2017 ELECTRIC RATES  
(Based on 2017 rate schedules)

**RATE PER MONTH**

**Schedule A-1 - Residential Service**

Customer Charge .....	\$13.50 per month
Customer Charge (for collectively metered apartments)	\$11.00 per month
Energy (all energy measured in kilowatt-hours) .....	\$0.042437 per kWh
Delivery (all energy delivered in kilowatt-hours) .	\$0.034435 per kWh

**Schedule A-2 - Low-Income/Elderly/Handicapped Residential Service**

Seventy percent (70%) of the monthly bill as  
calculated under Section 12.06.160 of the official  
Code of the City of Tacoma, known as RESIDENTIAL SERVICE -  
SCHEDULE A-1.

**Schedule B - Small General Service**

Customer Charge .....	\$20.75 per month
Customer Charge (for unmetered services) .....	\$16.10 per month
Energy (all energy measured in kilowatt-hours) .....	\$0.043549 per kWh
Delivery (all energy delivered in kilowatt-hours) ..	\$0.034587 per kWh

**Schedule G - General Service**

Customer Charge .....	\$63.00 per month
Energy (all energy measured in kilowatt-hours) .....	\$0.042964 per kWh
Delivery (all kilowatts of Billing Demand delivered)	\$7.91 per kW

**Schedule HVG - High Voltage General Service**

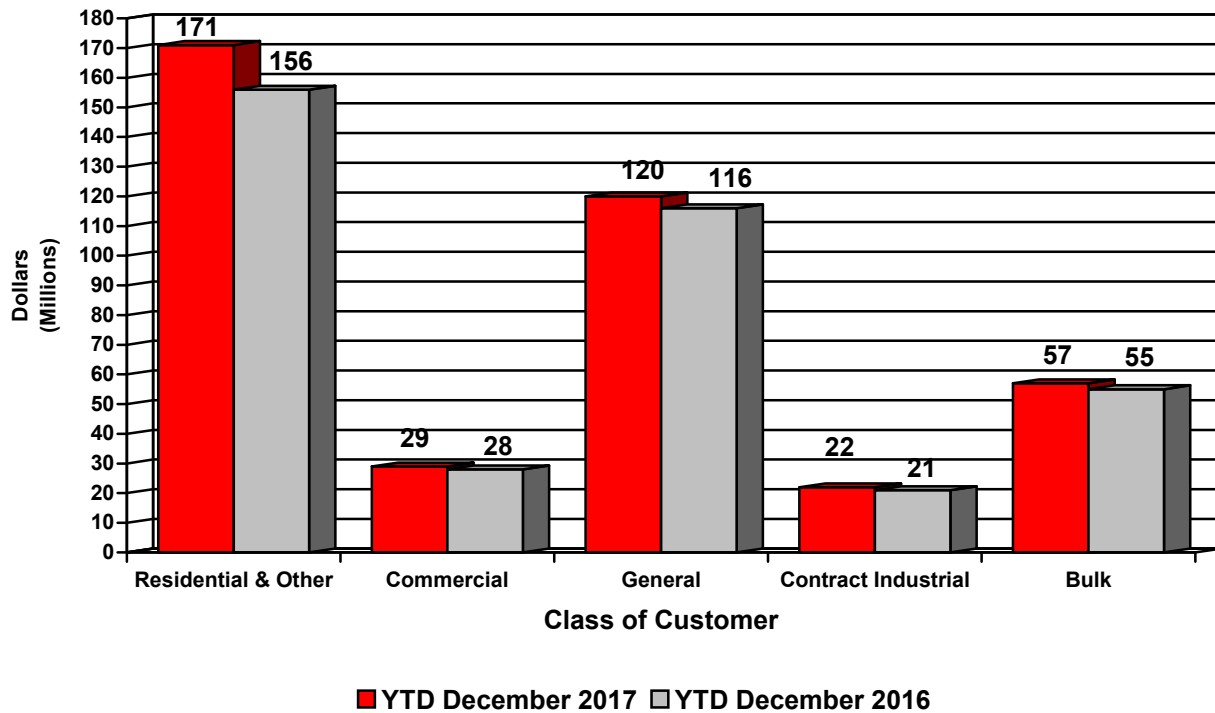
Customer Charge .....	\$850.00 per month
Energy (all energy measured in kilowatt-hours) .....	\$0.038295 per kWh
Delivery (all kilowatts of Billing Demand delivered)	\$4.51 per kW

Other schedules also now in effect are:

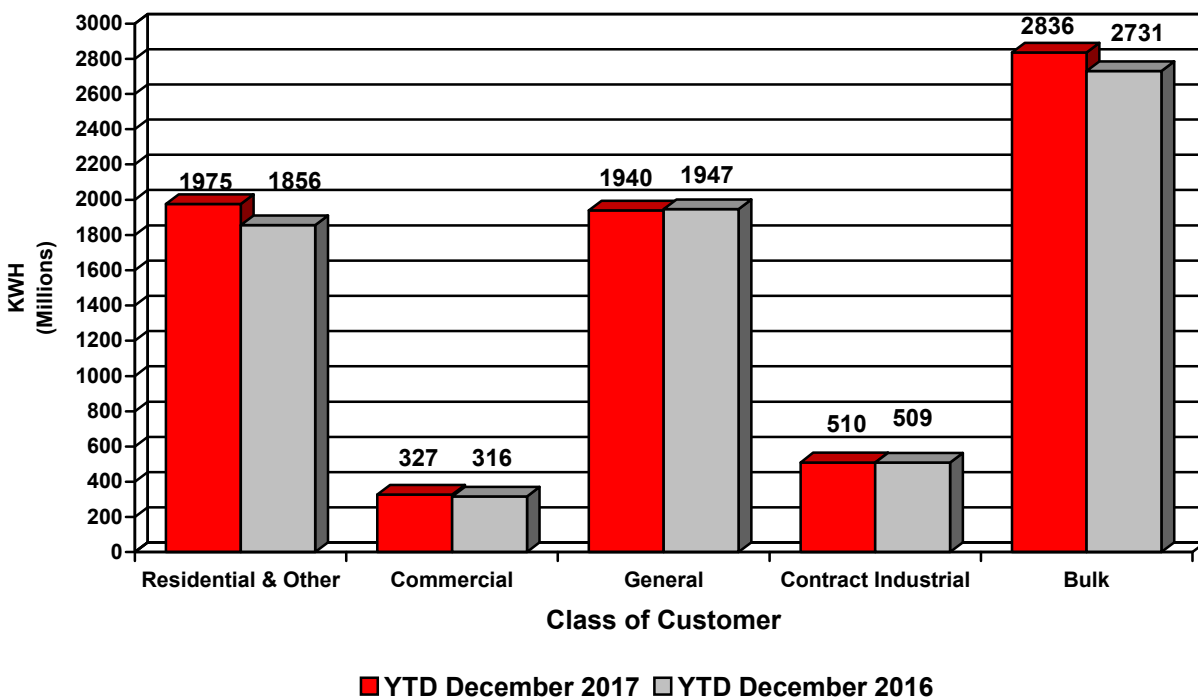
- CP - Contract Industrial Service (major industrial power use -  
written contract required)
- H-1 - Street Lighting and Traffic Signal Service
- H-2 - Private Off-Street Lighting Service
- H-3 - Street Lighting Service

Electric rates were established by Ordinance No. 28422 passed April 4, 2017  
and became effective April 16, 2017.

