UE 335 / PGE / 200
Tooman – Espinoza

BEFORE THE PUBLIC UTILITY COMMISSION

OF THE STATE OF OREGON

UE 335

Revenue Requirement

PORTLAND GENERAL ELECTRIC COMPANY

Direct Testimony and Exhibits of

Alex Tooman, Ph.D.
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February 15, 2018

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I. Introduction

Q. Please state your names and positions with Portland General Electric (PGE).

A. My name is Alex Tooman. I am a Senior Regulatory Consultant for PGE. I am responsible for the development of PGE's revenue requirement forecast and other regulatory analyses.

My name is Marco Espinoza. I am a Senior Financial Analyst in Regulatory Affairs.

Our qualifications are included at the end of this testimony.

Q. What is the purpose of your testimony?

A. The purpose of our testimony is to present PGE's 2019 revenue requirement for base business of $1,884.6 million.

Q. What increase in revenue requirement does PGE request beginning January 1, 2019?

A. PGE requests a base business increase of $85.9 million or 4.8% effective January 1, 2019. This increase is relative to the revenues we expect based on 2018 prices approved by Public Utility Commission of Oregon (Commission) Order No. 17-511 in Docket No. UE 319 (UE 319). This revenue requirement will allow PGE an opportunity to earn a 7.31% rate of return that includes a 9.50% return on average common equity (ROE) in 2019.[1] PGE Exhibit 201, columns 1 through 3, summarizes the development of PGE's 2019 revenue requirement for base business. In addition to presenting this integrated (bundled) revenue requirement, we also present and discuss our unbundled revenue requirement in Section IX.

Q. What mitigating actions did PGE take to help limit the size of the requested increase in this filing?

[1] As discussed in PGE Exhibit 1000, PGE proposes a 50/50 capital structure between debt and equity.

A. As described in PGE Exhibit 100, to reduce the price impact on customers, we adjusted PGE's revenue requirement by:

1. Reducing our request related to incentive compensation costs;
2. Removing 50% of certain layers of directors and officers insurance; and
3. Requesting a return on equity at the lower portion of the range supported by PGE's expert witness.

A. PGE Result if No Price Increase is Authorized

Q. In the absence of a price increase, what is PGE's expected regulated ROE for 2019?

A. Without a price increase, we would expect PGE's ROE to be approximately 7.0% in 2019, significantly lower than the authorized ROE of 9.50%.

B. Structure of the Case

Q. Please summarize PGE's 2019 revenue requirement.

A. Table 1 below, summarizes PGE's 2019 revenue requirement by major category and provides a comparison to the results of UE 319. We also list the PGE testimony that addresses each specific cost category.

Table 1
Revenue Requirement Summary
($millions)

Rev Req Category	UE 319 Approved	2019 Forecast	Exhibit	No.
Sales to Consumers	$ 1,813.2	$ 1,884.6	Rev Req	200
Other Revenue	26.8	25.3	Rev Req	200
NVPC	336.0	375.3	Power Costs	300
Production O&M	160.0	165.7	Production	700
Transmission O&M	14.3	15.8	T&D	800
Distribution O&M	120.2	136.2	T&D	800
Customer Service	80.7	85.2	Customer Svc.	900
A&G	159.1	180.8	Corp. Support	500
Depr. & Amort.	360.1	372.5	Rev Req	200
Other Taxes	125.4	138.5	Rev Req	200
Income Taxes	153.1	84.8	Rev Req	200
Operating Income*	**$ 331.2**	**$ 355.1**		
Return on Equity	9.5%	9.5%	Return on Equity	1000

** May not sum due to rounding*

Q. Please describe Operating Income as used in Table 1 above.

A. Operating Income consists of a return to the providers of capital to PGE, both equity and debt. The costs of obtaining capital are discussed in PGE Exhibit 1000.

Q. How did you develop the 2019 revenue requirement?

A. We developed the revenue requirement based on PGE's 2018 budgets, which were originally based on UE 319 prices as authorized by Commission Order No. 17-511. The 2018 budgets were escalated for inflation to 2019 and adjusted for known and measureable changes.

Q. How did you escalate the 2018 budget to 2019 test year?

A. We applied the following escalation rates to the 2018 budget:

- 3.68% average rate for all labor (at applicable effective dates[2]);
- 2.72% for outside services (cost elements [CE] 1502, 1602, 2200, and 2300), effective January 1;
- 1.71% for direct materials (CE 2101 and 2110), effective January 1; and
- 2.54% for employee business expense (CE 2400 and 2701), effective January 1.

Q. What are the sources of these escalation rates?

A. For outside services, direct materials and employee business expense, we use escalation rates from the *Global Insights*, Long-term Forecast dated August 2017. Wage escalation is based on the forecast of compensation costs as described in PGE Exhibit 400.

[2] March 1 for bargaining employees and March 15 for non-bargaining employees, resulting in an annualized average rate of 2.95%.

Q. What comparison with the 2019 test year costs does PGE make in the testimonies generally?

A. We compare our forecast of 2019 test year costs to 2017 actuals. We do this because 2017 represents PGE's most recent full year with actual results. The changes between 2017 and 2019 in this filing will be analyzed on an average annual basis.

Q. Did you adjust PGE's 2019 revenue requirement to reflect previous pricing decisions and other regulatory policies?

A. Yes. We made several regulatory adjustments, listed in Table 2 below.

Table 2
Regulatory Adjustments
($millions)

Category	O&M	Rate Base
Retail Services	$ (0.2)	$(0.9)
Charitable Contributions	(2.1)	
State & Federal Lobbying	(0.9)	
MDCP	(4.8)	
SERP	(1.4)	
Image Advertising	(0.7)	
Total Adjustments	**$ (10.1)**	**$(0.9)**

Q. Please explain these regulatory adjustments.

A. The following is a brief summary of the adjustments:

- Retail services: removed the revenue requirement related to amounts allocated to PGE's retail operations;
- Charitable contributions: excluded the entire $2.1 million from cost of service;
- State and federal lobbying: excluded the entire $0.9 million from cost of service;
- Managers' Deferred Compensation Plan (MDCP): removed the entire $4.8 million from cost of service;

- Supplemental Executive Retirement Plan (SERP): removed the entire $1.4 million from cost of service; and
- Corporate image advertising: removed the entire $0.7 million from cost of service.

