EXH. JAP-1T
DOCKETS UE-19___/UG-19___
2019 PSE GENERAL RATE CASE
WITNESS: JON A. PILIARIS

BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, **Complainant,** **v.** **PUGET SOUND ENERGY,** **Respondent.**	**Docket UE-19____** **Docket UG-19____**

PREFILED DIRECT TESTIMONY (NONCONFIDENTIAL) OF

JON A. PILIARIS

ON BEHALF OF PUGET SOUND ENERGY

JUNE 20, 2019

PUGET SOUND ENERGY

PREFILED DIRECT TESTIMONY (NONCONFIDENTIAL) OF JON A. PILIARIS

CONTENTS

PUGET SOUND ENERGY

PREFILED DIRECT TESTIMONY (NONCONFIDENTIAL) OF JON A. PILIARIS

LIST OF EXHIBITS

PUGET SOUND ENERGY

PREFILED DIRECT TESTIMONY (NONCONFIDENTIAL) OF JON A. PILIARIS

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Jon A. Piliaris. I am employed as Director, Regulatory Affairs with Puget Sound Energy ("PSE"). My business address is 355 110th Ave. NE, Bellevue, WA 98004.

Q. Have you prepared an exhibit describing your education, relevant employment experience and other professional qualifications?

A. Yes. Please see the First Exhibit to the Prefiled Direct Testimony of Jon A. Piliaris, Exh. JAP-2, for an exhibit describing my education, relevant employment experience and other professional qualifications.

Q. What is the purpose of your testimony?

A. My testimony presents the following:

1. PSE's normalized test year revenue from electric and natural gas operations,

2. PSE's overall revenue request,

3. PSE's proposed rate design for electric service, including its proposed conjunctive demand charge for qualified customers,

4. The impacts of PSE's proposed rate design for gas service, as explained in the Prefiled Direct Testimony of John D. Taylor, Exh. JDT-1T,

5. Updated allowed revenue for PSE's electric and gas decoupling mechanisms, and

6. The derivation of projected rate year revenue used in the attrition analysis presented in the Prefiled Direct Testimony of Ronald J. Amen, Exh. RJA-1T.

Q. Please summarize your testimony.

A. I would summarize my testimony as follows:

Normalized Test Year Revenue

- The total normalized test year electric revenue at current base rates is estimated to be $2.00 billion based on 22.87 billion kilowatt-hours ("kWh") in electric sales.

- The total normalized test year natural gas revenue at current margin rates is estimated to be $455.2 million based on 1.19 billion therms in gas sales. The total normalized revenue, including gas cost revenues, is estimated to be $762.3 million.

Electric Rate Design

- All rates in a customer class will be increased by the class average percentage increase, with a few exceptions.

- The notable exception is for residential customers, for whom PSE is proposing to only increase the tail block rate, leaving the basic charge and first block rates at their current levels.

- Moreover, to mitigate the effect of the proposed residential rate increases on its most vulnerable customers, PSE is proposing to increase the level of electric bill-assistance funding by double the average increase of 7.67 percent to residential customer bills, or an increase of $2.9 million.

- Schedule 40 is being eliminated and customers served under that schedule are being moved to otherwise applicable schedules.

- PSE is proposing a limited rate design pilot for qualified large commercial and certain customers involved in the electrification of transportation that would allow them to aggregate their demands for a portion of their bills.

Overall Electric Rate Impacts

- PSE requests an overall increase of 6.9 percent for state jurisdictional customers, or approximately $139.9 million. This reflects the net impact on PSE's electric customer rates associated with the proposed update to base rates and adjusting price schedules. The rate increase PSE requests is less than the $145.9 million supported by the evidence in this case. PSE is not seeking the full amount of the attrition adjustment supported in the Prefiled Direct Testimony of Ronald J. Amen, Exh. RJA-1T. Exh. SEF-3 to the Prefiled Direct Testimony of Susan E. Free, shows the net revenue change after attrition and the net revenue change requested in this case

- The impact on the monthly bill of PSE's typical residential electric customer using 900 kWh is an increase of $5.51, or 6.1 percent over current levels. This represents an annualized increase of only 1.6 percent over the rates paid by the same customer using 900 kWh per month in 2009. This is less than the 1.8 percent average annual inflation rate, as measured by the consumer price index for all urban consumers, over this same period.

- The overall impacts by customer class of the proposed changes to base rates, Schedule 95 (Power Cost Adjustment Clause), Schedule 141 (Expedited Rate Filing Rate Adjustment) and Schedule 141X (Protected-Plus Excess Deferred Incomes Tax Reversals) are shown in Table 1.

Table 1. Estimated Overall Impacts of Proposed Electric Rates

Customer Class	Rate Schedule	Overall Impact*
Residential	7	7.67%
General Service, < 51 kW	8/24	7.10%
General Service, 51 - 350 kW	7A/11/25/29	5.46%
General Service, >350 kW	12/26	5.31%
Primary Service, Gen & Irr.	10/31/35	7.23%
Primary Service, Schools	43	9.16%
High Voltage	46/49	4.64%
Lighting Service	50 – 59	8.96%
Special Contract	SC	-12.25%
Retail Wheeling	448/449	0.64%
Total Jurisdictional Retail Sales	**n/a**	6.89%

* Includes base rates, as well as Schedules 95, 141 and 141X.

Overall Gas Rate Impacts

- PSE requests an overall increase of 7.9 percent, or approximately $65.5 million. This reflects the overall impact on PSE's gas customer rates associated with the proposed updates to base margin rates and adjusting price schedules. The rate increase PSE requests is less than the $75.8 million supported by the evidence in this case. PSE is not seeking the full amount of the attrition adjustment supported in the Prefiled Direct Testimony of Ronald J. Amen, Exh. RJA-1T. Exh. SEF-3 to the Prefiled Direct Testimony of Susan E. Free, shows the net revenue change after attrition and the net revenue change requested in this case.

- The impact on the monthly bill of PSE's typical residential gas customer using 64 therms is an increase of $4.48, or 7.5 percent over current levels. This is almost 25 percent less than the rates paid by the same customer using 64 therms per month in 2009.

- Similar to the proposal for electric customers, to mitigate the proposed residential rate increases on its most

vulnerable gas customers, PSE is proposing to increase the level of gas bill-assistance funding by double the average increase of 7.5 percent to residential customer bills, or an increase of $0.7 million.

- Based on the parity ratios resulting from the gas cost of service study, the proposed increases to base rates, including gas costs, and proposed changes to gas Schedule 141 (Expedited Rate Filing Rate Adjustment), Schedule 141X (Protected-Plus Excess Deferred Income Tax Reversals) and Schedule 149 (Cost Recovery Mechanism for Pipeline Replacement), the estimated overall impacts by customer class are shown in Table 2.

Table 2. Estimated Overall Impacts of Proposed Gas Rates

Customer Class	Rate Schedule	Overall Impact*
Residential	16/23/53	7.54%
Commercial & Industrial	31/31T/61	11.82%
Large Volume	41/41T	0.76%
Interruptible	85/85T	7.89%
Limited Interruptible	86/86T	-3.53%
Non-exclusive Interruptible	87/87T	8.25%
Special Contracts		-4.04%
Rentals	71/72/74	-14.20%
Total/System Average		7.90%

* Includes base schedules, as well as Schedule 101, 141, 141X and 149.