**SALES OF ELECTRIC ENERGY**  
**Year to Date - December 2017 & 2016**

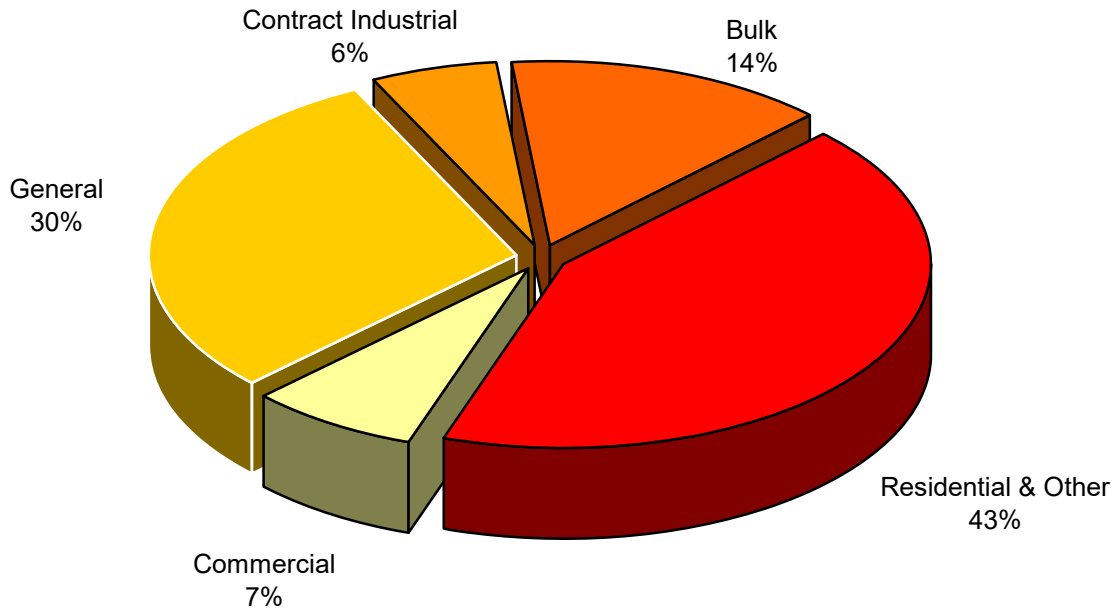


**TOTAL POWER BILLED**  
**Year to Date - December 2017 & 2016\***

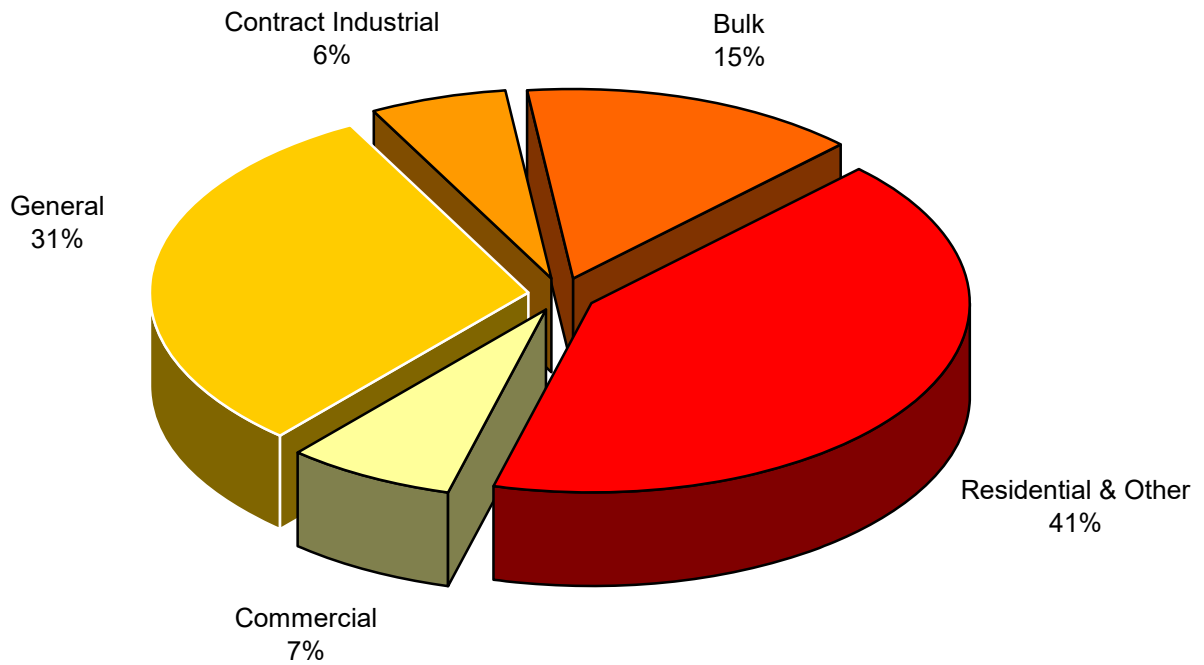


\*The 2016 class of customer has been updated to reflect the information in the Gross Generation report.

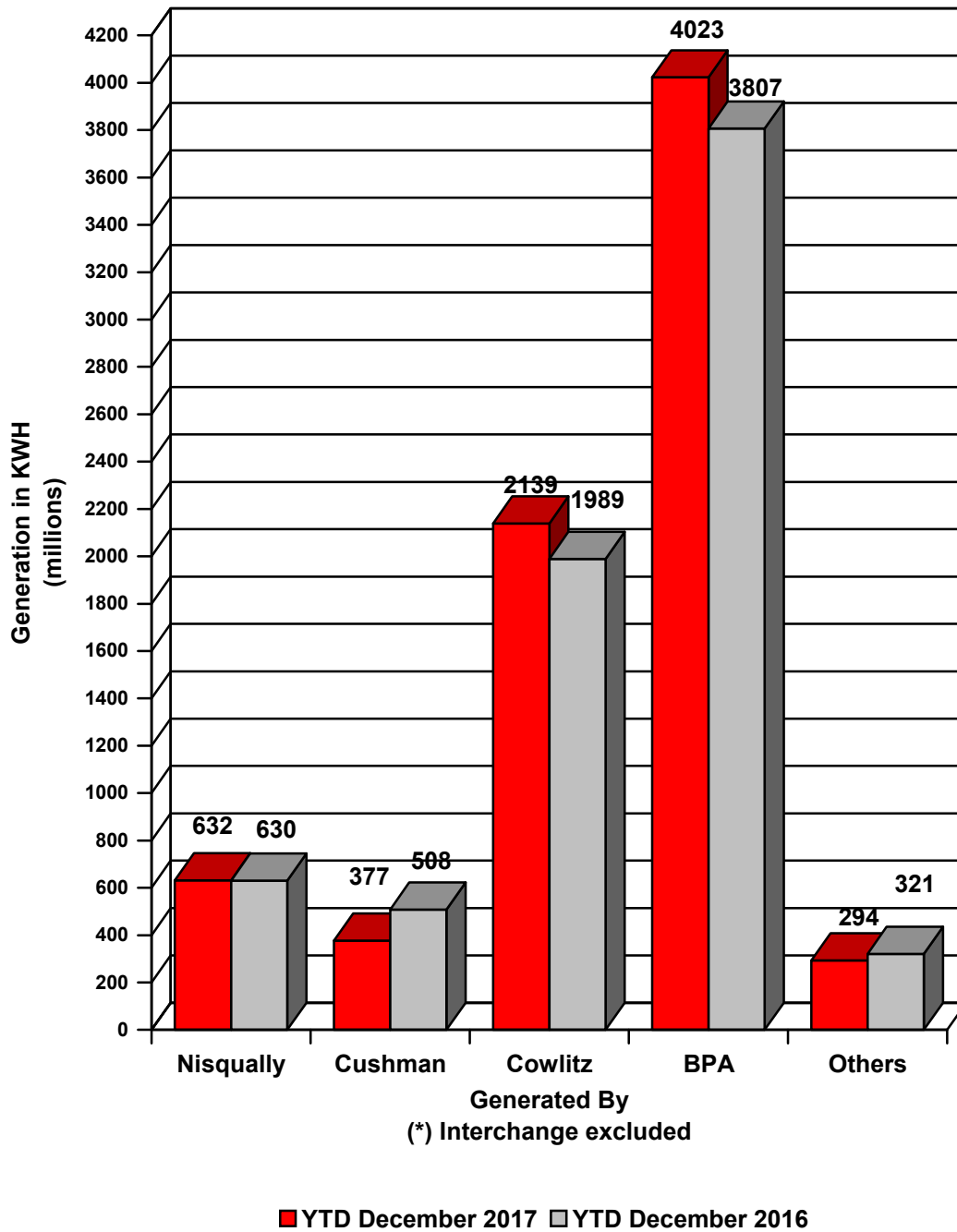
**SALES OF ELECTRIC ENERGY**  
**Year to Date - December 2017 (\$401,631,506)**