II. Other Revenue

Q. What is PGE's 2019 forecast of Other Revenue?

A. PGE forecasts 2019 Other Revenue of $25.3 million. This compares to actual 2017 Other Revenue of $25.4 million.

Q. What are the sources of Other Revenue?

A. The primary sources of Other Revenue are rent of electric property, transmission revenue, joint-pole revenue, steam sales revenue, and ancillary service revenue. PGE Exhibit 202 provides additional detail on the sources and amounts of Other Revenue.

Q. Did you make any adjustments related to Other Revenue for the 2019 test year?

A. Yes. We adjusted the 2019 forecast of transmission revenues received from Electricity Service Suppliers (ESSs). The adjusted amount reflects PGE's current Open Access Transmission Tariff rate and the forecasted 2019 direct access load. We also added approximately $0.6 million for fees collected for Green Power Administration costs to avoid double collecting these costs. In addition, we added approximately $0.2 million for income associated with PGE's affiliate, Salmon Springs Hospitality Group, in accordance with Commission Order No. 06-250. Finally, we reduced Other Revenue by $1.2 million to reflect the reduction in PGE's rental rate for wireless attachments to PGE poles.

III. Depreciation

Q. What is the basis for the 2019 test year book depreciation expense?

A. Normalization rules in the Internal Revenue Code, Section 168(i)(9) require consistency in the calculation of four items for ratemaking purposes. Two of the four items are tax expense and book depreciation expense. The other two items are in rate base: accumulated book depreciation and accumulated deferred income taxes. Because PGE established its rate base as of December 31, 2018, we used 2018 depreciation in the calculation of all four items.

Q. Does 2018 depreciation accurately reflect the 2019 expense?

A. By itself, no. Because 2018 depreciation will only reflect partial year depreciation for all 2018 plant closings, 2018 depreciation will be less than 2019 depreciation, which will reflect a full year of depreciation for those same assets (assuming no additional plant closings[3] in 2019). In order to adjust for this effect, PGE annualized the 2018 depreciation expense for 2018 plant closings and then reduced that amount to account for the fact that PGE's declining balance method results in a 2019 depreciation expense that would not be as high as that calculated with the full annualization effect. The net result is that the test year depreciation is based on 2018 expense (to meet IRS normalization requirements), but has an adjusted annualization so that PGE does not under-collect or over-collect depreciation expense relative to expected 2019 depreciation expense. As noted above, the expected 2019 depreciation expense does not reflect any 2019 closings. For simplicity, we refer to the test year depreciation as 2019 depreciation expense.

Q. What is PGE's estimate for 2019 depreciation expense?

[3] "Plant closings" refers to the accounting entries that move costs from Construction Work in Progress to Plant in Service when the assets become operational.

A. We estimate $305.5 million in depreciation expense for 2019. PGE Exhibit 203 summarizes the 2019 depreciation expense by plant type and provides a comparison to 2017 actuals.

Q. Is PGE proposing a new depreciation study as part of this rate case?

A. No. PGE's most recent depreciation study was approved in Docket No. UM 1809 through Commission Order No. 17-365. PGE implemented the new depreciation rates effective January 1, 2018.

Q. How does PGE's 2019 depreciation expense forecast compare to 2017 actuals?

A. After adjustments, total forecasted depreciation for 2019 reflects a $6.1 million increase over 2017 actuals.

Q. What are the primary drivers for the increase?

A. The primary drivers of the increase in depreciation expense are:

- $2.1 million in wind, solar, and hydro generation resources;
- $2.0 million in transmission and distribution facilities;
- $2.7 million for general plant; partially offset by
- $0.7 million reduction in thermal plants.

IV. Amortization

Q. What is amortization?

A. Amortization, like depreciation, is a means to allocate the cost of an asset over its useful life. Amortization relates to intangible assets, such as computer software and regulatory assets. As with depreciation expense, the unamortized balance of the associated assets generally appears in rate base and earns a return at the allowed rate. Because amortization is also subject to tax normalization principles, we calculated the 2019 test year amortization expense based on the adjusted annualized 2018 amortization similar to depreciation.

Q. Please summarize PGE's 2019 amortization expense.

A. PGE Exhibit 204 details the total 2019 amortization expense of $67.0 million, which we summarize in Table 3 below.

Table 3
Amortization
($millions)

Amortization Item:	2017 Actuals	2019 Forecast
Software Amortization 5-10 year	$ 37.6	$ 55.8
Other Intangible Amortization	8.6	8.7
Trojan Decommissioning	3.5	2.5
Total Amortization*	**$ 49.6**	**$ 67.0**

* *May not sum due to rounding*

Q. Please explain the amortization of software included in PGE's 2019 amortization expense.

A. Total software amortization is approximately $55.8 million. This cost relates to capitalized software, which is typically amortized over a 5-year period, with the exception of larger software programs that are amortized over a 10-year period. Examples of the larger software programs are the Customer Engagement Transformation (CET) program[4] and 2020 Vision program (including the Finance and Supply Chain Replacement project, Maximo Mobile Scheduling, Outage Management System, Graphic Work Design, and Geographic Information System).

Q. Why is software amortization approximately $18 million higher in 2019 compared to 2017?

A. The increase is primarily due to: 1) software investment in the Customer Touchpoints project that is forecasted to close to Plant in Service during 2018; 2) additional 2018 software investment; and 3) software investment that closed to plant during 2017, resulting in partial year amortization in 2017, but full year amortization in 2018.

Q. Please describe Other Intangible amortization.

A. Other Intangible amortization includes hydro relicensing amortization and miscellaneous other intangible plant amortization. For hydro relicensing, this represents the recognition of annual costs associated with non-construction projects that have closed to Plant in Service. Generally, these costs are amortized over the life of the new license.

Q. Does PGE recommend any changes to the current $3.5 million Trojan Nuclear Decommissioning Trust (Trojan NDT) collection rate?

A. Yes. We performed an analysis of the annual accrual, updated for the latest Trojan NDT balances, expected rate of return on trust assets, cost estimates, and other parameters. This analysis indicated that a reduction in the collection rate is advisable. Based on the analysis and the considerable uncertainty still associated with the spent nuclear fuel at the Trojan site, PGE proposes a lower annual accrual rate of $2.5 million, which represents a

[4] PGE Exhibit 900 provides a detailed description of the CET program.

