

**EXH. BDJ-1T  
DOCKETS UE-\_\_\_/UG-\_\_\_  
2019 PSE GENERAL RATE CASE  
WITNESS: BIRUD D. JHAVERI**

**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**

**BIRUD D. JHAVERI**

**ON BEHALF OF PUGET SOUND ENERGY**

**JUNE 20, 2019**

**PUGET SOUND ENERGY**

**PREFILED DIRECT TESTIMONY (NONCONFIDENTIAL) OF  
BIRUD D. JHAVERI**

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**PUGET SOUND ENERGY**

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1 **PUGET SOUND ENERGY**

2 **PREFILED DIRECT TESTIMONY (NONCONFIDENTIAL) OF**  
3 **BIRUD D. JHAVERI**

4 **I. INTRODUCTION**

5 **Q. Please state your name and business address.**

6 A. My name is Birud D. Jhaveri. I am employed as Manager of Pricing and Cost of  
7 Service with Puget Sound Energy (“PSE”). My business address is 355 110th  
8 Ave NE, Bellevue, Washington 98004.

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

11 A. Yes. Please see the First Exhibit to the Prefiled Direct Testimony of Birud D.  
12 Jhaveri, Exh. BDJ-2, for an exhibit describing my education, relevant  
13 employment experience and other professional qualifications.

14 **Q. What is the purpose of your testimony?**

15 A. My testimony presents PSE’s pro forma revenue from electric operations and  
16 PSE’s electric cost of service study.

17 **Q. Please summarize your testimony.**

18 A. My testimony summarizes the electric cost of service results based on the  
19 Revenue Change before Attrition and Riders of \$104.5 million as presented in the  
20 Second Exhibit to the Prefiled Direct Testimony of Susan E. Free, Exh. SEF-3.

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**II. COST OF SERVICE OVERVIEW**

**Q. Please summarize the purpose of a cost of service study.**

A. A cost of service study identifies the costs that are incurred to serve a particular customer class. Identifying the cost responsibility of each class requires an analysis of PSE’s costs and then an allocation of those costs to each customer class. This allocation is done by first directly assigning to a customer class any costs determined to be caused by that class alone. Joint costs that are shared by multiple customer classes are then allocated to various classes on a pro rata basis, based on factors appropriate to the costs being allocated.

The ultimate objective of the cost allocation process is to create a just, fair, reasonable and sufficient allocation of costs to different customer classes. This cost of service information is then used to allocate the revenue requirement determined in a rate case to the different customer classes.

In order to provide the benefits of cost analysis to individual customers in addition to customer classes, the cost of service study also serves as a guide for the rate design process. For example, the basic charge has historically been based, in part, upon customer-related costs determined in the cost study. Similarly, demand charges have historically been guided by demand-related costs determined in the cost study.

1 **Q. How are cost of service study results generally used for ratemaking**  
2 **purposes?**

3 A. Historically, the Commission has treated cost of service studies as a guidepost for  
4 the allocation of the revenue requirement and has eschewed a mechanical  
5 application of these studies, particularly given the widely varying perspectives  
6 among rate case participants as to the “true” cost of providing service to any given  
7 class of customers. Therefore, while such studies may be representative of the  
8 overall level of costs that should be recovered from any particular class, the  
9 Commission routinely exercises its broad discretion in how strictly to apply the  
10 results of such analyses.

11 **Q. Please summarize the process for preparing the electric cost of service study.**

12 A. The electric cost of service study starts with the electric revenue requirement that  
13 is set forth in the Prefiled Direct Testimony of Susan E. Free, Exh. SEF-1T, and  
14 associated exhibits, which represents PSE’s costs to provide service to its electric  
15 customers. The first step of this study is to separate these costs into the major  
16 electric utility functions: generation, transmission, and distribution. This process  
17 is referred to as the functionalization of costs. The second step is to further divide  
18 the costs associated with each of the major functions into customer, demand and  
19 energy components (which are explained below). This process is referred to as the  
20 classification of costs. The third step is to allocate each of the cost components to  
21 the individual customer classes.

1 **Q. Please describe the first step in a cost of service study, functionalization.**

2 A. Functionalization separates plant and expenses into categories based on the major  
3 functions of the utility. For PSE's electric service, these functions include  
4 generation, transmission, and distribution.