Compliance Filing

- The rates in a number of PSE's adjusting price schedules will need to be reset simultaneously with the proposed changes to base rates in this general rate case. The full list of adjusting price schedules that will be included in the final compliance filing are as follows:[1]

[1] As discussed later in this testimony, other rate schedules will need to be updated shortly after the conclusion of this case.

- Electric Schedule 95 (Power Cost Adjustment Clause)
- Electric Schedule 141 (Expedited Rate Filing Rate Adjustment)
- Electric Schedule 141X (Protected-Plus Excess Deferred Income Tax Reversals)
- Electric Schedule 142 (Revenue Decoupling Adjustment Mechanism)
- Gas Schedule 141 (Expedited Rate Filing Rate Adjustment)
- Gas Schedule 141X (Protected-Plus Excess Deferred Income Tax Reversals)
- Gas Schedule 142 (Revenue Decoupling Adjustment Mechanism)
- Gas Schedule 149 (Cost Recovery Mechanism for Pipeline Replacement)
- The rate credit for customers participating in PSE's Voluntary Long Term Renewable Energy Purchase program (otherwise known as "Green Direct") under electric Schedule 139 will also be reset simultaneously with the proposed changes to base rates in this general rate case.

II. NORMALIZED TEST YEAR REVENUE FROM ELECTRIC AND NATURAL GAS OPERATIONS

A. Normalized Test Year Revenue Electric Operations

Q. What is normalized test year revenue?

A. Normalized test year revenue is an estimate of test year revenue based on normalized and proformed test year billing determinants (*e.g.*, energy sales, billed demand, number of bills) and the rates that are in place at the time of filing for a

rate change. It is developed to ensure that the test year revenue used in calculating the revenue deficiency: (1) reflects only those rate schedules that are being considered in the present case, (2) encompasses any rate changes that have taken place during or since the test year, and (3) is consistent with the normalized test year revenue requirement and loads. The billing determinants used to produce normalized test year revenue are also used to estimate the revenue from proposed rates.

Q. Have you prepared an exhibit that demonstrates PSE's development of its normalized test year revenue from electric operations?

A. Yes. Please see the Second Exhibit to the Prefiled Direct Testimony of Jon A. Piliaris, Exh. JAP-3, for an exhibit that demonstrates PSE's development of its normalized test year revenue from electric operations.

Q. Please explain page one of Exh. JAP-3, normalized test year delivered sales.

A. Normalized test year revenue is based on test year billing determinants, which is primarily based on energy sales. Therefore, a key step in developing normalized test year revenue involves making normalizing adjustments to test year energy sales. PSE's adjustments to test year electricity sales for this case are summarized on page one of Exh. JAP-3.

Column d of page one shows the billed electricity sales for the test year in this proceeding, which is the twelve months ending December 2018.

Column e includes an adjustment for unbilled electricity sales. This column adjusts for the fact that customers' bills are issued throughout the month and do

not correspond to calendar months. The unbilled sales in column e, which underlies PSE's income statement, removes the portion of sales that was consumed in the previous month, and adds an estimate of sales that occurred during the calendar month but were not yet billed.

The Schedule 40 migration adjustment in column f reflects estimated movement of customers and sales between Schedule 40, which will end at the conclusion of this case, and Schedules 24, 25, 26 and 31 to which customers will ultimately be migrated. Additionally, normalized sales related to PSE's Special Contract (effective April 1, 2019) have been removed from Schedule 40 and placed into its own customer class.

The temperature adjustment to electricity sales presented in column g adjusts for the effect of non-normal temperatures from test year loads, so that test year loads and revenues are more reflective of normal operating conditions. This adjustment is described in the Prefiled Direct Testimony of Lorin I. Molander, Exh. LIM-1T.

Normalized test year electricity sales that reflect all of these adjustments are totaled in column c. Total normalized test year electricity sales are used for calculating the normalized test year revenue that is presented in column h on page one of Exh. JAP-3.

Q. Please explain page two of Exh. JAP-3, normalized test year revenue summary.

A. Page two of Exh. JAP-3 presents explanations of the differences between test year revenue, as presented in PSE's income statement, and normalized test year

revenue, as calculated based on billing determinants and rates. The revenue included in the test year income statement is presented in row one of page two, and normalized test year revenue based on billing determinants and current rates is in row 29. The items presented in rows four through 26 are explanations of the differences between the income statement and normalized test year revenue. These items are related to:

1. removal of revenue from municipal taxes and certain adjusting price schedules (rows 4-13);

2. an adjustment to revenue to reflect the temperature normalization adjustment to electricity sales (row 14);

3. an annualizing adjustment to reflect the reductions to rates to reflect tax reform enacted at the end of 2017 (row 15);

4. other adjustments for rate changes (row 16);

5. a schedule migration adjustment that reflects customer movement from Schedule 40 to Schedules 24, 25, 26, 31 and Special Contract (row 22); and

6. pro forma adjustments to remove revenues associated with Schedules 95, 140 and 142 (rows 23-25).

Q. Will rates in any of the adjusting electricity price schedules in rows four through 13 or rows 23 through 25 change as a result of this filing?

A. Yes. Certain adjusting electricity price schedules will be reset contemporaneously with the approval of new base rates in this proceeding.

First, as has commonly been required in past rate cases, rates within Schedule 95 (Power Cost Adjustment Clause) associated with the recovery of power costs will

be set to zero, as power costs will be fully recovered through the base rates approved in this case.[2]

Next, electric Schedule 141, Expedited Rate Filing Rate Adjustment ("ERF") and Schedule 141X, Protected-Plus Excess Deferred Income Tax Reversals, are one-time adjustments to base rates set in PSE's 2018 expedited rate filing.[3] As these revenues and credits will now be collected through the base rates approved in this case, the rates in these schedules will be set to zero.

Finally, and as discussed more fully in Section V later in this testimony, revenue per unit rates and allowed revenue per customer within electric Schedule 142, Revenue Decoupling Adjustment Mechanism, will be reset to align with the new base rates approved in this case.

Q. What are PSE's resulting normalized test year electricity sales and revenue?

A. The total normalized electricity sales for the test year is 22.87 billion kWh, and is presented in column c of page one of Exh. JAP-3. The total normalized test year revenue is $1.997 billion and is presented in column b of page two.

[2] Note that there will continue to be a credit remaining on Schedule 95 that reflects the pass back to customers of an exit fee paid by a special contract customer as a condition for receiving service under its special contract in Docket UE-161123.

[3] Dockets UE-180899 and UG-180900 (consolidated).

B. Normalized Test Tear Revenue from Natural Gas Operations

Q. Have you prepared an exhibit that demonstrates PSE's development of its normalized test year revenue from natural gas operations?

A. Yes. Please see the Third Exhibit to the Prefiled Direct Testimony of Jon A. Piliaris, Exh. JAP-4, for an exhibit that demonstrates PSE's development of its normalized test year revenue from natural gas operations.

Q. Please explain page one of Exh. JAP-4, Reconciliation of Revenue by Rate Schedule.

A. Page one of Exh. JAP-4 presents explanations of the differences between test year revenue, as presented in PSE's income statement, and normalized test year revenue, as calculated based on billing determinants and rates. The revenue included in the test year income statement is presented in column B of page one, and normalized test year revenue based on billing determinants and current rates is in column O. The items presented in columns C through N are explanations of the differences between the income statement and normalized test year revenue. These items are related to:

1. removal of revenue from municipal taxes and adjusting price schedules (columns C-H);

2. other restating adjustments that correspond to the restating volume adjustments discussed below, specifically the billing corrections and the change in unbilled revenue adjustment (column I);

3. Adjusting for the effects of tax reform that took place at the end of 2017 (column K);

4. adjusting for price changes that took place during or after the test year, specifically the 2018 purchased gas adjustment ("PGA") (column L); and

5. an adjustment to revenue to reflect the weather adjustment to volume (column M).