**SALES OF ELECTRIC ENERGY**  
**Year to Date - December 2016 (\$374,249,290)**

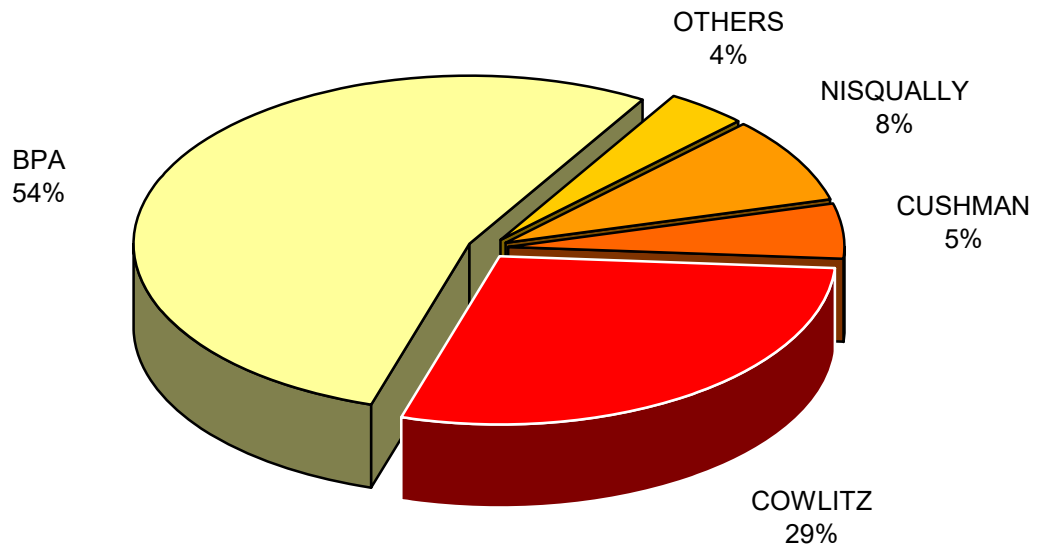


**POWER SOURCES (\*)**  
**Year to Date December 2017 & 2016**

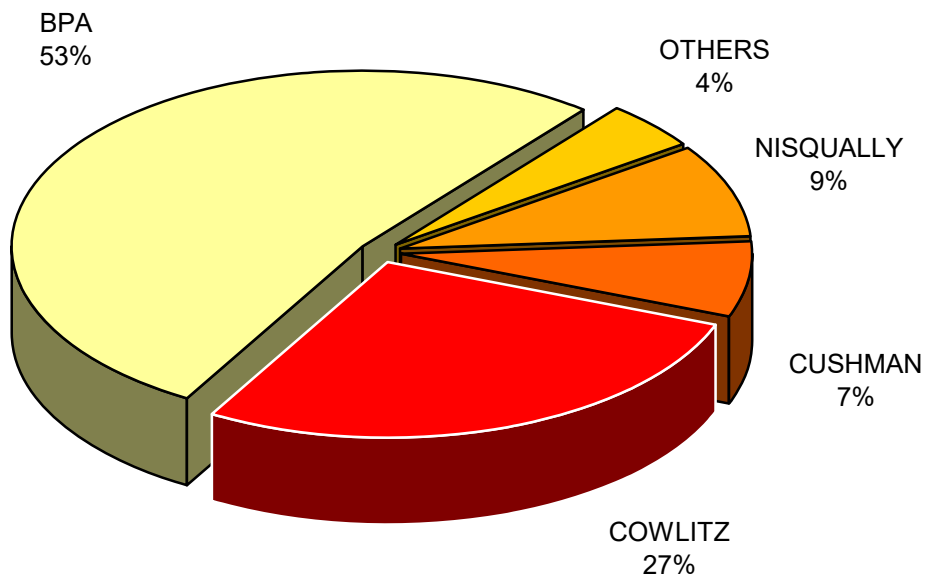




**POWER SOURCES (\*)**  
**Year to Date - December 2017**

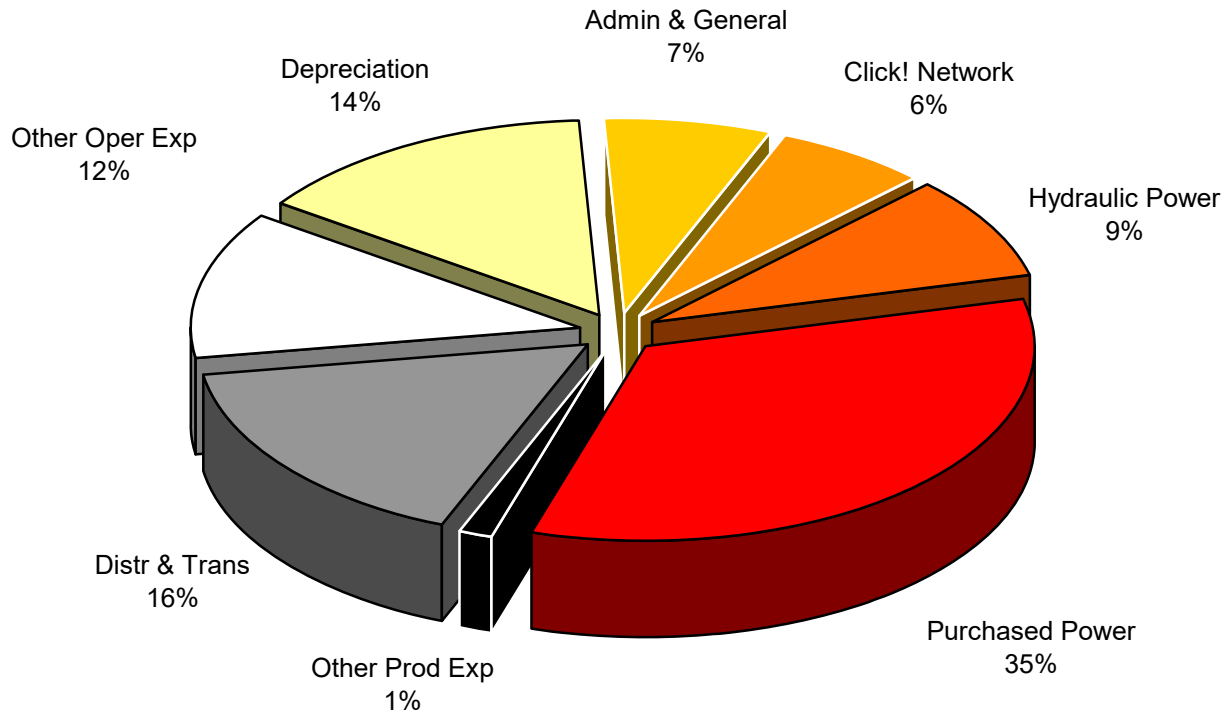


**POWER SOURCES (\*)**  
**Year to Date - December 2016**

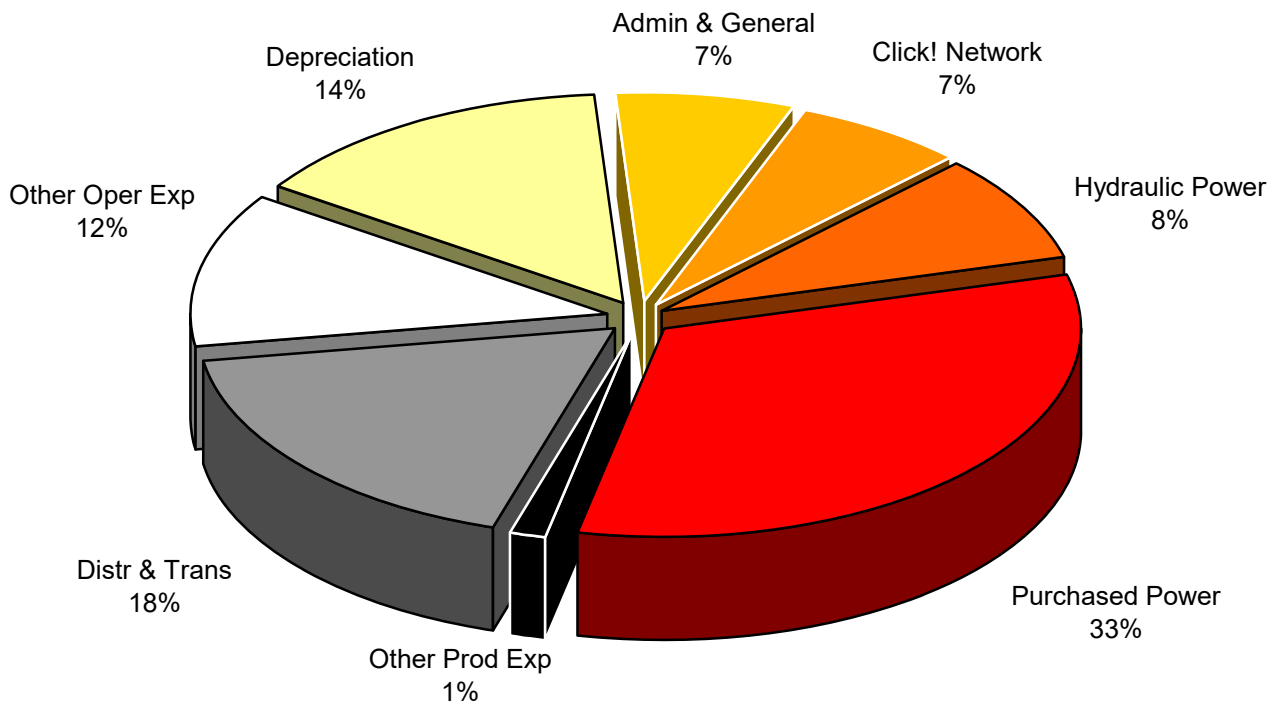