$1.0 million reduction to the current annual accrual. Our current Nuclear Regulatory Commission license for Trojan will expire in March 2019 and PGE is currently in the process of renewing it for an additional 40 years with an end date estimated to occur in 2059.

Q. What decommissioning activities are planned at Trojan in the future?

A. No further decommissioning work is planned until after the spent nuclear fuel has been removed from the site. The majority of the structures at the facility have already been demolished. PGE completed the decommissioning and demolition of the Trojan North and Trojan Training buildings in 2014.

V. Income Taxes, Taxes Other Than Income, and Fees

A. Income Taxes

Q. What is PGE's 2019 estimate of income taxes?

A. PGE's 2019 test year forecast for income tax expense is $84.8 million. This compares to the 2018 utility income tax expense of $153.1 million based on prices approved by Commission Order No. 17-511 in UE 319. PGE Exhibit 205 provides details on the test year calculations of income tax expense plus a comparison to previously authorized 2018 income tax assumptions. The decrease in 2019 test year income tax expense compared to the approved 2018 expense reflects the impact of the tax legislation[5] (Tax Plan) enacted on December 22, 2017, which included a provision that reduces corporate income tax rates. We discuss the tax legislation in more detail below.

Q. What methodology did you use to establish estimated income tax expense for the 2019 test year?

A. We use the "stand-alone" method to determine the test year income tax expense. This method uses as inputs only those costs and revenues included in our requested test year revenue requirement to determine the income tax expense for the test year. The Commission has traditionally used this approach to determine the income tax expense in test year price development. Further, because PGE's operations are nearly 100% regulated utility activity, this method also conforms to ORS 757.269, which specifies how income taxes are treated for developing prices.

[5] An Act to provide for reconciliation pursuant to titles II and V of the concurrent resolution on the budget for fiscal year 2018. Public Law Number 115-97.

Q. What income taxes does PGE pay?

A. PGE pays income taxes to the federal government, the States of Oregon, Montana, and California, and to local government entities such as the City of Portland and Multnomah County.

Q. Please describe the specific impacts of the recent tax legislation.

A. The recent tax legislation that was enacted on December 22, 2017 includes provisions that directly and indirectly affect PGE's revenue requirement. The most important provision is the lowering of the federal corporate income tax rate from 35% to 21% effective January 1, 2018. This has the immediate effect of reducing PGE's current and deferred income tax expense. Additional impacts on PGE's 2019 revenue requirement consist of:

- Reduction of PGE's accumulated deferred income tax (ADIT) liability;
- Elimination of the Domestic Production Activities Deduction;
- Adjustment of production tax credits (PTCs) in power costs due to the lower gross-up for taxes; and
- Inclusion of the excess ADIT reversal.

Q. Why does the ADIT balance decline?

A. In total, PGE's year-end 2018 ADIT declined by approximately $17.4 million. This is primarily due to a larger projected carryover of PGE's PTCs since the lower corporate tax rate results in a lower tax expense on which to utilize the credits.

Q. Please explain the elimination of the Domestic Production Activities Deduction.

A. One of the provisions of the Tax Plan was to repeal the Domestic Production Activities Deduction or "Production Deduction". This deduction had reduced PGE's federal taxable income by $9.0 million in prior rate case revenue requirements.

Q. Please elaborate on the inclusion of the excess ADIT reversal.

A. As noted above, the excess ADIT needs to be amortized over the average life of PGE's assets in accordance with IRS normalization requirements[6] (i.e., using the average rate assumption method – ARAM). As a result, PGE's calculated total income tax expense will be lower in the 2019 test year by approximately $7.0 million.

Q. Has PGE submitted any other filings in relation to the Tax Plan?

A. Yes. On December 29, 2017, PGE filed for deferred accounting treatment for the expected 2017 and 2018 net benefits associated with the provisions implemented through the Tax Plan. Because of the length and complexity of the legislation, PGE will continue to evaluate the Tax Plan's implications.

Q. What marginal tax rates have you incorporated into your 2019 test year revenue requirement?

A. The federal marginal tax rate is 21.0%, the State of Oregon marginal tax rate is 7.60%, the State of California marginal tax rate is 8.84%, and the State of Montana marginal tax rate is 6.75%. We also include the City of Portland marginal tax rate of 2.20%.

Q. What is PGE's state composite tax rate for this filing?

A. PGE's state and local composite tax rate is 7.788%. The rate is a function of the marginal state tax rates and the respective apportionment factors of taxable income to different state and local jurisdictions.

Q. What is PGE's total composite tax rate for this filing?

A. PGE's total composite tax rate for this filing is 27.151%, which is the sum of the federal marginal tax rate and the state and local composite tax rate, less the effect of their interaction

[6] P.L. 115-97, §1561(d)(1).

(i.e., local income taxes reduce state income taxes and state income taxes reduce federal income taxes), or:

21.00% + 7.7877% - ((21.00% * 7.7877%) - (7.600% - 0.0167%)) = 27.151%

Q. Did you exclude any tax rates from local jurisdictions from the calculation of the composite tax rate?

A. Yes. PGE collects Multnomah County Business income taxes through a supplemental tariff to comply with OAR 860-022-0045. As such, we do not include an estimate of the costs as part of our revenue requirement in this proceeding.

Q. Did you include state and federal tax credits in your estimate of income tax expense for 2019?

A. No. Consistent with the provisions of Oregon Senate Bill 1547, Section 18b, federal PTCs are now incorporated as part of PGE's net variable power costs. Additionally, all of PGE's state tax credits have been utilized and there are none currently forecasted for 2019.

B. Taxes Other than Income and Fees

Q. What is PGE's 2019 estimate of Taxes Other Than Income and Fees?

A. As shown in PGE Exhibit 206, total Taxes Other Than Income are $138.5 million for 2019. This compares to 2017 actual costs of $122.4 million. The primary cost changes from 2017 actuals to the 2019 test year are:

- Property Taxes: from $61.4 million to $71.6 million;
- Franchise Fees: from $43.0 million to $47.8 million; and
- Payroll Taxes: from $15.4 million to $16.6 million.