Q. Will rates in any of the adjusting gas price schedules in Columns D through H on page 1 of Exh. JAP-4 change as a result of this filing?

A. Yes. As with the electric schedules, certain adjusting gas price schedules will be reset contemporaneously with the approval of new base rates in this proceeding. First, rates within gas Schedule 141 and 141X will be set to zero, since these revenue and credits will now be collected through the base rates approved in this case. Next, and as discussed more fully in Section VI later in this testimony, rates and allowed revenue per customer within gas Schedule 142 will be reset to align with the new base rates approved in this case. Finally, rates within Schedule 149 (Cost Recovery Mechanism for Pipeline Replacement or "Gas CRM") will be reset to reflect the transfer of Gas CRM program revenue from gas Schedule 149 to base natural gas rates, as discussed in the Prefiled Direct Testimony of Susan E. Free, Exh. SEF-1T.

Q. Please explain page two of Exh. JAP-4, Summary of Restated & Normalized Margin Revenue by Rate Schedule.

A. Page two of Exh. JAP-4 presents a summary of the gas margin revenue derived by subtracting Schedule 101 gas revenue in Column B of page three from total adjusted revenue in Column O of page one.

Q. Please explain page three of Exh. JAP-4, Summary of Restated & Normalized Gas Revenue and Gas Cost by Rate Schedule.

A. Page three of Exh. JAP-4 presents a comparison of restated and normalized gas revenue recovered through Schedule 101 (Column B) and gas costs (Column C) by rate schedule. The primary difference is the revenue sensitive items required to gross these costs up to the revenue required to be collected to fully recover these costs.

Q. Please explain page four of Exh. JAP-4, Adjustments to Volume (Therms) by Rate Schedule.

A. As mentioned above, normalized test year revenue is based on test year billing determinants, which is largely based on normalized energy sales. PSE's adjustments to test year natural gas throughput for this case are summarized on page four of Exh. JAP-4. This begins with column B of page one, which shows the volume of sales and transportation for the twelve months ending December 2018.

Column C includes an adjustment for out-of-period and unbilled volume. The out-of-period adjustment corrects usage associated with billing corrections by moving the consumption from the period in which it was corrected into the period in which it should have been billed. As discussed earlier, the unbilled volume adjustment adjusts for the fact that customers' bills are issued throughout the month and do not correspond to calendar months.

Finally, the weather normalization adjustment to gas volume presented in column D removes the effect of non-normal temperatures from test year loads, so that test year loads and revenues are more reflective of normal operating conditions. This adjustment is described in Exh. LIM-1T.

Normalized test year volume that reflects all of these adjustments is totaled in column E and is used for calculating normalized test year revenue as presented in column F on page four of Exh. JAP-4.

Q. What are PSE's resulting normalized test year natural gas volume and revenue?

A. The total normalized test year natural gas volume for the test year is 1.19 billion therms, and is presented in column F of page four of Exh. JAP-4. The total normalized test year revenue is $762.3 million and is presented in row 26 of column O on page one. The revenue associated with gas cost included in this amount is $307.2 million and is presented in line 16 of column C on page two.

III. PSE'S OVERALL REVENUE REQUEST IN THIS CASE

Q. What is the full amount of base rate increases PSE can support in this case?

A. The Prefiled Direct Testimony of Ronald J. Amen, Exh. RJA-1T, supports an increase to electric base rates, exclusive of power costs, of $118.4 million and an increase to gas base rates of $108.2 million. In addition, the Prefiled Direct Testimony of Paul K. Wetherbee, Exh. PKW-1CT, supports an additional $30.6 million in electric base rate increases for additional power costs, bringing the overall supportable increase in electric base rates to $149.0 million.

Q. Would this represent the full impact on customer rates?

A. No, netted against the supportable increase in electric base rates of $149.0 million would be $3.1 million in electric revenue already being recovered in electric Schedule 95.[4] This would result in a net electric impact of $145.9 million. Similarly, netted against the supportable increase in gas base rates of $108.2 million would be $32.4 million in (net) gas revenue currently being recovered in gas Schedules 141, 141X and 149.[5] This would result in a net gas impact of $75.8 million.

Q. What are the increases in electric and gas revenue being proposed by PSE in this case?

A. PSE is proposing base rate increases that would result in additional electric and gas state jurisdictional revenues, net of changes to the other schedules mentioned previously, of $139.9 million and $65.5 million, respectively.

Q. Why is PSE requesting less than the full amount of revenue that it can support in this case?

A. PSE's proposed gas and electric increases are exclusively a policy decision of its management to mitigate some of the rate impacts to customers. PSE is attempting to strike a balance between its financial needs and the impact to its customers. In managements' judgement, the proposed levels strike a reasonable balance.

[4] See the Thirteenth Exhibit to the Prefiled Direct Testimony of Jon A. Piliaris, Exh. JAP-14.

[5] See the Fourteenth Exhibit to the Prefiled Direct Testimony of Jon A. Piliaris, Exh. JAP-15.

IV. ELECTRIC RATE DESIGN

A. Electric Rate Design Guidelines and Overview

Q. What are the guidelines used by PSE in designing customer rate development?

A. Rates should (1) provide for recovery of the total revenue requirement, (2) provide revenue stability and predictability to the utility, (3) provide rate stability and predictability to the customer, (4) reflect the cost of providing service, (5) be fair, (6) send proper price signals; and (7) be simple and understandable. These principles are consistent with those presented in *Principles of Public Utility Rates*, by James C. Bonbright, *et al*. (2nd ed. 1988).

Q. Please summarize the changes PSE proposes to make to electric rate design.

A. PSE is proposing limited changes in this case to the design of existing rates. With only a few exceptions, all rates in a customer class will be increased by the class average percentage increase.

The exceptions include:

1. Schedule 7, where the monthly basic charge and the first block are proposed to remain at their current levels and the tail block energy charge is increased to a level required to fully recover the remaining revenues assigned to this class;

2. Schedule 26, where the demand and energy rates are tied to Schedule 31;

3. Schedules 50-59, where individual charges within and among these lighting schedules were first calculated based on a lighting cost study (discussed later in this testimony) and where these cost-based rates were scaled to generate the revenue proposed for this group of customers; and

4. Special Contract, where its customer charge was set to cost-based levels and the customer's distribution rates are charged in accordance with its contract.[6]

B. Proposed Residential Electric Rate Design

Q. Please summarize PSE's current residential electric rate design.

A. The current rate is a two-block energy rate with a monthly basic charge (single-phase) of $7.49, a first-block energy rate of 8.7336 cents per kWh, and a second-block energy rate of 10.6297 cents per kWh. The first block energy rate applies to usage up to 600 kWh per month, with all monthly usage above that level charged the second-block rate.

Q. Please summarize PSE's proposed residential rate design under the two-block.

A. PSE's proposed rates are summarized in Table 2 below. PSE is only proposing to change the second block rate in this case.

[6] The calculation of the distribution charge follows the methods previously used for the calculation of distribution charges in the terminated Schedule 40.