(\*) Interchange excluded

**TOTAL OPERATING EXPENSES \***  
**Year to Date - December 2017 (\$403,210,178)**

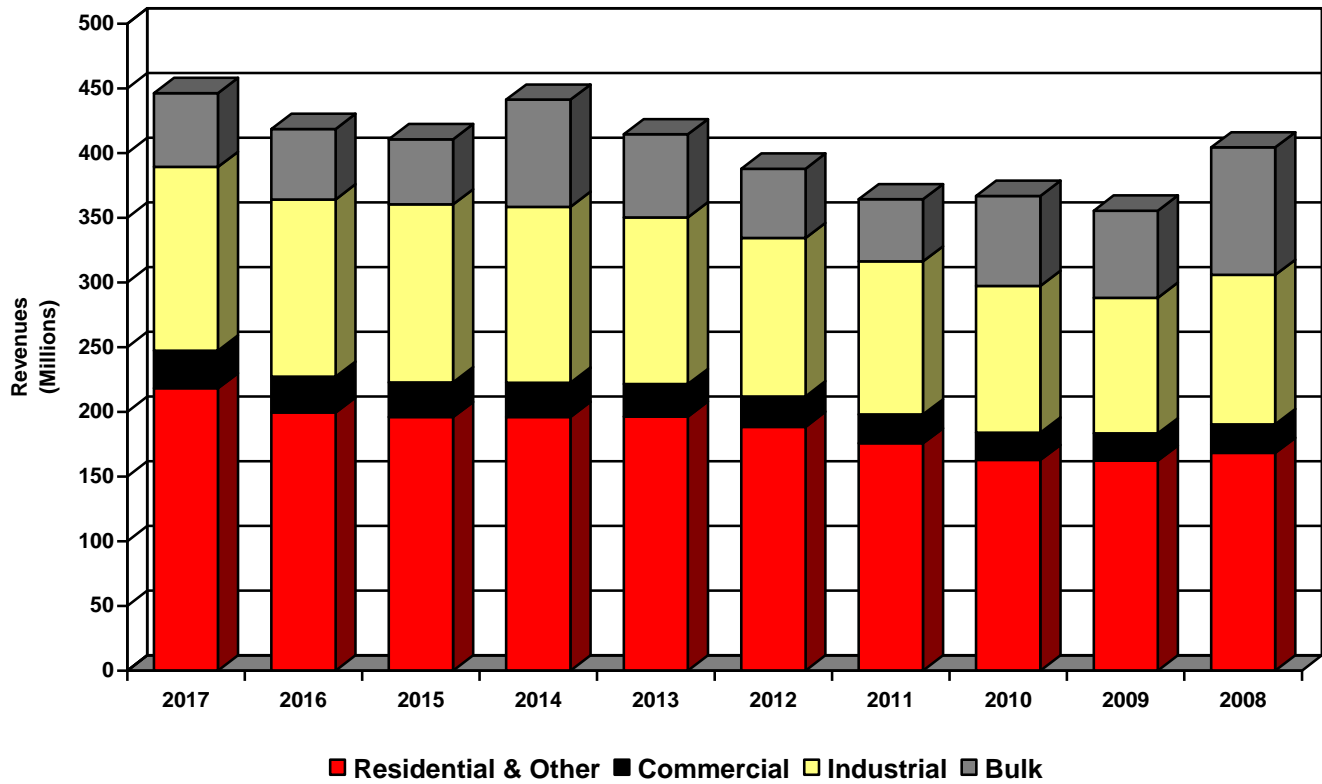


**TOTAL OPERATING EXPENSES \***  
**Year to Date - December 2016 (\$388,219,998)**

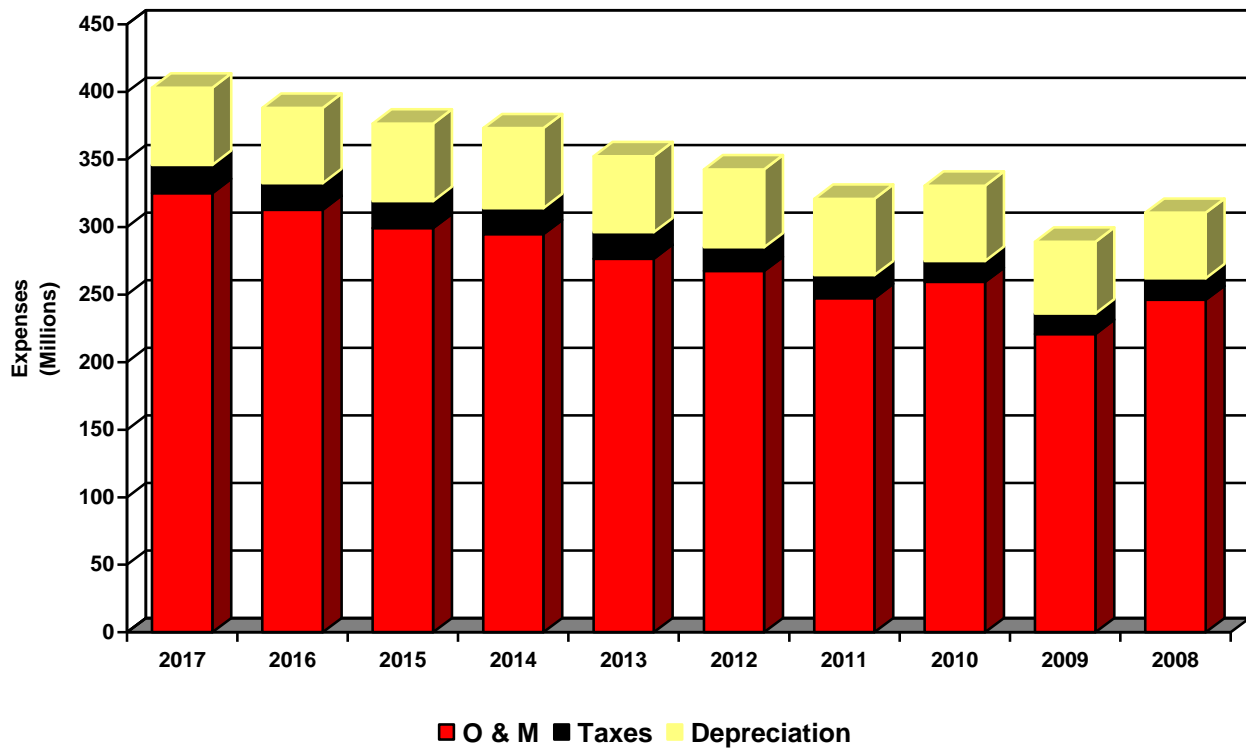


\* City Gross Earnings Taxes are not included in Total Operating Expenses.