1. Property Taxes

Q. Please describe PGE's obligation to pay property taxes.

A. PGE owns property in three states: Oregon, Montana (Colstrip plant and related transmission), and Washington (Tucannon River Wind Farm and KB Pipeline for gas used at the Port Westward and Beaver plants). As a result, PGE is obligated to pay property taxes in each of these jurisdictions.

Q. How do these jurisdictions assess property taxes on PGE?

A. Rather than each individual county assessing property tax, Oregon, Montana, and Washington "centrally assess" PGE's property using a unit approach. This unit approach is required by state statutes because the properties are considered a single economic unit and system assets are thoroughly integrated in operation and construction. For example, a piece of wire cannot be valued without looking at its relationship to the entire unitary system. Each state uses a combination of three approaches to determine value: 1) cost, 2) income, and 3) comparable sales. The result of each approach is considered and weighted by each respective state assessor in determining a correlated system value. The goal of this valuation process is to assess PGE's operating system as closely as possible to its real market value on January 1 of each year.

Q. Is PGE including property tax savings incentives related to major construction projects?

A. Yes. Similar to prior years, PGE has included tax savings related to Strategic Investment Program (SIP) property tax abatement agreements, which significantly reduces taxes for a 15-year period beginning in 2008 for Biglow Canyon, Port Westward II, and Carty.

Q. What is PGE's forecast for 2019 property tax expense?

A. PGE has forecast approximately $71.6 million of 2019 property taxes compared to 2017 actuals of $61.4 million.

Q. Why are property taxes increasing from 2017 to the 2019 test year?

A. $5.4 million of the increase is due to an increase in plant assets and $1.3 million is due to an increase in the Oregon property tax rate. Additionally, a full year of the Carty SIP is included in 2019, totaling $1.3 million, versus a half-year that was payable in 2017. Approximately $2.2 million of the increase is due to additional CWIP[7] balances that will be assessed property tax expense, $0.5 million is due to higher Montana levy rates for Colstrip, and $0.3 million is due to a higher tax assessment for Tucannon.

2. Franchise Fees

Q. Why have franchise fees increased from 2017 to the 2019 test year?

A. PGE updated the franchise fee rate to reflect the three-year average of 2015-2017 actuals. Although the franchise fee rate drops slightly from 2.545% in 2018 (UE 319) to 2.538% in 2019, overall, franchise fees increase because PGE's requested revenue requirement increases.

3. Payroll Taxes

Q. How does PGE estimate payroll taxes?

A. PGE estimates payroll taxes by applying an approximate 8.6% payroll tax rate to total wages and salaries. We allocate a portion of payroll tax cost to capital consistent with the allocation of overall capitalized wages and salaries.

Q. Why have payroll taxes increased from 2017 to the 2019 test year?

[7] Construction work in progress.

A. Payroll taxes increase as wages and salaries grow between these years as described in PGE Exhibit 400.

VI. Rate Base

Q. What is PGE's 2019 rate base and what does it include?

A. PGE has established its rate base balances as of year-end 2018, and forecasts the total balance to be approximately $4,857.2 million. PGE Exhibit 207 provides the details of the 2018 rate base, which includes PGE's investment in Plant in Service, net of Accumulated Depreciation, and ADIT.[8] In addition, the rate base includes Fuel and Materials Inventory, Miscellaneous Deferred Debits and Credits, and Working Cash.

Q. How does PGE's 2018 rate base compare to amounts approved in UE 319?

A. PGE Exhibit 208 shows that the rate base approved in UE 319 is $4,505.4 million and that PGE's 2018 rate base reflects an increase of $351.8 million. The increase is primarily attributable to the growth in distribution plant as discussed in PGE Exhibit 800, as well as the Customer Touchpoints project as discussed in PGE Exhibit 900.

Q. What is the Working Cash total added to rate base in this filing?

A. PGE has updated its lead/lag study to determine the Working Cash factor for use in calculating PGE's Working Cash total in rate base. This analysis results in the Working Cash factor increasing from 3.628% in 2018 (UE 319) to 4.063% in 2019. Applying the 4.063% Working Cash factor to total forecasted operating expenses in 2019 of $1,554.8 million produces the Working Cash total in rate base of approximately $63.2 million. This amount is shown in PGE Exhibit 201.

[8] ADIT is also calculated based on year-end 2018 amounts, consistent with IRS Normalization principles.

VII. Carty Update

Q. Please summarize the ratemaking relief PGE sought for Carty in Docket No. UE 294 (UE 294).

A. In UE 294, PGE requested that prices recovering Carty's net revenue requirement become effective shortly after a PGE officer provided an attestation that Carty was placed in service.

Q. Did Commission Staff analyze the prudence of PGE's actions related to Carty?

A. Yes. Staff analyzed the prudence of PGE's actions related to Carty from two perspectives. First, Staff analyzed the consistency of Carty with previous integrated resource plans and request for proposals. Second, Staff analyzed the prudence of Carty as of the date when PGE decided to proceed with the project.[9]

Q. What was the outcome of UE 294, with respect to Carty?

A. On November 3, 2015, the Commission issued Order No. 15-356 approving settlements reached in UE 294. With respect to Carty, the approved settlements stipulate PGE's decision to construct Carty was prudent. The approved settlements also identify the conditions for which Carty's prudently incurred costs and benefits would be included in customer prices when Carty begins providing service to customers. The conditions include:[10]

> i. For determining rates in this docket only, the gross plant for Carty, including the Grassland Switchyard, will be $514 million… If Carty capital costs are higher than the designated amount, PGE may not recover those costs through the Carty tariff rider. However, PGE will not be bound to the original $514 million estimate in subsequent rate proceedings. If PGE seeks to recover any additional amounts in a subsequent general rate filing, PGE must demonstrate the prudence of such additional costs.

[9] See UE 294 Staff Exhibit 1700, page 6.
[10] Commission Order No. 15-356, Appendix A, pages 4 and 5.

ii. PGE will file an attestation by an officer when the Carty plant is placed in service.

iii. If the Carty Generating Station is not completed and in service by July 31, 2016, PGE will need to file a new ratemaking request seeking the inclusion of the Carty costs in rates, inclusive of Grassland Switchyard.