Table 2 - Proposed Electric Residential Rates

Rate Component	Two-Block Rate Structure
Monthly Basic Charge	
One-Phase	$7.49
Three-Phase	$17.99
Energy Rates (¢/kWh):	
First Block	8.7336¢ per kWh
Second Block	12.5088¢ per kWh

Q. Why is PSE only proposing to change the second block rate in its residential electric charge?

A. In recognition of the significant rate increases being requested for its electric residential customers in this case, PSE has elected to propose no increase for the basic charge or the first block rate for residential electric service using less than 600 kWh a month. As the Commission hears repeatedly in electric general rate cases, lower income customers are thought to use less energy than those with higher incomes. This makes lower income customers particularly sensitive to these two components of PSE's residential rate structure. By holding these rates at existing levels, PSE intends to lower the overall burden of its requested rate increases on these more vulnerable customers. PSE is concerned with the overall impact of its rate proposal on the customers that can least afford it and intends to proactively address issues of affordability for this group of customers within this case.

Q. Are there other policy reasons for this proposal?

A. Yes, as is already well understood by this Commission, increasing the tail block residential rate increases the incentive for these customers to conserve energy.[7] With the ambitious carbon-free targets in the Washington Clean Energy Transformation Act,[8] energy efficiency will be a key element of any plan to achieve them. Providing additional incentive for residential customers to more fully embrace energy efficiency will serve to facilitate PSE's ability to fulfill its obligations under this new law.

Q. Is PSE making any other proposals in this case to address the affordability of its electric service for low income customers?

A. Yes, for its most vulnerable residential customers, PSE also proposes that its low-income bill assistance program funding for electric service be increased by twice the percentage of the residential bill impacts of the electric rate proposal in this case. Based on the current funding level of $18.8 million for electric low-income bill assistance, and a proposed average increase of 7.67 percent to residential customer bills,[9] this would result in a funding increase of almost $2.9 million for these bill-assisted customers. These bill-assistance funding increases would be implemented as part of PSE's regularly-scheduled annual Schedule 129 filings for rates effective October 1, 2020.

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7 It may also provide additional incentive for customer-owned distributed generation.

8 Engrossed Substitute Senate Bill 5116, 2019.

9 See Exh. JAP-14, tab 1, column Y, row 1.

Q. In its last general rate case, PSE committed to developing load research for its net metered customers. Please provide an update on those efforts.

A. PSE commenced the process to develop load research for its net metered customers in 2017. In order to develop load profiles for net meter customers, PSE requires 15-minute interval load data which are obtained from a sample of net meter customers. The sampling design for this study was conducted by analyzing and evaluating monthly billing data of net metering customers. A major obstacle in developing the sample design for the net metering customer class load research was that no actual hourly load data was available for the targeted customers. Therefore, the class load research sample design in this study was developed by analyzing the population statistics of electric billing data of the net metering customers for their annual delivered and returned kWh.

Q. Please describe the net metering customer load research sample currently selected and deployed by PSE.

A. For sample selection, the net metering class was segmented into nine different customer groups as usage patterns vary among each segment:

1. Residential (Rate Schedule 07) Solar with Battery Storage,
2. Small General Service (Rate Schedule 24) Solar with Battery Storage,
3. Residential Solar with no Battery Storage,
4. Small General Service Solar with no Battery Storage,
5. Medium General Service (Rate Schedule 25) Solar,
6. Large General Service (Rate Schedule 26) Solar,

7. Residential Wind,

8. Residential Solar/Wind Hybrid, and

9. Community Solar.

Segments (1) to (4) were categorized as core-group and segments (5) to (9) were categorized as non-core group. The non-core group being very small, the samples were selected manually such that the distribution would be similar to the population distribution. The sampling design for the core-group was developed in two ways, based on (1) annual total energy delivered to PSE and (2) annual total energy returned to PSE. Since a net metering customer is not only a consumer, but also a potential power supplier, the two-way sampling methodology ensures that both sides of the net metering customer are properly represented. The final sample was deployed in early 2018 to collect 15-minute interval load data.

Q. What is the current status of the net metered customer load research?

A. At present, PSE continues to evaluate the sample and assess the usability of the accounts collecting data. A net-meter customer account is associated with multiple meters in order to record different activities such as energy delivery, return, production and storage. To produce a load profile for these customers, complete information from all sampled meters is needed. Therefore, when one of these meters performs poorly, the whole account needs to be removed from the sample. Initial review of the sampled data showed multiple accounts with poor meter performance, rendering them ineligible for data analyses. Based on the

findings from this screening, PSE will calculate a statistical representation of the sample and will select additional meters if needed.

Q. What are the next steps in completing the net metered customer load research?

A. Once the quality and quantity of inspected data is at a satisfactory level, PSE will start analyzing the interval load data for the final sampled accounts. If the current sample size is found to be inadequate or not having enough trend to generate load profiles, then PSE will deploy additional meters to collect data and wait until satisfactory data is available. Since net meter load data is different from traditional load due to multidirectional flow and the presence of multiple meters per account, the conventional approaches to validate load data cannot be applied. Concurrently, PSE is in the process of understanding the net metering load data and developing criteria to validate data quality in order to generate robust load profiles based on the sampled customers.

C. Proposed General Service Rate Design

Q. Please summarize the proposed rate design for the General Service rate class.

A. The General Service (Rate Schedule 24) class has a monthly basic charge and a single-block energy rate that varies by season. This rate schedule does not have a demand charge. PSE's proposal is to increase all rate components, including the basic charge, by the class average increase.

Q. Please summarize the proposed rate design for Small Demand General Service.

A. The Small Demand General Service (Rate Schedule 25) class has a basic charge rate, two-block seasonal energy rates and a two-block seasonal demand rate. The first 50 kW block of billing demand has no demand charge and the demand-related costs are recovered in the first block of the energy rate. Under PSE's proposal, all Schedule 25 rates are increased by the class average increase, which is 75 percent of the adjusted average for all classes.

Q. Please summarize the proposed rate design for large general service customers.

A. These customers are served under two principal schedules: Large Demand General Service (Rate Schedule 26) and Primary General Service (Rate Schedule 31). Both schedules have basic charges, a single-block energy charge and seasonally-differentiated demand charges. The demand and energy rates of the two schedules are linked such that the lower rates for Schedule 31 reflect the lower voltage transformation costs and associated lower energy losses.

Q. Why does PSE link the demand rates of the two schedules?

A. Since the loads and load factors for these schedules are comparable, PSE's intent is to provide a cost-based differential between the two rates schedules that create an end-point where customer motivation to take primary service will be based upon customer needs (i.e., whether to take service at primary vs. secondary voltage) rather than a desire to qualify for the schedule with the lower rate.

Q. Please describe the proposed Schedule 26 and Schedule 31 rate designs.

A. PSE increased all Schedule 31 and Schedule 26 rate components by the class average increase. For Schedule 26, this is 75 percent of the adjusted average for all classes. For Schedule 31, this is 100 percent of the adjusted average for all classes. The reactive power charge for each schedule was increased by the applicable class average increase. The Schedule 26 demand charges were then set equal to the Schedule 31 demand charges on a loss-adjusted basis. PSE then increased the Schedule 26 energy rate by an amount that will recover the remainder of the rate responsibility of the Schedule 26 rate class.

D. Proposed High Voltage Rate Design

Q. Please summarize the high voltage rate design.

A. These customers are served under two schedules: High Voltage General Service (Schedule 49) and High Voltage Interruptible Service (Schedule 46). Both schedules have demand charges and a single-block energy charge. The energy rates for these schedules are tied together, only the demand charge differs. Each rate component for Schedule 49 and Schedule 46 was increased by the class average increase, which is 75 percent of the adjusted average for all classes.