### TEN-YEAR SUMMARY OF OPERATING REVENUES



### TEN-YEAR SUMMARY OF OPERATING EXPENSES



## 2017 SUPERINTENDENT'S REPORT

### CLICK!

#### Financial Status

Click! Network commercial revenues remained level at \$26.5 million in 2017 (\$26.7 million in 2016). The retail cable TV customer base dropped 8.4 percent ending the year with 16,010 active customers, and the Internet cable modem customers served by the two wholesale Internet Service Providers (ISPs) - Advanced Stream, and Rainier Connect, declined by 3.2 percent ending the year with 22,613 active customers. Click! provided 126 broadband transport circuits to Click!'s wholesale service providers allowing them to provide an array of telecommunication services to many businesses in the service area. Additionally, Click! continued to provide the City of Tacoma I-Net services to approximately 134 sites, keeping the cost of telecommunications low for many government entities, and also provided support for just over 14,000 gateway power meter connections.

#### Franchises

The Cable Television Franchise granted by the City of University Place was renewed in 2017. The Franchise governs use and occupancy of the rights-of-way and sets out obligations which must be fulfilled in order to maintain the right to occupy the rights-of-way and conduct the business of providing cable television services. The Franchise term is ten (10) years with two (2) 7-year automatic extensions available for a total potential term of 24 years. A new Telecommunications Franchise was granted to Click! Network by the City of Puyallup, providing the right to occupy the rights-of-way of the municipality for the provision of telecommunications services only. This Franchise was necessary to accommodate construction of a high-capacity fiber optic connection to the Centeris Data Center.

#### Cable TV Rate Adjustments

Cable television rate increases were anticipated in 2017 and 2018 and the incremental revenues to be generated by those increases was included in the biennial budget. A rate increase averaging 12.9% was implemented effective March 1, 2017. In October 2017, a rate increase was proposed to become effective January 1, 2018; however, the Public Utility Board postponed consideration of that rate increase indefinitely. Although comparisons of standalone cable television rates have become increasingly difficult in an environment of bundled telecommunications services, all information available indicates that Click! Cable TV rates continue to be lower than national averages for similarly situated cable television systems and are competitive with the rates available for comparable services in the Tacoma market.

#### Channel Additions

Additions to the channel lineup during 2017 included several networks being broadcast by local stations in the Seattle-Tacoma area. TBD TV, Charge! TV, and Stadium were launched, and Grit TV was discontinued by the broadcasters. UNIVERSO HD, Nat Geo WILD and Sundance were added to the lineup during the year.

Northwest Cable News, Esquire, Universal HD and Chiller discontinued operations in 2017, bringing the total channels carried to 443, consisting of 235 standard definition screens, 144 high definition screens and 64 audio channels. The maximum capacity of 24,000 hours of Video on Demand content was maintained through the year, giving customers the option to view popular programs and movies on a time-shifted basis. Programming from 100 networks was available on mobile devices through Watch TV Everywhere.

#### New Product Launch

A whole-home set-top box solution from TiVo was commercially launched in late 2016, and an Internet Protocol Video on Demand application was incorporated into the platform in January of 2017. This innovative application delivers programs to the main set-top box in a digital format, allowing the programs to be distributed throughout the home to televisions and mobile devices through Wi-Fi technology. The TiVo whole-home solution has been a popular addition to Click! services, allowing customers the ability to record up to six programs at once and to store one terabyte of programming.

#### Customer Satisfaction Survey

Customer Satisfaction survey cards were mailed to all new cable TV customers and to all customers who had a service related issue. Click! customer service representatives and technicians received ratings averaging 3.8 and 3.9, respectively, on a scale of 1-4.

In addition, a Brand Awareness Survey conducted on Click! Network's behalf by Washington State University's Social & Economic Sciences Research Center (SESRC) revealed that 44% of the nonsubscribers who responded were not very or not at all familiar with Click! and 51% were not aware that Click! offers internet service through two ISPs, validating Click!'s ongoing efforts to increase awareness of its brand and network services.

#### New Tools

Click! purchased the EXFO OTDR and Multicom Optical Fusion Splicer to use to expand our network and increase accessibility.

#### Spectrum Reclamation

In 2017, we moved 4 muxes from 77-80 to remux EIAs 17, 16, 15 and 14, we also moved all SD's out of remux 110 (the QAM ADU channel) and sprinkled them into various other muxes. Channels were moved out of remux 69. There are a few HD muxes that have 2 HDs that we could move a few SDs to and other SD muxes that we could squeeze more SD's in to. We also have some muxes available that are empty but are under the new or affected by the new Standard trap, on these we can move Premium channels to since you have to have standard to buy through to premium.

#### CLI Program

The Click! technicians found and repaired 3,048 leaks through the Effigis CPAT CLI program.

A vast majority of these were ingress signal leaks that were getting back into our system and causing network interference. The Effigis CPAT system also allows us to find and fix wireless LTE spectrum issues, as they occasionally interfere with the HFC network.

#### Asset Management Program

During 2017, Click! continued to build its asset list and is prepared to participate in the Tacoma Power's Strategic Asset Management program. Click! also developed a Network Maturity Model, to more effectively manage its asset lifecycles and plan future capital expenditures.

#### Safety and Work Practices

Safety posters and bulletin board messages were utilized to promote safety awareness. Each business unit held monthly safety meetings and the Click! Safety Committee met quarterly to improve safety related communications. Click! also sends out a monthly security newsletters with current and relevant topics on remaining safe in the digital world.

## **GENERATION**

### **Hydroelectric Projects**

Tacoma Power's hydro plants were available 99.78 percent of the time in 2017 except for scheduled maintenance outages. Annual maintenance was completed on all hydro units. Half of the many kiosks at the hydro projects were rebuilt and modernized with standardized messaging coordinated by Community Media Services.

### **Cowlitz**

Construction of the Cowlitz Falls North Shore Fish Collector was completed on schedule and in time for the fish migration season and the facility successfully operated for the first season. Fish collection results show a significant increase in Spring Chinook collection efficiency. The excitation systems for three units at Mayfield were upgraded to maintain reliability.

### **Cushman**

The first 250,000 sockeye salmon grown at Tacoma's new Saltwater Park Hatchery were released into Lake Cushman. Tacoma obtained 500,000 sockeye eggs from the Baker River Project for hatching and rearing at the Cushman hatcheries and release in 2018. All digital governing systems at Cushman 2 were upgraded to maintain reliability and improve grid response and compliance.

### **Nisqually**

All digital governing systems at Alder were upgraded to maintain reliability and improve grid response and compliance. New safety booms were installed on Alder and LaGrande reservoir for public safety.

### **Regulatory Compliance and Dam Safety**

All dam safety and license compliance requirements were met and submitted to the Federal Energy Regulatory Commission (FERC) on time. All North American electric Reliability Corporation (NERC) compliance obligations were met. Independent Consultant Part 12D Reports and the corresponding Potential Failure Mode Analyses (PFMA) were completed for the Cushman and Wynoochee Projects. Following the Orville Dam incident, the FERC required Tacoma to perform additional PFMA's for both the Cushman No. 1 and Alder Dam Spillways. No significant issues were highlighted with any of our structures. In October we convened the first meeting of the Mossyrock Board of Consultants (BOC) specifically looking at the regional seismicity and the effects that it was having on the spillway piers. The BOC agreed with our current risk mitigation of lowering the reservoir and recommended that we proceed with a more in-depth probabilistic seismic hazard analysis (PSHA) for both Mossyrock and Mayfield Dams. It is the BOC's opinion that having a PSHA performed for the Cowlitz basin is the best way to resolve the seismicity issue well into the next decade. Once the seismicity analysis is complete, we will reanalyze the structural stability of both Mayfield and Mossyrock Dams.

### Parks

Tacoma Power's parks served over 264,000 customers in 2017. Even with the challenges of the Riffe Lake drawdown this year Tacoma Power's park customers continue to compliment the beauty of the parks and praise the friendly and helpful staff. Nearly 99 percent of the park customers rated the park staff as helpful in the 2700 surveys that were completed. A few of the many positive customer comments received include: "It's beautiful there" "We LOVE this park! The staff was exceptionally terrific this year" "We have recommended it PLENTY of times!"

### Facilities

The TPU campus auditorium remodel was completed in time for the first Public Utility Board meeting of 2018. Security upgrades at many of Tacoma's substations and hydro facilities were completed in preparation for NERC CIP security deadlines. Parking improvements were made to address employee feedback, security and efficiency.