Q. Did PGE place Carty into service by July 31, 2016?

A. Yes. PGE placed Carty into service on July 29, 2016 and an officer attestation was submitted to the Commission.

Q. What are the overall construction costs to build the Carty facility?

A. As of September 30, 2017, PGE has capitalized $637 million to electric utility plant, excluding certain lien claims totaling $8 million that PGE is challenging.

Q. Does this rate case include the additional construction costs associated with Carty?

A. No. PGE included only the original cost estimate of $514 million.

Q. Is PGE continuing to diligently pursue payment from Liberty Mutual and Zurich American Insurance Company pursuant to a performance bond as described in PGE's SEC financial statement disclosures?

A. Yes. For a more complete update on the status of these legal matters, see PGE's 2017, Form 10-K (Part II, Item 8, Note 17).

VIII. Customer Engagement Transformation (CET)

Q. Please provide an update on PGE's CET program.

A. PGE continues to work toward the completion of CET, which has been a multi-year program consisting of 24 projects and culminating in 2018 with the replacement of two legacy customer systems: Customer Information System and Meter Data Management System. We refer to the systems replacement project as Customer Touchpoints.

Q. Are you including the costs for Customer Touchpoints in your current request?

A. Yes. PGE is including the 2018 Customer Touchpoints project as part of this revenue requirement. CET capital costs and a detailed update of Customer Touchpoints are provided in PGE Exhibit 900.

IX. Unbundling

Q. Have you unbundled the 2019 revenue requirement pursuant to OAR 860-038-0200?

A. Yes. PGE Exhibit 210 summarizes the results of unbundling the integrated revenue requirement, as required by OAR 860-038-0200, into the required functional areas or revenue requirement categories. Table 4 below summarizes the base unbundled revenue requirement for 2019.

Table 4
Unbundled Revenue Requirement
($millions)

Production	$ 1,061.4
Transmission	33.1
Distribution	638.7
Ancillary	4.8
Metering	10.8
Billing	70.9
Other Consumer Services	64.8
Total*	**$ 1,884.6**

** May not sum due to rounding*

The sum of the unbundled revenue requirement for these services equals the integrated revenue requirement as presented in PGE Exhibit 201 columns 1 through 3.

Q. How did you develop the revenue requirement after unbundling costs and rate base?

A. We used traditional revenue requirement methodology – recovery of cost plus a return on rate base – to calculate the revenue requirement for each unbundled service in accordance with OAR 860-038-0200(9)(d).

Q. How did you unbundle PGE's 2019 expenses and Other Revenue?

A. We unbundled expenses and Other Revenue by analyzing each account within those categories. First, we determined which accounts could be directly assigned to one of the functional categories listed in Table 4 above. Second, we evaluated those accounts that could not be clearly assigned to determine a basis for allocation.

Q. Were most of the expense and Other Revenue accounts assigned or allocated?

A. The majority of accounts have a direct relationship with a single functional area and we assigned these accounts based on OAR 860-038-0200(9)(b)(A) through (E). The largest category of allocated costs is administrative and general (A&G), which we allocated to the functional areas based on labor dollars for those areas. Other costs, such as property taxes, and payroll taxes, relate to factors such as net plant or labor. We allocated these costs based on the respective share of those factors per functional area in accordance with OAR 860-038-0200(9)(c)(B)(i) through (ii). For other expenses, such as depreciation and amortization, we "functionalized in the same manner as the respective plant accounts" – see OAR 860-038-0200(9)(c)(A).

Q. Did you allocate any expense or Other Revenue to retail or non-utility?

A. Yes, for retail and no for non-utility. First, we allocate costs to retail activities based on assets allocated to retail. Second, while we forecast labor costs in non-utility, "below-the-line" accounts, these accounts already receive allocations for corporate governance (i.e., A&G/Support costs) and service providers (i.e., Facilities, Information Technology, and Print/Mail Services) based on that labor. Therefore, unbundling A&G (or other support costs) to non-utility accounts would apply these costs twice.

Q. How did you unbundle rate base?

A. There are two categories of rate base that we evaluated for unbundling: 1) Plant in Service with associated Depreciation Reserve, and Accumulated Deferred Income Taxes; and 2) other rate base. For Plant in Service, we assigned most assets and their associated contra accounts in accordance with OAR 860-038-0200(9)(a)(A) through (F). These assets clearly relate to specific functional areas (e.g., thermal and hydro generating plants; transmission towers and conductors; distribution poles, conductors, substations, transformers, and service drops). Some general and intangible plant was directly assigned, but the majority of these categories consist of many smaller assets without a clear functional attribute so we allocated them based on labor.

Q. How did you unbundle other rate base?

A. We assigned or allocated other rate base using the criteria established in OAR 860-038-0200(9)(a)(G). Specifically, we evaluated other rate base on an account-by-account basis and directly assigned where applicable (e.g., fuel inventories are assigned to Production). For other categories, we allocated costs on an appropriate basis (e.g., deferred credits related to post-retirement medical and life insurance are allocated based on labor).

Q. Did you assign franchise fees to the distribution function?

A. Yes. Pursuant to OAR 860-038-0200(9)(c)(B)(i)(IV), PGE assigned franchise fees directly to the distribution function. We also assigned write-offs for uncollectibles directly to the distribution function.

X. Qualifications

Q. Dr. Tooman, please state your educational background and experience.

A. I received a Bachelor of Science degree in Accounting and Finance from the Ohio State University. I received a Master of Arts degree in Economics and a Ph.D. in Economics from the University of Tennessee. I have held managerial accounting positions in a variety of industries and have taught economics at the undergraduate level for the University of Tennessee, Tennessee Wesleyan College, Western Oregon University, and Linfield College. Finally, I have worked for PGE in the Rates and Regulatory Affairs department since 1996.

Q. Mr. Espinoza, please state your educational background.

A. I received a Bachelor of Science degree in Economics from Portland State University in 1997 and a Master of Business Administration degree from Marylhurst University in 2006. I have been employed at PGE since 2000, working in various departments including Risk Management, Corporate Planning, and Financial Forecasting. I joined the Rates and Regulatory Affairs department in 2017.