E. Retail Wheeling Rate Design

Q. Please summarize the retail wheeling rate design.

A. PSE proposes to set the only charge, a basic charge, for Power Supplier Choice and Retail Wheeling Service (Schedules 448 and 449) at its cost of service.

F. Special Contract Rate Design

Q. Please summarize the special contract rate design.

A. There are two charges that PSE proposes to set for the special contract – the customer charge and distribution service charges for specific campuses served under the special contract. The customer charge is proposed to be set at its cost of service. The distribution rate for each of the four campuses is designed to recover customer-specific distribution costs on a levelized basis. PSE reviewed the distribution service charge for each campus and adjusted the distribution transformer, circuit and substation costs based on plant additions and retirements that have occurred since PSE's last general rate proceeding in Dockets UE-170033 and UG-170034 (the "2017 GRC"). These updates will be made in the special contract contemporaneously with rate changes resulting from this proceeding.

G. Migration of Customers on Schedule 40

Q. Why are there no proposed rates for Schedule 40?

A. As part of the settlement approved by the Commission in PSE's 2017 GRC, parties agreed that PSE would end Schedule 40 when rates in its next GRC went into effect.

Q. What will happen to customers currently served under Schedule 40?

A. The vast majority of the load and locations served under Schedule 40 have historically been associated with Microsoft. Effective April 1, 2019, Microsoft

loads formerly served under Schedule 40 began taking service under a special contract approved in Docket UE-161123. All other customers currently served under Schedule 40 will be migrated to rate schedules under which their locations otherwise qualify for service under PSE's electric tariff schedules. These locations will end up taking service under Schedules 24, 25, 26 or 31, based upon their qualifications for service under these schedules.

H. Lighting Rate Design

Q. Is PSE proposing any changes to its electric lighting tariffs in this case?

A. Yes, PSE is proposing to update overall lighting rates to better reflect cost causation with a more detailed and current cost analysis.

Q. Please provide an overview of how this lighting analysis was performed.

A. The methodology employed in PSE's proposal is consistent with that approved in the 2017 GRC. The five step process used to conduct this analysis was as follows:

1. Identify the revenue required from the lighting customer class based on electric rate spread and rate design for approximately $18.1 million in billed revenue, as identified in the Fifth Exhibit to the Prefiled Direct Testimony of Jon A. Piliaris, Exh. JAP-6.

2. Classify lighting costs based on relevant cost drivers in the following categories: Capital, Distribution O&M, Administrative & General, Demand-Related and Energy-Related costs through the electric cost of service study in the Third Exhibit to the Prefiled Direct Testimony of Birud D. Jhaveri, Exh. BDJ-4.

3. Identify the contribution made by each type of lamp and pole towards these cost drivers based on the lamp/pole types, wattage, O&M expenses associated with each

lamp/pole type, financer and installation costs. These influencing characteristics are used in developing unitized costs (used to allocate costs) and subsequently used to calculate the proposed rate for each lamp wattage range or pole size/type on each lighting schedule.[10]

4. Allocate the classified costs based on each lamp size/type and pole's contribution to the cost drivers. These allocated costs are then summed to find the total monthly charge for each lamp type, pole type, or (in the case of Schedule 57) connected watt.

5. Develop lighting and pole rates from the allocated costs.

Through this process, the lighting revenue requirement is allocated directly to each lamp size/type or pole based on the characteristics of that lamp or pole and the schedule under which the customer takes service. This provides continuity in rates across all lighting schedules and sets rates proportional to the estimated cost of service for each lamp size/type or pole.

These total monthly charges, and their derivation, are illustrated in the Fourth Exhibit to the Prefiled Direct Testimony of Jon A. Piliaris, Exh. JAP-5.

Q. Is PSE proposing any changes to the lighting rate calculations in this case?

A. Yes. PSE is proposing one change to the cost allocation methodology for calculating facilities charges for Schedule 51 and Schedule 52. In the 2017 GRC, a weighting factor was applied to Distribution O&M and capital allocated to Schedule 51, but not Schedule 52. The new methodology excludes this weighting factor and therefore results in equal treatment of Schedule 51 and Schedule 52 related to these costs.

[10] Or, in the case of Schedule 57, the rate for each connected watt.

Q. Why is PSE proposing this change?

A. PSE is proposing this change to the methodology to more fairly allocate costs tied to facilities charges between Schedule 51 and Schedule 52. In the original analysis, the weighting factor was applied to Schedule 51 costs on the basis that their facilities were relatively costlier to maintain than facilities served under Schedule 52. However, PSE was informed by its lighting personnel that their observations do not support that conclusion and that the weighting factor should not apply to Schedule 51. Therefore, PSE is removing this weighting factor to allow for a more fair allocation of costs between Schedule 51 and Schedule 52 lamps.

Q. Has PSE presented the impacts associated with the proposed rates for each lighting schedule?

A. Yes, rate impacts for each lighting schedule are presented in Table 4, below. Rate impacts are presented as changes in revenue relative to existing base rates. The proposed base rate revenue change for lighting schedules in Table 4 is shown to be 9.62 percent higher than current base rate revenue. More detail is provided in the Fourth Exhibit to the Prefiled Direct Testimony of Jon A. Piliaris, Exh. JAP-5.

Table 4. Proposed Revenue Change for Lighting Schedules

Rate Schedules	Base Revenue Change ($000)	Overall Impact
03E	$0.0	8.82%
50E-A	$0.2	3.79%
50E-B	$0.0	9.63%
51-LED	$12.4	9.46%
51-Facilities charges	$154.0	83.78%
52-Facilities charges	$(662.7)	(43.10)%
52E	$96.6	9.47%
53E	$1,652.3	15.02%
54E	$54.7	9.50%
55E & 56E	$131.9	12.76%
57E	$105.4	20.50%
58E & 59E	$25.9	6.40%
Old Poles	$5.8	12.65%
New Poles	$11.5	19.79%
Total Retail Sales	$1,588.0	9.62%

As shown in Table 4 above, excluding the facilities charges, the increase in revenue across schedules varies from 3.79 percent to 20.50 percent. Schedule 52 facilities charge revenue decrease 43.10 percent, while increasing by 83.78 percent for Schedule 51. The variance in the facilities charges is primarily due to the updated cost allocation methodology discussed previously.

I. Summary of Electric Rate Design Proposal

Q. Has PSE prepared an exhibit consistent with its base rate design proposals in this case?

A. Yes. Please see the Fifth Exhibit to the Prefiled Direct Testimony of Jon A. Piliaris, Exh. JAP-6, for an exhibit that shows the derivation of PSE's proposed base rates in this case.

Q. Has PSE prepared new base electric tariff schedules based upon the electric cost of service study results and consistent with its rate design proposals in this case?

A. Yes. Please see the Sixth Exhibit to the Prefiled Direct Testimony of Jon A. Piliaris, Exh. JAP-7, for the proposed electric tariff schedules.

V. AGGREGATED DEMAND PROPOSAL

Q. Is PSE making any other rate design proposals for non-residential customers?

A. Yes. PSE is proposing a Conjunctive Demand Service Option Pilot that will allow certain eligible customers served at multiple locations to aggregate their billed demands for purposes of billing for the recovery of power and transmission costs.

Q. Is this the same thing as aggregated billing?

A. No, aggregated billing is just that, adding individual charges onto a single bill. This proposal is different. In this proposal, the billing determinant used to calculate demand charges for a portion of their bill is different than the one used

to calculate their current billed demand. The portion related to the recovery of power and transmission costs is billed on "conjunctive" (or aggregated) demands, while the portion related to the recovery of distribution costs will continue to be billed on the basis of demands at the customer's individual locations.