## **POWER MANAGEMENT**

Power Management is responsible for planning for, acquiring, and operating power resources to meet current and future customer power needs in ways that minimize risks and retail costs. 2017 was a great year for Power Management. Highlights include:

1. Power Management, working with Public Works, launched a street light replacement program which will replace about 75% of the City's street lights with highly efficient and highly effective LED technology. This is the culmination of an innovative approach to fund the conversion through a rate process instead of the typical rebate process.
2. Power Management provided net wholesale revenue of nearly \$50 million, with more than \$4 million coming from non-traditional wholesale sales efforts. This was greater than budget and provides significant financial benefit to Tacoma Power customers.
3. Power Management revamped Tacoma Power's Evergreen Options programs by providing grants to non-profit organizations we serve. The first \$50,000 grant was awarded to the Metro Parks Point Defiance Zoo & Aquarium.
4. In response to a resolution by the City Council, Power Management developed a plan to increase adoption of residential solar usage while addressing equity issues for lower income customers.
5. Our section helped secure a grant for fast electric vehicle (EV) charging to be installed at the Lemay Car Museum. We also hosted Tacoma's first "ride and drive" EV event in partnership with the City of Tacoma.
6. Demand response (DR), or voluntary short-term usage reduction by customers, is a power resource tool that is likely to be an important option in the future. In 2017, Power Management participated in a residential water heater DR pilot and conceived an approach to pilot with industrial customer(s) in 2018.
7. Conservation efforts remain the primary power resource that Power Management actively acquires. We recognize conservation as a beneficial service to our customers. In 2017, we significantly surpassed conservation targets and achieved energy savings of over 13 aMW. With an increased focus on reducing costs for non-participants, the resource was acquired at a cost of about \$27/MWh - well below the long-term costs of power resource alternatives.
8. Power Management developed a framework for considering alternatives to contract extensions with Bonneville Power Administration (BPA) when the current contract expires in 2028. This will be one of the most important decisions Tacoma Power will make in the next several years, and this effort moves us toward being well-prepared to make the right choices.

9. To recognize the fact that Conservation Resources Management does more than just acquire conservation resources, the group changed its name to “Customer Energy Programs.” Some additional highlights from that group include:
- a. reducing first-year retail bills for low-income customers by about \$90,000
  - b. creating a pilot program for installing Ductless Heat Pumps (DHP) in manufactured housing, accommodating 1379 lobby visitors with energy questions
  - c. paying over \$385,000 in solar incentive payments
  - d. creating an innovative approach to increase participation in programs designed for low income customers
  - e. presenting to 24 community groups

#### Customer Energy Programs (CEP)

Tacoma Power meets all of its future load growth needs with conservation. This biennium, we continue to exceed energy conservation targets under Washington’s Energy Independence Act. We acquired energy conservation at an estimated cost of ~ \$29/MWh, which is lower than supply-side resources.

Biennial 2016-17 energy conservation acquisitions are estimated at over 11 aMW, exceeding the 9.4 aMW EIA target. Savings in excess of the target are eligible for use against our targets in the following two biennia subject to stipulations in RCW 19.285.040(c)(i), a Tacoma Power-led amendment to the Energy Independence Act.

CEP completed over 1,750 conservation projects and made over 1,360 solar payments. Our programs were also active in our community, engaging customers at 20 retail and 29 community outreach events.

2017 brought many changes to our programs, including new HVAC measures for the C/I Equipment Rebates and Residential Heating and Weatherization programs and ending our Energy Smart Grocer program by rolling the effort into the C/I Equipment Rebates program. The C/I group completed the contracting phase of the City of Tacoma street lighting projects, with installations starting in late 2017 and expected to complete by end of 2018.

We completed our biennial planning process and published the 2018-19 Conservation Plan. The plan includes several new efforts to help low-income and hard-to-reach customers despite reducing overall low-income spending (reduction in spending was due to several key measures no longer being cost effective).

### Energy Resource Planning

Tacoma Power purchases a significant amount of power and transmission from BPA at an annual cost of approximately \$127 million and \$18 million respectively. According to requirements under the BPA Power Sales Agreement and the Tiered Rates Methodology, BPA is required to establish new power and transmission rates every two years. Power Management was an active participant in BPA's BP-18 Wholesale Power and Transmission rate cases this year.

Pursuant to the BPA Administrator's final decision issued in July 2017 Tacoma Power's BPA power and transmission costs increased by 4.1% and 0.2% effective October 1, 2017 for the two-year rate period.

The Planning Unit completed the 2017 Integrated Resource Plan (IRP) – a comprehensive update to the 2015 IRP. The 2017 IRP includes a new resource adequacy assessment, an update on 2015 IRP Action Items, and a compliance status for the Energy Independence Act (2007). This report was a result of careful research, an energetic stakeholder process, a much internal dialogue.

The Planning Unit participated with other Northwest utilities to study two important topics: the impacts of various forms of carbon policy on the environment and utilities, and the value of transportation electrification from ratepayer and societal perspectives. The Planning Unit also worked collaboratively with other utility partners to author a Transportation Electrification Authority bill that would clarify that customer owned utilities have the same authority as investor owned utilities to pursue transportation electrification with direct incentive pilot programs.

The Planning Unit worked with other parts of Tacoma Power to complete a report on potential near term strategies to interact with organized wholesale markets. The study considered functional staffing requirements, computer software and equipment costs for three level of CAISO interaction: participate as a Market Entity, pseudo-tie a unit, and bidding in an external resource.

Tacoma Power was the first Washington utility to join Forth – an electric vehicle advocacy organization which helped Tacoma Power successfully bid for grant funding for the installation of fast-charging infrastructure at the LeMay Car Museum In partnership with many local dealerships and community partners. Tacoma Power held its first ever electric vehicle "Ride and Drive Event" at Point Defiance Zoo & Aquarium.

The Planning Unit completed year-long case study of ductless heat pumps (DHP) in six existing homes. The case-study compares energy use of homes heated with DHPs against the same home heated with electric baseboard heat. Analysis is still under way, but preliminary results suggest heating energy savings of approximately 13% (or 6,400 kWh over a heating season).

This year the Planning Unit completed the biennial service area energy conservation potential assessment. The study indicates 31.7 aMW of achievable economic conservation potential over a 10-year period. For the 2018-2019 compliance biennium, a Tacoma Power target of 6.4 aMW was approved by the TPU PUB in accordance with regulations implementing the Energy Independence Act.

#### Resource Operations and Trading

\*Note: Actual revenue and MWh values may be preliminary. After our official reports have been produced we may need to change them slightly.

Wholesale transactions in 2017 were characterized by similar sales volumes and slightly higher wholesale prices compared to the prior year. Net wholesale power sales were 2.4 million MWh, exceeding the budget estimates of 1.4 million MWh. Annual revenue was \$49.5 million compared to budget estimates of \$33.5 million.

Though the winter was wet overall, January was quite dry. Combined with the region's cold weather in December and January, Tacoma Power drafted our storage reservoirs well below normal levels in January to meet load. The reservoirs were well-positioned to handle the large storms and continual wet weather that hit the region in February.

Snowpack continued to build throughout the season, while inflows continued to be well above normal due to the record-setting wet winter. As a result, we were able to keep all or most of its generating resources near maximum throughout the spring runoff and still refill all of our storage reservoirs. By the end of the snow-build season the snowpack was well above normal, but melted in a relatively smooth pattern, allowing us to capture most of the inflows.

Inflows on the Federal System followed a similar pattern, with high inflows and high snowpack. As a result, flexibility on the system was limited and BPA was purchasing capacity throughout the spring. We were able to provide some of the needed capacity by using the flexibility of our own resources.

With full reservoirs, Tacoma was also able to use the flexibility of its resources to respond to several regional heat waves over the course of the hot, dry summer.

In 2017, the Trading group continued to find innovative ways to monetize the flexibility of its power resource portfolio by participating in emerging markets for various ancillary energy products.

We continued selling energy as a designated Asset Controlling Supplier (ACS), one of only three in the Pacific Northwest. With this designation, any sales made from our resource portfolio are deemed "low carbon" and can be sold at a premium. In 2017, ACS sales resulted in additional revenue of almost \$2.2 million.