Q. Does this conclude your testimony?

A. Yes.

List of Exhibits

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PGE Exhibit 201
2019 Results of Operations
Increase in Base Rates Needed for Reasonable Return
Dollars in (000s)

	Base Business		4.78%
	2019 Results at 2018 Base Rates	Change for Reasonable Return	2019 Results After Change for Reasonable Return
	(1)	(2)	(3)
Operating Revenues			
Sales to Consumers (Rev. Req.)	1,798,713	85,908	1,884,622
Sales for Resale	-	-	-
Other Operating Revenues	25,327	-	25,327
Total Operating Revenues	1,824,041	85,908	1,909,949
Operation & Maintenance			
Net Variable Power Cost	375,309	-	375,309
Operations O&M	317,758	-	317,758
Support O&M	265,341	571	265,911
Total Operation & Maintenance	958,407	571	958,978
Depreciation & Amortization	372,496	-	372,496
Other Taxes / Franchise Fee	136,361	2,180	138,541
Income Taxes	62,226	22,571	84,797
Total Oper. Expenses & Taxes	1,529,491	25,322	1,554,812
Utility Operating Income	294,550	60,586	355,137
Rate of Return	6.065%		7.312%
Return on Equity	7.008%		9.500%
* 2018 Rates per approved UE 319			
Rate Base			
Plant in Service	10,221,818	-	10,221,818
Accumulated Depreciation	(4,761,822)	-	(4,761,822)
Accumulated Def. Income Taxes	(679,665)	-	(679,665)
Accumulated Def. Inv. Tax Credit	-	-	-
Net Utility Plant	4,780,331	-	4,780,331
Misc Deferred Debits	9,294	-	9,294
Operating Materials & Fuel	78,945	-	78,945
Misc. Deferred Credits	(74,554)	-	(74,554)
Working Cash	62,143	1,029	63,172
Total Rate Base	4,856,160	1,029	4,857,189
Income Tax Calculations			
Book Revenues	1,824,041	85,908	1,909,949
Book Expenses	1,467,265	2,751	1,470,015
Interest Rate Base @ Weighted Cost of Debt	124,394	26	124,420
Production Deduction	-	-	-
Permanent Sch M Differences	(22,619)	-	(22,619)
Temporary Sch M Differences	63,378	-	63,378
State Taxable Income	191,623	83,131	274,755
State Income Tax	14,921	6,473	21,394
Federal Taxable Income	176,703	76,658	253,361
Fed Income Tax	37,108	16,098	53,206
Deferred Taxes	17,208	-	17,208
Excess ADIT Reversal (ARAM)	(7,010)	-	(7,010)
Federal Tax Credits	-	-	-
Total Income Tax	62,226	22,571	84,797

PGE Exhibit 201
General Rate Case - 2019 Test Year
Capital Structure / Revenue Sensitive Costs
(000s)

Capital Structure:	**Amount**	**Share**	**Cost**	**Weighted**
Common Equity	N/A	50.00%	9.500%	4.750%
Preferred	N/A	0.00%	0.00%	0.000%
Long-Term Debt	N/A	50.00%	5.123%	2.562%
Total	N/A	100.00%		**7.312%**

Revenue Sensitive Costs:	
Revenues	100.0000%
OPUC Fees	0.3211%
Franchise Fees	2.5376%
O&M Uncollectibles	0.3431%
State Taxable Income	96.7982%
State and Local Tax @ 7.7865%	7.5372%
Federal Taxable Inc.	89.2610%
Federal Tax @ 21.000%	18.7448%
Total Income Taxes	**26.2820%**
Total Rev. Sensitive Costs	**29.4838%**
Utility Operating Income	70.5162%
Net To Gross Factor	**1.418114**
RSC Gross-Up Factor	1.0331

State and Local Income Tax:

	Appor	Rate	Weighted
Portland	0.76%	2.20%	0.015%
Montana	2.86%	6.75%	0.193%
California	2.06%	8.84%	0.182%
Oregon	97.32%	7.60%	7.396%
State and Local Tax Rate			7.786%

Less Local Benefit to Oregon:	
Oregon Rate	7.6000%
Local Rate	-0.0167%
Oregon Benefit of Local Tax deduction	-0.0013%

Composite Tax Rate:		**27.1513%**
Check:	Fed Tax	21.0000%
	State Tax	7.7865%
	Tax Shield	-1.6352%
	Composite	27.1513%
Working Cash Factor		4.063%

PGE Exhibit 202
Other Revenue Detail
2015 - 2019 Test Year

Account	Description	2015 Actuals	2016 Actuals	2017 Actuals	2018 Budget	2019 Test Year
4470003	SalesfrResale-IntertiePGEtoPGE	(4,816,292)	(5,936,823)	(6,256,410)	(5,934,000)	(5,934,000)
4500001	Forefeited Discounts	(3,019,107)	(2,994,617)	(3,415,327)	(3,900,000)	(3,900,000)
4510001	Miscellaneous Service Revenues	(1,796,073)	(1,852,377)	(1,830,779)	(1,908,952)	(2,465,491)
4530001	Sales of Water & Water Power	22,164	24,166	26,668	-	-
4540001	Rent From Electric Property	(1,043,393)	(1,025,319)	(1,206,299)	(1,312,908)	(1,313,831)
4540002	RentFrElecProperty-Joint Pole	(6,564,797)	(7,679,162)	(6,444,068)	(6,504,350)	(5,300,350)
4560001	Other Electric Revenues	(3,487,297)	(3,648,451)	(3,825,497)	(3,466,954)	(3,468,351)
4560002	OthElecRev-RegulatoryDeferRev	323,401	517,749	1,809,924	1,405,570	1,283,381
4560003	OthElecRev-FishWildlifeRecrOps	(19,493)	(12,386)	(11,234)	-	(16,297)
4560004	OthElecRev-SSHG	(239,360)	(69,475)	(90,983)	(120,301)	(215,315)
4560005	OthElecRev-Utility Non-Kwh	(2,657)	(2,478)	(5,664)	-	-
4560012	OthElecRev-Steam Sales	(2,555,480)	(1,480,085)	(1,892,218)	(1,684,211)	(1,684,211)
4561001	TransRevOthers-Non-Intertie	(2,971,892)	(2,899,444)	(3,557,592)	(3,474,800)	(3,202,930)
4561002	TransRevOthers-Intertie	(5,285,337)	(5,080,702)	(4,953,843)	(5,044,000)	(5,044,000)
5660002	TransOp-MiscExp-IntertieWhePGE	4,816,292	5,936,823	6,256,410	5,934,000	5,934,000
Total		(26,639,321)	(26,202,580)	(25,396,912)	(26,010,906)	(25,327,395)