Q. How will PSE determine a customer's conjunctive billed demand?

A. The conjunctive billed demand will be calculated as the highest hourly interval of demand across the customers multiple locations participating in the pilot (i.e., as if it were a single load at a single location) during the billing period. The Seventh Exhibit to the Prefiled Direct Testimony of Jon A. Piliaris, Exh. JAP-8, shows an illustration of this calculation.

Q. Why is PSE making this proposal?

A. PSE is making this proposal for several reasons. First, PSE repeatedly hears in its conversations with its larger customers that they consider themselves one customer of PSE, not many. In many of their other business dealings where they are purchasing products or services, they are treated as such and expect to be treated in a similar manner by PSE.

Second, from the perspective of power and transmission cost causation, customers served by PSE through multiple locations look no different to PSE (i.e., have no materially different cost of service) than a single customer with similar load characteristics. Yet, customers served at multiple locations pay more for these services through their demand charge when the sum of the demands at their

individual locations exceed what they would be if measured through a single meter in the same billing period.

Third, there is a growing recognition that demand charges present a barrier to the electrification of vehicles, particularly as it relates to mass transit and public charging, as the utilization rates of charging locations are very low.[11] However, with a sufficient number of locations, PSE's proposal holds the promise of reducing the demand charges paid by these types of customers by recognizing the diversity in charging across their multiple charging locations. With state policy ever more focused on carbon reduction, supporting (or at least removing barriers to) the electrification of bus and light rail, as well as public charging, will be of growing importance in the years ahead.

Q. Is there precedent for such a billing approach?

A. Yes, similar programs have been offered by The Detroit Edison Company in Michigan,[12] Consumers Energy Company also in Michigan,[13] and Northern States Power Company in Minnesota.[14] Specific to the electrification of transit, a similar program was offered by Xcel Energy in Minnesota.[15]

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11 *See, e.g.,* Rock Mountain Institute, *From Gas to Grid* (2017), available at https://rmi.org/wp-content/uploads/2017/10/RMI-From-Gas-To-Grid.pdf.

12 Michigan Public Service Commission ("MPSC"), Case No. U-14838.

13 MPSC, Case No. U-15245.

14 Minnesota Public Utilities Commission ("MPUC"), Docket No. E-002/M-99-359.

15 MPUC, Docket No. E002/M-08-579.

Q. Who would be eligible to participate in this pilot program?

A. There are several eligibility criteria for participating in this class. First, this pilot will be limited to customers taking service under electric Schedules 26 or 31. Second, participating customers must have metering in place that provides reliable hourly meter reads, which likely requires installation of PSE's new advanced metering infrastructure ("AMI") meters in an area where the roll-out of those meters is largely complete.[16] Finally, participating customers must have more than one location being served on either Schedule 26 or 31.[17] Note that all participating locations for a particular customer will also need to be aligned to the same billing cycle.[18]

Q. Are there any limitations to participation in this pilot?

A. Yes, but only for those not involved with the electrification of transportation. For these customers, this pilot is limited to 50 participating locations, with no more than five locations and 2 MW[19] being associated with a single customer participating in the program. Participating locations must have begun taking

[16] Please see the Prefiled Direct Testimony of Catherine A. Koch, Exh. CAK-1T, for further detail on PSE's rollout of AMI meters.

[17] Schedule 25 was also considered, but ultimately rejected, due to the added complexity associated with the demand charge calculation in this schedule, which only bills for usage above 50 kW.

[18] This need not be the case prior to participation in the program. The billing cycle can be changed to accommodate participation in this program.

[19] Based upon maximum monthly billed demands across participating locations in 2019.

service prior to January 1, 2018.[20] Total program participation is limited to a maximum of 20 MW.[21] Participation is on a first come, first served basis in response to an open season solicitation.

Notwithstanding these limitations, there will be no limitations placed on participation by customers involved in the electrification of transportation, except that the participating locations must take service under either Schedules 26 or 31, have reliable interval metering and be solely providing transportation electrification service.

Q. Is it appropriate to remove these limitations on those providing transportation electrification?

A. PSE believes so. There is ample public policy support in Washington State for utilities to promote the electrification of the transportation sector.[22] This pilot program falls within that broader policy.

Q. Why did PSE choose to put these limitations on the pilot?

A. To keep implementation costs low, PSE expects the billing for this program to be more manual than other rates in PSE's tariff that are fully integrated into its billing system. Therefore, to ensure a manageable level of effort and risk

[20] This will allow for a minimum amount of baseline data prior to program participation upon which to base observations in the review of this program, as discussed later in testimony. It also ensures the availability of data for calculating the 2 MW per customer limitation previously mentioned.

[21] This will be measured in a manner consistent with 2 MW customer usage limitation noted earlier.

[22] *See, e.g.,* Substitute House Bill 1853, 2015.

mitigation related to billing errors, PSE proposes to limit the number of locations participating in the program.

To mitigate the potential revenue loss, PSE also has set a limit on the overall size of the load participating in the program. It has also limited the size of individual customer loads within the program to ensure a reasonable number of participants from which to study this program near the end of its proposed five-year term.

Q. How will customers' demand charges be calculated under this pilot?

A. In order to calculate a customer's demand charge that recovers production and transmission costs separately from delivery costs, their demand rate will first be bifurcated to recover the two groups of costs. The demand charge for the recovery of production and transmission costs will be billed by multiplying one part of the demand rate by the customer's conjunctive demands across the participating locations. The demand charge for the recovery of distribution costs will be billed by multiplying the other part of the demand rate by the peak demand at each participating location, as it is currently calculated.

Q. How will PSE determine the two demand rate components under this pilot?

A. PSE will apportion the overall demand rate charged under Schedules 26 and 31 between production and transmission and, separately, distribution in proportion to the relative production, transmission and distribution demand related costs allocated to these schedules in PSE's cost of service results presented in the Third Exhibit to the Prefiled Direct Testimony of Birud D. Jhaveri, Exh. BDJ-4.

These demand rate calculations are summarized in the Eighth Exhibit to the Prefiled Direct Testimony of Jon A. Piliaris, Exh. JAP-9. This exhibit shows that slightly more than a third of demand related costs in these schedules are associated with the recovery of production and transmission costs. Therefore, that portion of the participating customer's demand charge in this pilot would be charged using its conjunctive demand. The remainder would be charged in the same manner it is today, using the peak demands at that location in the billing period.

Q. Does PSE expect participating customers to benefit from this pilot?

A. Yes, the only question is how much? The sum of a customer's conjunctive demands at participating locations cannot exceed their sum of the independent demands at these locations. The more diversity there is in the load characteristics across the customer's participating locations, the greater the savings. PSE's preliminary analysis of certain customers for whom data was available, and for whom there may be an interest in participating in this pilot, show monthly conjunctive demands ranging from 0 percent to 45 percent lower than the sum of the individual monthly peak demands for the locations evaluated.

Q. Is the anticipated revenue reduction associated with this pilot reflected in PSE's deficiency in this case?

A. No, PSE currently has little information upon which to make an informed estimate of this potential revenue loss. Rather, PSE will wait until the

participating locations are known before attempting to include this amount in the recovery of its deficiency in a future case.

Q. Will this pilot impact the calculation of existing riders on the bills of participating customers?

A. No. To facilitate the implementation of this pilot, the conjunctive demands of participating customers will only apply to the calculation of their demand charges in base rates.