We continued to monetize the flexibility of our resource portfolio by selling Capacity products in both the term and day-ahead markets. Sale of these products provided additional revenue of approximately \$1.8 million in 2017.

Tacoma Power also developed a new product that allows a local PUD to procure their reserve requirements from Tacoma Power rather than BPA. Tacoma Power is currently the only third party supplying these products to BPA customers. Sale of this product began in October 2017 and is expected to provide additional revenue of about \$450,000 per year. This program may be expanded to additional customers in 2019.

## **RATES, PLANNING, AND ANALYSIS**

### **Retail Rates**

Tacoma Power completed the public process for rate adjustments. The first adjustment was effective April 16, 2017; the second adjustment will become effective April 1, 2018. Preparation is underway for an expedited rate process and increased public outreach during the 2019/2020 rate adjustment.

### **Energy Risk Management**

Our staff collaborated with Power Management Resource Operations and Planning staff to refine the system model module of the cash-flow-at-risk model. New Key Risk Indicators were developed based on the risk model and presented to the Risk Management Committee (RMC). Staff also implemented an interactive user interface of the risk model (HedgeHog) and developed an initial retail revenue simulation model.

Staff completed draft revisions of the Energy Risk Management Policy and Procedures. New business processes were developed and implemented to align Tacoma Power's energy risk management practices to industry standards for credit risk management and risk controls.

### **Finance**

Tacoma Power took new actions to maintain its financial strength. In September, the utility successfully completed the issuance of \$80 million in new Bonds. The proceeds of the issuance were used to reimburse the short-term note purchase agreement which funded the 2015/2016 construction projects. This allowed the note purchase agreement to be paid down to the minimum draw amount and to start being used to finance construction projects occurring in the 2017/2018 biennium. This is a continuation of the financial planning strategy put in place during the 2015/2016 biennium. In October, Tacoma Power used \$27 million of cash reserves to retire additional Bonds. This allowed for the restructuring of the 2013A Bonds, leveling future debt service and reducing interest payments.

Tacoma Power's credit ratings of AA and AA- were confirmed by both Standard & Poor's and Fitch in 2017 as part of the process to issue new bonds.

Moody's also confirmed their Aa3 rating of Tacoma Power's bonds issued prior to 2017. These ratings will continue to allow Tacoma Power to access low interest rates for future borrowing needs.

### Strategy

In 2017, Tacoma Power continued the implementation of the newly developed strategic plan. The Senior Leadership Team met monthly to review the status of initiatives, discuss challenges or roadblocks impacting initiatives, and discuss potential changes. Quarterly, all Section and Assistant Section Managers met to discuss the current status of the strategic plan and how to communicate the plan to the organization.

Tacoma Power has completed several initiatives throughout the year such as, developing an asset management roadmap, developing a TPU-wide leadership program, and finalizing a long-range financial plan. In October, the Senior Leadership Team met to refresh elements of the plan to ensure it remains focused on what is most important for the utility.

## **Transmission & Distribution**

### **System Reliability**

The reliability performance measures of the transmission and distribution system are based on a six-year average, from January 1, 2012 through December 31, 2017. On average, there were 84 customers without service per outage (ACO). The average outage duration for each customer served (SAIDI) was 55 outage minutes per customer. The average frequency of sustained interruption per customer (SAIFI) was 0.56 interruption averages per customer.

<b>Rolling Average</b>	<b>6-Year</b>	<b>SAIDI</b>	<b>SAIFI</b>	<b>ACO</b>
01/1/12-12/31/17		55.4	0.56	84.1
2016 Performance Target		≤ 75	≤ 0.95	≤ 150

The Tacoma native peak load was 993 MW on Thursday, January 5, 2017. The transmission peak was 1,362 MW and occurred on the same day as the native peak.

### **System Planning and Operations**

On December 1, 2017, Tacoma Power began its second year of membership in the Western Frequency Response Sharing Group (WFRSG). As was the case last year, Tacoma's WFRSG membership provided additional support to Tacoma Power's decision to sell 2 MW of frequency response. The group has proven beneficial in helping us to monitor and enhance its frequency response performance. System Operations has been working closely with Generation Production Engineering, Power Management's Resource Operations & Trading, and Energy Management System support staff to discover ways to enhance response and monitoring. This will allow Tacoma Power to be confident in transacting greater amounts of frequency response in the future.

### **Transmission Service**

Tacoma Power continues to provide transmission to three entities, as shown in the table below. Estimated annual revenue from the three entities is about \$7.9 million.

<b>Customer</b>	<b>Reason for Service</b>	<b>MW</b>	<b>Term of Service</b>
Bonneville Power Administration (BPA),	Delivery of BPA power to the Pierce County Mutuels (PCMs)	396	2028
Avangrid Renewables	Delivery of WestRock biomass generation to California	45	2021
Lewis County PUD	Delivery of Cowlitz Falls generation to BPA	70	Concurrent with FERC hydro license

### Asset Management

The T&D Asset Management program recognized the need for alignment with Tacoma Power's strategic objectives. As a result, an asset management team, centrally located in Rates, Planning, and Analysis (RPA), formed to assist the business sections in aligning and standardizing Asset Management principles to Tacoma Power's strategic business objectives. A maturity assessment, performed by consulting firm AMCL, identified focus areas of improvement across sections of Tacoma Power. The T&D Asset Management team is working with RPA's Asset Management team to standardize asset management philosophies across committed sections of Tacoma Power while continuing to meet the specific needs of the Transmission and Distribution business units.

The T&D Asset Management (AM) team coordinates the capital budget process for all of T&D, while recommending intervention strategies based on economic modeling for programs such as Pole Replacement. For example, the pole replacement program tests and treats poles, identifying replacements from poles that have failed testing parameters. The pole test and treat program tested 4,642 poles with 3,732 of those poles eligible for treatment. Poles replaced under the Pole Replacement program totaled 680 for 2017.

### System Improvements

We constructed and energized Potlatch Switching Station, a four-breaker ring bus, near Union, WA. This switching station segmented the Potlatch lines, which interconnect Cushman Project generation and serve Peninsula Light Company, into the Pearl-Potlatch and Cushman1-Cushman 2-Potlatch lines. Protective relay modifications were additionally completed at Pearl Substation, Cushman 1 Switchyard, and the Cushman 2 plant. Potlatch Switching Station will help to meet NERC TPL standard requirements and to improve availability and flexibility of Cushman Project generation, in addition to other benefits. The project has already realized its anticipated load and generation reliability improvements during a line fault in November.

We also made significant progress toward replacing the lattice structures along North 21<sup>st</sup> Street and bypassing Cushman Substation. The City Council voted on which properties and existing structures would be placed on the historical registry. We completed steel pole line design and ordered both steel poles and conductor. Conductor and the first batch of steel poles were delivered in 2017. The work order permit was submitted to the City of Tacoma. Replacement of the lattice towers is expected in summer of 2018, with a compact construction window to maintain transmission reliability.

We also completed a customer-funded capacity project to serve James Hardie with a new line extension and substation design. This new substation, dedicated to support James Hardie's facility expansion, will be located near Frederickson, WA. Electrical pre-construction began in late 2017. Energization is expected in the first quarter of 2018.



The customer-funded Taylor Substation civil and electrical design was completed. Civil construction and electrical pre-construction began in late 2017. An easement with the Port of Tacoma for the substation was obtained. This substation will serve PSE's LNG facility. Energization of the substation is expected in mid-2018 in accordance with the customer's request for service.

This past season T&D has seen a large increase in the amount of customer-driven construction over previous years. This resulted in the dedication of approximately 30,000 labor hours in 2017 from line construction crew on customer driven construction.

#### Electrical Services

New Services and Utility Staff Support groups completed design, agreements, and work orders for \$1,865,000 in residential projects and \$1,939,000 in commercial projects. Projects include New Cold, Cedar Springs, and Point Ruston.

Electrical Inspection and Utility Staff Support groups issued 12,292 electrical permits and performed 19,088 electrical inspections for total permit revenue of \$1,926,631. Utility Staff Support assisted 3,785 walk-in customers and supported 20,642 customer phone calls in the Electrical Permitting group.

#### Safety and Work Practices

T&D continues to work towards a zero incident workplace with a reduction in the number of serious workplace injuries. Training was provided to employees to focus on injury reduction strategies for specific body parts. Loss time accidents in T&D were reduced by over 65%.