PGE Exhibit 203
Depreciation Detail ($000s)
2015 - 2019 Test Year

	(1)	(2)	(3)	(4)	(5)
Property Group	**2015 Actuals**	**2016 Actuals**	**2017 Actuals**	**2018 Budget**	**2018 Forecast used for 2019 Test Year**
Boardman	29,642	30,023	28,627	28,711	29,209
Colstrip	5,308	5,161	10,022	9,546	9,732
Beaver	4,644	5,573	6,255	7,460	7,136
Biglow Canyon	33,490	32,095	30,912	32,830	31,268
Carty		6,696	13,883	13,609	12,740
Coyote Springs	5,136	4,919	4,831	4,616	4,891
DSG	332	340	354	344	391
Port Westward	8,647	8,668	8,506	8,467	7,974
Port Westward 2	8,160	8,042	7,654	7,660	7,511
Solar	42	79	192	358	165
Tucannon	17,316	16,761	16,232	15,675	15,284
Hydro	15,806	18,319	18,964	20,995	21,696
Transmission	9,078	10,025	12,616	12,710	12,055
Distribution	97,611	101,051	106,316	104,308	108,842
General Plant	33,915	35,430	38,248	38,884	40,939
Total	**269,127**	**283,182**	**303,612**	**306,173**	**309,834**
Remove Boardman Decommissioning	(5,877)	(5,877)	(4,225)	(4,225)	(4,225)
Retail Adjustment					(78)
Adjusted Total	**263,250**	**277,305**	**299,387**	**301,948**	**305,531**

Notes:

(1) 2015 Boardman depreciation includes effects of the Schedule 145 Tariff update, which incorporates the site specific decomissioning study with additional 15% ownership of non-coal handling assets, bringing PGE total share to 80%.
2015 depreciation excludes coal car depreciation of $261 and vehicle depreciation of $3,516 or $3,637

(2) 2016 Boardman depreciation includes effects of the Schedule 145 Tariff update, which incorporates the site specific decomissioning study with additional 10% ownership and retention program, bringing PGE total share to 90%.
2016 depreciation excludes coal car depreciation of $318 and vehicle depreciation of $4,781.
2016 Sunway becomes part of base business

(3) 2017 Boardman forecasted depreciation includes effects of the Schedule 145 Tariff update, which incorporates the site specific decomissioning study.
2017 depreciation excludes coal car depreciation of $249 and vehicle depreciation (including helicopter) of $4,630.

(4) 2018 Boardman forecasted depreciation includes effects of the Schedule 145 Tariff update, which incorporates the site specific decomissioning study.
2018 forecasted depreciation excludes coal car depreciation of $266 and vehicle depreciation (including helicopter) of $4,187.

(5) 2019 Boardman forecasted depreciation includes effects of the Schedule 145 Tariff update, which incorporates the site specific decomissioning study.
2019 forecasted depreciation excludes coal car depreciation of $65 and vehicle depreciation (including helicopter) of $4,770.

PGE Exhibit 204
Amortization Detail
2015 - 2019 Test Year
($000)

Item	FERC Account	AWO	(1) 2015 Actuals	(2) 2016 Actuals	(3) 2017 Actuals	(4) 2018 Budget	(5) 2018 Forecast used for 2019 Test Year
Software Amortization (Intangible)	404.0		30,053	35,668	37,560	47,000	55,790
Other Intangible Plant (Includes Hydro Relicensing)	404.0		8,312	8,430	8,574	9,294	8,732
Trojan Decommissioning	407.0	7000000045	3,500	3,500	3,500	3,500	2,500
Trojan Spent fuel Settlement	407.0	3000000786	(16,800)	(16,340)	(18,982)	0	0
Independant Evaluator Deferral	407.3		547	35	0	0	0
Colstrip Common FERC Adjustment	407.3	7000000107	322	322	107	107	0
Schedule 110 EE Asset Balancing Acccount	407.3	7000000124	902	884	942	942	0
AMI Project Office Costs	407.3		0	0	0	0	0
Fit Pilot Program	407.3	7000002001	6,248	7,975	7,867	7,740	0
Regulatory Deferral Amortz	407.3	7000010741	18,959	155	0	0	0
Residual Balance	407.3		0	0	0	0	0
Regulatory Deferral (capital Deferral)	407.4	7000010741	0	0	0	0	0
2011 Local 408/MCBIT Deferral	407.4	3000000135	168	515	220	(200)	0
Int Income PES Note	407.4	7000000319	0	0	0	0	0
ISFSI Tax Credits-Used	407.4	7000000324	(5,290)	(300)	0	0	0
SunWay 3	407.4	7000000727	(45)	(45)	(45)	0	0
			46,875	40,798	39,743	68,383	67,022
Allocated to retail							(57)
Total Amortization			**46,875**	**40,798**	**39,743**	**68,383**	**66,965**

PGE Exhibit 205
Income Tax Summary
(000s)

Income Tax Expense	UE 319 2018 Test Year	2019 Test Year
Book Revenues	1,840,038	1,909,949
Book Expenses (including Depreciation)	1,355,693	1,470,015
Interest Deduction	117,207	124,420
Book Taxable Income	367,138	315,514
Production Deduction	9,000	-
Permanent Sch. M	(24,268)	(22,619)
Temporary Sch. M	45,835	63,378
Taxable Income	336,571	274,755
Current State Taxes	26,202	21,394
State Tax Credits	-	-
Net State Income Tax	26,202	21,394
Federal Taxable Income	310,369	253,361
Current Federal Taxes	108,629	53,206
Federal Tax Credits	-	-
ITC Amortization	-	(7,010)
Deferred Taxes	18,301	17,208
Total Income Tax	153,133	84,797
Effective Tax Rate	41.71%	26.88%
Change in Taxes		(68,335)

Analysis of Tax Change:	
Effective Tax Rate Change	-14.83%
Book Taxable Income (UE 294)	367,138
Decrease in Taxes Due to Lower Effective Rate	(54,461)
Change in Book Taxable Income (2019 vs UE 319)	(51,624)
2019 Effective Tax Rate	26.88%
Decrease in Taxes Due to Lower Book Taxable Income	(13,874)