Q. When will customers be able to take service under this pilot?

A. To ensure enough time to perform an open season for participation, to screen and to select participating locations, as well as finalize the implementation details (e.g., metering, billing cycle alignment, billing processes, etc.), PSE proposes that customers may begin receiving service under this pilot beginning on January 1, 2021. This provides slightly more than seven months to prepare to launch service under this pilot from the time of Commission approval.

Q. Is PSE proposing an administrative fee for this pilot?

A. Not at this time. As noted above, PSE is attempting to simplify the implementation of this pilot to the greatest extent possible to keep costs to a minimum. Fortunately, a primary component of the costs for these types of programs (metering) will already be covered through the rollout of PSE's AMI meters throughout the system. Much of the remaining costs are expected to be billing related. When these costs are known, PSE may propose to include a modest administrative fee for their recovery, either in its next general rate case or

in a stand-alone tariff filing. As part of this pilot, PSE will evaluate what it would take to allow this program to increase in scale to include more customers, including the changes necessary to fully implement this pilot through its billing system. If or when PSE makes a proposal to increase the scale of this program, an administrative fee will likely be part of that proposal.

Q. Has PSE provided a sample tariff for this pilot?

A. Yes. Please see the Ninth Exhibit to the Prefiled Direct Testimony of Jon A. Piliaris, Exh. JAP-10, for a sample tariff for this pilot.

Q. How long will this pilot last?

A. PSE proposes that this pilot last at least five years, with a filing in the final year of the pilot to potentially extend and/or expand the program based on initial results of pilot. PSE would present its preliminary findings from this pilot at that time and in support of such a filing.

Q. What will be evaluated as part of the pilot?

A. The pilot is expected to include the evaluation of a number of items, including at a minimum:

- Magnitude of customer savings
- Evidence of customer load shifting as a result of pilot (i.e., for additional cost savings)
- Evaluation of the administrative process (billing, metering, accounting, etc.) and the potential for scalability
- Potential for other (or additional) rate design approaches that may be more suitable with AMI.

VI. PROPOSED UPDATES TO PSE'S ELECTRIC AND GAS DECOUPLING MECHANISMS

Q. Is PSE offering any testimony in support of the continuation of its decoupling mechanism in this filing?

A. No. In response to calls to discontinue PSE's decoupling mechanisms in its 2017 GRC, the Commission ruled that it "will wish to again review PSE's specific [decoupling] mechanisms in its first general rate case filed in or after 2021…" PSE interprets this to mean that the lengthy justifications provided in its previous general rate proceedings were not expected or required in this filing.

Q. Has PSE updated its electric and gas decoupling mechanisms to reflect the rates proposed in this filing?

A. Yes. PSE has updated the Allowed Revenue and Revenue Per Unit in its decoupling mechanisms. These are reflected in the Tenth, Eleventh and Twelfth Exhibits to Prefiled Direct Testimony of Jon A. Piliaris, Exh. JAP-11, Exh. JAP-12 and Exh. JAP-13, for PSE's electric delivery, electric fixed production and gas decoupling mechanisms, respectively.

Q. Is PSE proposing any updates to its electric decoupling mechanism to reflect the ending of Schedule 40 in this filing?

A. Yes. PSE has set Electric Delivery Allowed Revenue and Revenue Per Unit under Schedule 40 to zero and added a Special Contracts group. The customers, and their weather-normalized load, previously served under Schedule 40 in the test

year were reallocated to the applicable decoupled schedules (or Special Contract) as shown in Table 5.

Table 5. Reclassification of Schedule 40 Loads and Customer Counts

Customer Class	Weather – Normalized Sales (kWh)	Average Customers Counts
Schedule 8 & 24	853,998	8
Schedule 7A, 11, 25, 29, 35, 43	6,794,968	12
Schedule 40	(498,811,143)	(129)
Schedule 12 & 26	44,108,557	10
Schedule 10 & 31	110,833,086	5
Special Contracts	336,220,534	94

VII. PROPOSED RATE IMPACTS

A. Summary of Proposed Electric Rate Impacts

Q. What are the impacts of PSE's proposed electric rates in this case?

A. To properly understand the bill impacts of PSE's proposed rates, all of the relevant rate changes must be viewed in aggregate. Specifically, the impacts of the base rate changes must be added to the impacts of rate changes associated with the concurrent changes to PSE's Schedule 95 (Power Cost Adjustment Clause), Schedule 141 (Expedited Rate Filing), and Schedule 141X (Protected-Plus Excess Deferred Income Tax (EDIT) Reversals). The combined impact of these changes, based on rates currently in effect, is presented below in Table 6. The Thirteenth Exhibit to the Prefiled Direct Testimony of Jon A. Piliaris,

Exh. JAP-14 presents the contributions made by each of the base and rider rate changes to the overall bill impact.

Table 6. Estimated Electric Bill Impacts from Proposed Base and Rider Rates

Customer Class	Rate Schedule	Overall Impact*
Residential	7	7.67 %
General Service, < 51 kW	8/24	7.10 %
General Service, 51 - 350 kW	7A/11/25/29	5.46 %
General Service, >350 kW	12/26	5.31 %
Primary Service, Gen & Irr.	10/31/35	7.23 %
Primary Service, Schools	43	9.16 %
High Voltage	46/49	4.64 %
Lighting Service	50 - 59	8.96 %
Special Contract	SC	-12.25 %
Retail Wheeling	448/449	0.64 %
Total Jurisdictional Retail Sales	**n/a**	6.89 %

* Includes changes to base rates, as well as Schedules 95, 141, and 141X.

Q. Please summarize the impacts shown in Table 6.

A. Based on the information provided in Table 6, most customers will see rate increases ranging from 4.64 percent to 9.16 percent, inclusive of the rate changes that will occur for Schedules 95 (Power Cost Adjustment Clause), Schedule 141 (Expedited Rate Filing), and Schedule 141X (Protected-Plus Excess Deferred Income Tax (EDIT) Reversals) concurrent with the effective date of rates in this filing. The notable exception is Special Contract, whose rates are governed by the terms of their contract.

Q. What is the impact on the typical residential electric customer bill?

A. The impact on the monthly bill of PSE's typical residential electric customer using 900 kWh is an increase of $5.51, or 6.12 percent over current levels. This represents an annualized increase of only 1.6 percent over the rates paid by the same customer using 900 kWh per month in 2009. This is less than the 1.8 percent average annual inflation rate, as measured by the consumer price index for all urban consumers, over this same period.

B. Summary of Proposed Gas Rate Impacts

Q. What are the impacts of PSE's proposed gas rates in this case?

A. As with electric rates, several gas rider schedules will be reset concurrent with the effective date of new base gas rates resulting from this rate case. Specifically, the impacts of the base gas rate changes must be added to the impacts of gas rate changes associated with the concurrent changes to PSE's Schedule 141 (Expedited Rate Filing), Schedule 141X (Protected-Plus Excess Deferred Income Tax (EDIT) Reversals) and Schedule 149 (Cost Recovery Mechanism). The combined impact of these changes, based on rates currently in effect, is presented below in Table 7. The Fourteenth Exhibit to the Prefiled Direct Testimony of Jon A. Piliaris, Exh. JAP-15, presents the contributions made by each of the base and rider rate changes to the overall bill impact.