The 360° Vehicle Walk-Around Program was developed and implemented. This program was put in place to mitigate motor vehicle collisions when vehicles are moved after being parked. This program has subsequently been adopted by Power and Water.

#### Employee Resources/Development

T&D Training and Development managed three apprenticeship programs, and provided training and work experiences to 33 apprentices and trainees in four areas: line (16); substation (12); advanced meter/relay technician (1); and system dispatcher (4). In addition to managing programs, T&D also conducted a recognition event to honor five Transmission & Distribution employees who graduated from their respective apprenticeships/advanced training programs.

#### Emergency Management

The Tacoma Power Emergency Response Plan (ERP) now includes a standardized Incident Command Structure (ICS) template. The template includes ICS Organizational Charts, an Emergency Contact List and FEMA forms all in one spreadsheet. This template can be used to report to FEMA when we apply for emergency compensation.

## Collective Bargaining

During 2017 Tacoma Power Management and IBEW Local 483 with several Labor Representatives put great effort into finding agreement on the 483 Power Collective Bargaining Agreement that affects all of the field crews in T&D as well as dispatch and Generation. Negotiations started off with great hope of a short bargaining session but agreement on some key issues required many long sessions of negotiation. With the help of a PERC Mediator agreement was achieved on a fair contract including agreement to a four year term.

## **UTILITY TECHNOLOGY SERVICES**

### **Utility Technology Strategy & Planning**

In 2017, Utility Technology Services (UTS) received PUB approval for a special project of limited duration for a TPU-wide program to deploy Advanced Metering Infrastructure (AMI) across its entire water and electric service territories. The Advanced Metering Infrastructure Program's objective is to plan, design, build, implement, and stabilize a comprehensive advanced metering solution for TPU that will be critical for delivering a range of benefits to the utilities and their customers. The AMI Program is now focused on technology vendor procurement activities which are expected to be completed in 2018.

In 2017, UTS also prepared strategies for digital engagement and operational analytics which are helping to shape strategic initiatives around these emerging capabilities for TPU and the Utilities industry at large.

### **Employee Engagement**

UTS' Employee Engagement Team focused on the establishment of four new initiatives in 2017: Employee Recognition, Information Sharing, Knowledge Transfer, and Having Fun! A UTS News Team has been established to improve communication across UTS and will enable more effective communication via channels which employees prefer.

### **Operational Efficiency**

Tacoma Power's Outage Management System added the functionality to automate the initial Estimated Time of Restoration (ETR) to the public facing Tacoma Power Outage Map. This automation replaces a previous manual process, and provides an initial ETR much quicker for the customer.

The Interactive Voice Response (IVR) platform was enhanced to provide reporting capabilities in order to generate Key Performance Indicators (KPI) to measure the effectiveness of the voice-processing contact channel that includes Customer Services, Power's Outage Management System (OMS) and Electrical Inspection.

Customer Services replaced their legacy database for the intake, review, tracking and reporting for Low-Income Discount Rate applications and other low-income programs with a robust, reliable, and scalable cloud solution offering more features and functionality.

Customer Services' payment channels (cashiering, IVR, and Payboxes) were upgraded to accept the new MasterCard BIN number and Discover Cards. This upgrade was implemented prior to July 1, 2017, thus meeting MasterCard's compliance deadline in accepting the new card number.

To further improve project delivery and consistency, the Project and Portfolio Management Office enhanced and matured a number of key project/portfolio tools and processes, including financial management techniques and processes, implementing a resource capacity and demand tool and supporting processes, establishing a benefits framework and project approval gates, and enhanced portfolio and project reporting.

In 2017, UTS placed a greater emphasis on establishing and maintaining a Service Management Center of Excellence for Tacoma Public Utilities through the development of a Service Management Office (SMO). The SMO was tasked with providing leadership and oversight of the Tacoma Public Utilities IT Asset Management (ITAM), IT Service Management (ITSM), and UTS Contract/Vendor Management programs. The SMO leads the organization to develop the strategy, plans and operational capability necessary to assure the effective and efficient delivery of IT services to the business.

#### Technology Advancements

A Wide Area Network (WAN) project kicked off in 2017 with the aim of increasing bandwidth and realizing cost savings through collaboration with neighboring utilities.

These benefits are being realized in two phases. First, with the execution of an agreement with Lewis County PUD for dark fiber, TPU is positioned to replace legacy network transport equipment, and allows UTS to deliver a fully protected fiber ring with true physical redundancy. By upgrading our technology and creating a fiber optic redundant route, TPU will increase its network reliability significantly at each substation, natural resource facility, and hydro facility included in this first phase.

For phase two, TPU executed an interlocal agreement with Mason County PUD No.3. Through this agreement, UTS is able to provide enterprise level connectivity and significantly increase bandwidth for the entire Cushman project. Additionally, the equipment currently deployed at the remote locations can be consolidated back at the TPU main campus enabling UTS to streamline a variety of routine maintenance tasks. By completing this phase, there is potential for TPU to enter into agreements and begin collecting non-rate revenue by leveraging these new communications resources.

A contract was awarded to Utilicast to provide system integration services for the Energy Management System (EMS) replacement project. The EMS replacement team began work on the aggressive 18-month schedule and completed several important milestones including the installation of the new program development system, two of three contracted data conversions, and initial point-to-point testing of communications to the SCADA endpoint devices. In October, a team of individuals from Utilicast, UTS, and T&D traveled to Minnesota for two weeks to perform Factory Acceptance Testing of the new EMS.

The main campus data center project was approved and work began to convert the Energy Control Center computer room into a data center that included installing a second uninterruptable power supply and upgrading the current HVAC cooling system. The project will allow the utility to consolidate most of its computing assets into

a single space with better system resiliency and energy saving designs.

The private cloud infrastructure operated by UTS was further partitioned into separate resource pools for the separate deployment of operational and business systems to enable higher resource utilization and efficiency. The staffs supporting both business and operational systems infrastructure were merged into a single group for better collaboration while maintaining workforce boundaries.

In 2017, UTS successfully developed and implemented a new and robust IT Service Management toolset called “HelpHub” to assist in improving UTS’ IT service delivery. A new web-based customer portal was designed with input from customers that made it easier for Tacoma Public Utilities employees to request technology services, report technological incidents or problems to UTS staff. The back end of this tool has allowed UTS staff to better manage and track the different types of service requests and ensure customer technological needs are met. Plans for integrating and configuring the IT asset management toolset, work order module, event management, service level management and change management are underway and scheduled for implementation in 2018. This system is scalable and can be configured to include other service delivery organizations such as facilities.

To ensure ongoing sustainability of the Utility Bill technology, the PMO successfully delivered the Utility Bill Migration project. In addition to ensuring vendor supportability of backend technologies, the project benefits additionally included the migration of all TPU forms (invoices, warning notices, meter reading schedules, etc.). The customer invoice received a makeover that incorporated consumption data, cost per day averages and a visual meter graph.

### Cybersecurity

In 2017, UTS established a new Cybersecurity group to lead TPU’s Cybersecurity Program. This group is working across TPU to improve cybersecurity controls, policies, procedures, and cybersecurity awareness.

UTS completed a project to connect the generation plant control system development lab to the operational network to allow for security updates to be tested prior to the deployment to protect the systems located at the hydroelectric projects. In addition, a remote access and password vaulting solution was deployed to provide secure, monitored outside access to employees or contractors working within the utility operational systems.

In support of the new Energy Management System upgrade, UTS procured a new Security Event and Information Management (SEIM) system. The new best-in-breed SEIM will increase the security awareness while reducing the amount of effort required to administer and configure the system compared to the current system used by UTS.

### Regulatory

Tacoma Power subject matter experts vetted 22 Operations & Planning (O&P) Standards through the Standard Change Organizational Review and Evaluation (SCORE) process to ensure compliance prior to their 2017 effective dates. Personnel also completed a significant amount of work to meet new Critical Infrastructure Protection (CIP) Low-Impact requirements that became enforceable on April 1, 2017.

Reliability & Compliance (R&C) facilitated the review and approval of approximately 150 compliance documents and performed approximately 50 Internal Audits. Additionally, R&C gathered information and created a plan to update all compliance documentation and evidence related to the new EMS installation.



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