Sum of Tax Impacts	(68,335)

PGE Exhibit 206
Taxes Other Than Income
2015 - 2019 Test Year

Item	FERC Account	AWO	2015 Actual	2016 Actual	2017 Actual	2018 Budget	2019 Forecast
Payroll Taxes	408.1	Note 1	13,719,102	13,522,625	15,364,666	15,084,350	16,637,391
Property Taxes - Oregon	408.1	4081001	47,797,482	51,759,568	54,415,972	56,699,491	63,712,631
Property Taxes - Washington	408.1	4081002	2,201,144	1,640,162	2,118,221	2,370,228	2,549,148
Property Taxes - Montana	408.1	4081003	5,401,265	5,752,457	4,838,828	6,003,000	5,316,372
Franchise Fees	408.1	4081010, 4081011	43,406,579	43,125,386	43,018,675	44,069,588	47,824,508
Foreign Insurance Excise Tax	408.1	4081012	9,984	9,485	-	-	-
Misc. Tax & Lic Fees - Oregon	408.1	4081013	1,667,103	1,995,850	2,262,201	2,068,281	2,068,281
Misc. Tax & Lic Fees - Montana	408.1	4081014	441,288	407,253	356,306	458,304	432,504
Total Taxes Other Than Income			114,643,947	118,212,785	122,374,869	126,753,242	138,540,836

Note 1: Payroll Tax accounts include 4081004, 4081005, 4081006, 4081007, 4081008 and 4081009

PGE Exhibit 207
Rate Base ($000s)
Based on Ending 12/31/18 Balances

		12/31/2018 Balance
	Plant in Service	10,221,818
Less:	Accumulated Depreciation/Amortization	(4,761,822)
	Accumulated Deferred Taxes	(679,665)
	Accumulated Deferred ITC	-
Net Utility Plant		4,780,331
Operating Materials and Fuel Stocks		78,945
Deferred Debits		
	Glass Insulators	5,473
	Dispatchable Standby Generation	11,818
Deferred Credits		
	Injuries & Damages	(9,075)
	Customer Deposits	(12,580)
	Incentive Adjustment (UE 283)	(8,000)
	Major Maintenance Accruals	(7,997)
	Post Retirement Liabilities	(44,889)
	Misc. Other	(10)
Working Capital		63,172
Rate Base		4,857,189

PGE Exhibit 208
Rate Base Comparison
UE 319 vs. 2019 Test Year
(000s)

	UE 319 Test Year	Working Cash Requirements	Thermal Plant Maint. Accruals	Plant Additions/ Depr/Amort	Accum. Def. Taxes (bonus depr., etc.)	Misc. Other	YE 2018 Rate Base
Plant in Service	9,816,526			405,292			10,221,818
Accumulated Depr/Amort	(4,727,981)			(33,841)			(4,761,822)
Accumulated Deferred Taxes/ITC	(662,272)				(17,393)		(679,665)
Net Utility Plant	4,426,274	-	-	371,451	(17,393)	-	4,780,331
Other Rate Base	24,359		(6,890)			(3,784)	13,685
Working Cash	54,742	8,431	-	-		-	63,172
Rate Base	4,505,374	8,431	(6,890)	371,451	(17,393)	(3,784)	4,857,189

PGE Exhibit 209
Production Tax Credits (PTCs) in 2019 Net Variable Power Cost

Grossed Up for Taxes	(49,026)
Gross Up Factor	1.373
PTCs	(35,715)

PGE Exhibit 210
Unbundled Results of Operations Summary
2019 Results at Reasonable Return
Dollars in $000s

	Production	Transmission	Distribution	Ancillary	Metering	Billing	Consumer	Total
Operating Revenues								
Sales to Consumers (Rev. Req.)	1,061,408	33,133	638,739	4,832	10,827	70,921	64,762	1,884,622
Sales for Resale	-	-	-	-	-	-	-	-
Other Operating Revenues	601	14,188	15,333	(4,832)	2	8	28	25,327
Total Operating Revenues	1,062,009	47,321	654,072	-	10,829	70,929	64,789	1,909,949
Operation & Maintenance								
Net Variable Power Cost	375,309	-	-	-	-	-	-	375,309
Total Fixed O&M	169,108	11,275	137,259	-	-	-	-	317,642
Other O&M	62,949	5,111	91,041	-	1,911	54,666	50,350	266,027
Total Operation & Maintenance	607,366	16,385	228,300	-	1,911	54,666	50,350	958,978
Depreciation & Amortization	173,383	14,342	163,745	-	4,500	10,879	5,647	372,496
Other Taxes / Franchise Fee	45,777	2,865	84,806	-	778	1,350	2,965	138,541
Income Taxes	44,015	2,474	35,942	-	644	633	1,089	84,797
Total Oper. Expenses & Taxes	870,541	36,067	512,793	-	7,832	67,527	60,051	1,554,812
Utility Operating Income	191,469	11,253	141,279	-	2,997	3,401	4,738	355,137
Rate of Return	7.31%	7.31%	7.31%	N/A	7.31%	7.31%	7.31%	7.31%
Return on Equity	9.50%	9.50%	9.50%	N/A	9.50%	9.50%	9.50%	9.50%
Rate Base								
Utility Plant in Service	5,305,106	346,884	4,252,013	-	65,649	143,058	109,109	10,221,818
Accumulated Depreciation	2,308,745	162,568	2,162,648	-	17,580	80,627	29,653	4,761,822
Accumulated Def. Income Taxes	461,618	36,079	148,117	-	6,747	16,766	10,338	679,665
Accumulated Def. Inv. Tax Credit	-	-	-	-	-	-	-	-
Net Utility Plant	2,534,743	148,237	1,941,248	-	41,321	45,665	69,118	4,780,331
Operating Materials & Fuel	62,629	726	15,589	-	-	-	-	78,945
Misc Deferred Debits	3,821	5,473	-	-	-	-	-	9,294
Misc. Deferred Credits	(17,855)	(1,994)	(45,412)	-	(648)	(1,887)	(6,759)	(74,554)
Working Cash	35,370	1,465	20,835	-	318	2,744	2,440	63,172
Total Rate Base	2,618,708	153,908	1,932,260	-	40,991	46,521	64,799	4,857,189