Table 7. Estimated Gas Bill Impacts from Proposed Base and Rider Rates

Customer Class	Rate Schedule	Overall Impact*
Residential	16/23/53	7.54%
Commercial & Industrial	31/31T	11.82%
Large Volume	41/41T	0.76%
Interruptible	85/85T	7.89%
Limited Interruptible	86/86T	-3.53%
Non-exclusive Interruptible	87/87T	8.25%
Special Contracts		-4.04%
Rentals	71/72/74	-14.20%
Total/System Average		7.90%

* Includes changes to base rates, as well as Schedules 141, 141X and 149.

Q. Please summarize the impacts shown in Table 7.

A. The results in Table 7 show an overall estimated rate increase of 7.9 percent based on the schedules proposed to be updated as part of this general rate case. Most customer classes will experience rate increases between one and twelve percent. The three exceptions are Special Contracts, which would experience a 4.0 percent decrease, Limited Interruptible customers, who would experience a 3.5 percent decrease, as discussed in the Prefiled Direct Testimony of John D. Taylor, Exh. JDT-1T, and Rental rates, which are being set to their cost of service and would experience a 14.2 percent decrease.

Q. What is the impact on the typical gas residential customer monthly bill?

A. The impact on the monthly bill of PSE's typical residential gas customer using 64 therms is an increase of $4.48, or 7.5 percent over current levels. This is nearly

25 percent less than the rates paid by the same customer using 64 therms per month in 2009.

Q. Is PSE also proposing to increase bill assistance for residential gas customers as part of this case?

A. Yes. Similar to the proposal for electric customers, to mitigate the proposed residential rate increases on bill-assisted customers, PSE is proposing to increase the level of gas bill-assistance funding by double the average increase of 7.5 percent. Based on the current funding level of $4.7 million for gas low-income bill assistance, this would result in a funding increase of almost $0.7 million for these bill-assisted customers. These bill-assistance funding increases would be implemented as part of PSE's regularly-scheduled annual Schedule 129 filings for rates effective October 1, 2020.

VIII. COMPLIANCE FILING

Q. Please summarize all of the rates that PSE intends to update in its compliance filing for this case.

A. The compliance filing in this case will include updates to all PSE base electric and natural gas rate schedules, as well as several adjusting price schedules. These adjusting price schedules that will be included in the compliance filing are as following:

- Electric Schedule 95 (Power Cost Adjustment Clause),
- Electric Schedule 141 (Expedited Rate Filing Rate Adjustment),

- Electric Schedule 141X (Protected-Plus Excess Deferred Income Tax Reversals),
- Electric Schedule 142 (Revenue Decoupling Adjustment Mechanism),
- Gas Schedule 141 (Expedited Rate Filing Rate Adjustment),
- Gas Schedule 141X (Protected-Plus Excess Deferred Income Tax Reversals),
- Gas Schedule 142 (Revenue Decoupling Adjustment Mechanism), and
- Gas Schedule 149 (Cost Recovery Mechanism for Pipeline Replacement).

The rate credit for customers participating in PSE's Green Direct Program under electric Schedule 139 will also be reset simultaneously with the proposed changes to base rates in this general rate case.

Q. Have the proposed electric tariff sheets for these adjusting price schedules been included in this filing?

A. The proposed changes to the electric tariff sheets for the adjusting price schedules are included in the Sixth Exhibit to the Prefiled Direct Testimony of Jon A. Piliaris, Exh. JAP-7.

Q. Are there any other tariff schedules that will be impacted by the outcome of this general rate case?

A. Yes. There are several tariff sheets that rely on the results of the most current rate case. These include the following:

- Electric Schedule 62 (Substation and Related Equipment Capacity),
- Electric Schedule 85 (Line Extensions & Service Lines),
- Electric Schedule 87 (Income Tax Rider), and
- Gas Rule 6 (Extension of Distribution Facilities).

Q. When will these tariff revisions be filed with the Commission?

A. PSE intends to file these tariff revisions within 30 days of the effective date of new base rates resulting from this general rate case.

IX. REVENUE PROJECTIONS FOR ATTRITION ANALYSIS

Q. Were you responsible for the derivation of the rate year base rate revenue projections used in PSE's attrition analysis?

A. Yes, I was.

Q. How did PSE project base rate revenues into the rate year in PSE's attrition analysis?

A. PSE projected base rate revenue into the rate year somewhat differently for different groups of customers. For those rate schedules that are subject to decoupling, PSE projected their allowed revenue based on allowed revenue at

existing base rates and projected rate year customer counts. Basic charge revenue was then calculated for these customers in the rate year by growing these revenues by the same customer growth rates. For customers that are not decoupled, PSE projected revenue based on current rates and projected billing determinants, removing any revenue that was extraneous to the analysis.

Q. Did PSE include revenue associated with the recovery of power and gas costs in the rate year revenue projections?

A. No. Since the attrition analysis removes power and gas costs, the associated revenue was also removed from the projections. More specifically, revenues associated with PSE's Power Cost Adjustment ("PCA") and Purchased Gas Adjustment ("PGA") mechanisms were removed from the projections along with the corresponding costs.

Q. How did PSE exclude these costs from its projected rate year revenue?

A. For customers that are subject to decoupling, based on the way their revenues are projected (i.e., relying on the allowed revenue in decoupling), there was no additional work necessary. Similarly, since PSE's gas rates unbundle PGA rates from the rest of the customers' bills, there was again no additional work necessary. However, for PSE's electric customers not subject to decoupling, an additional step was necessary. In that step, PSE simply reduced the bundled rate revenue calculated for the relevant rate schedules (i.e., those not included in PSE's decoupling mechanism) by the product of the forecasted loads for these

customers and the current PCA-baseline rate related to the recovery of variable power costs.

Q. Did PSE make any other modifications to posted tariff rates to project its rate year revenue in the attrition analysis?

A. Yes. In the projection of gas revenue, since PSE's allowed revenue in its gas decoupling mechanism includes the recovery of revenue related to its Expedited Rate Filing ("ERF") mechanism (Schedule 141) and Protected-Plus Excess Deferred Income Tax Reversals (Schedule 141X), these allowed gas revenues were recalculated to exclude revenue associated with these rate schedules.

Q. Why did PSE make this modification?

A. PSE made this modification to recognize that its rates in Schedules 141 and 141X will be set to zero concurrent with the effective date of new base rates in this case. Removing this component of the decoupling allowed revenue provides a more accurate depiction of the base rate revenue deficiency that would occur through the application of its decoupling mechanisms without the presence of rates in those adjusting prices schedules that would otherwise be providing revenue to PSE to recovery its costs.

Q. What load and customer forecast did PSE use to forecast its revenues?

A. PSE used its F2018 forecast approved by its Energy Management Committee in July 2018.

Q. How much revenue does PSE project in the rate year for purposes of its attrition analysis?

A. For purposes of its attrition analysis, PSE projects its rate year base rate revenue (exclusive of revenues associated with its PCA and PGA mechanisms) to be $1.33 billion from electric operations and $448 million from gas operations.

Q. Has PSE provided exhibits showing the calculation of these revenues?

A. Yes. The Fifteenth Exhibit to the Prefiled Direct Testimony of Jon A. Piliaris, Exh. JAP-16, presents the derivation of projected electric rate year base rate revenue in PSE's attrition analysis presented in Exh. RJA-1T.

The Sixteenth Exhibit to the Prefiled Direct Testimony of Jon A. Piliaris, Exh. JAP-17, presents the derivation of projected gas rate year base rate revenue in PSE's attrition analysis in Exh. RJA-1T.

X. CONCLUSION

Q. Does this conclude your testimony?

A. Yes.