5 **Q. Please describe the second step in a cost of service study, classification.**

6 A. Classification further separates costs into categories based on the utility operation  
7 for which the plant is constructed and expenses are incurred. PSE's utility systems  
8 are designed to perform the following three primary tasks: (1) stand ready to  
9 provide services to *customers* served by the system; (2) serve peak *demands* of all  
10 customers, and (3) supply or deliver the *energy* sold to or transported for its  
11 customers. There are costs associated with each of these services, and the cost of  
12 service study categorizes them according to customer, demand, or commodity.

13 Given these three primary functions of PSE's utility systems, classification  
14 answers the question: "Why was the cost incurred – to serve the customer, to meet  
15 peak demand, or to provide the energy?" Another way to ask this is, "Does the  
16 cost vary with the number of customers, the peak demand for which the system  
17 was designed, or the amount of energy sold or transported over the system?"

18 **Q. Please describe customer-related costs.**

19 A. Customer-related costs are those costs that would be needed to serve customers  
20 regardless of their level of energy usage. These costs include, at a minimum, the  
21 costs of the service line and meter, meter reading and billing, and maintaining the

1 customer accounting system. Customer costs vary with the number of customers  
2 on the utility system, regardless of how much energy those customers consume.

3 **Q. Please describe demand-related costs.**

4 A. Demand, or capacity, costs are those costs associated with designing, installing,  
5 and operating the system to meet peak demands. The system must be sized to  
6 meet peak requirements, even though average loads are below peak levels;  
7 otherwise the system would not have adequate capacity to serve customers'  
8 demand during the times of greatest energy consumption. Demand costs vary with  
9 the size of the peak demand for which the system was designed. Demand costs are  
10 incurred whether all the capacity is used or not.

11 **Q. Please describe energy costs.**

12 A. Energy costs vary with the amount of energy supplied or delivered over PSE's  
13 system. This includes both the energy sold to customers and the energy  
14 transported for customers who purchase their energy supply from providers other  
15 than PSE. Over a one-year period, the average daily energy delivered through  
16 PSE's utility systems is considerably less than that delivered on a peak day.  
17 Generally speaking, energy-related costs are more associated with the supply of  
18 energy rather than its delivery.

19 **Q. Is it always clear whether costs are demand, energy or customer related?**

20 A. No. One of the challenges of classifying costs between demand, energy, and  
21 customer categories is that some utility equipment is commonly considered to



1 serve multiple functions. For example, electric generation equipment is widely  
2 recognized as jointly providing capacity (demand) and energy. While there are  
3 several generally accepted methods for apportioning these joint costs between  
4 demand and energy, even these methods are the subject of considerable debate.

5 **Q. Please describe the third step in a cost of service study, allocation.**

6 A. Allocation is the final step in the assignment of costs to customer classes. Unless  
7 a cost is unique to a specific customer class and can be directly assigned to that  
8 class, it is allocated based on an allocation factor that is related to that type of  
9 cost. In general, (1) customer-related costs are allocated based on the number of  
10 customers; (2) demand-related costs are allocated based on peak demand, and  
11 (3) energy-related costs are allocated to customer classes based on energy sales.  
12 There are many variations of these allocation factors based on the specific costs  
13 and plant items being allocated, and some costs may be allocated based on a  
14 combination of allocation factors.

### 15 III. ELECTRIC COST OF SERVICE

16 A. **Previous Cost of Service Studies**

17 **Q. Please identify all electric cost of service studies conducted by PSE in the last**  
18 **five years.**

19 A. Prior to the electric cost of service study conducted in this case, PSE conducted a  
20 fully allocated embedded cost of service study to support its 2017 general rate  
21 case (“GRC”).

1 **Q. Please describe the methodology used in the 2017 study.**

2 A. The 2017 electric cost of service study used the same basic methodology for  
3 functionalization, classification and allocation of costs as is presented in the study  
4 supporting this 2019 proceeding.

5 **B. Overview of PSE's Electric Cost of Service Study**

6 **Q. What are the results of PSE's electric cost of service study?**

7 A. The parity percentages by customer class that result from the electric cost of  
8 service study are shown in Table 1 below. Parity reflects the relative relationship  
9 between normalized revenue currently recovered in rates to the revenue required  
10 based upon the cost of service analysis. A parity percentage over 100 percent  
11 indicates that the customer class is currently paying more than its allocated costs  
12 (once all classes are adjusted for system over or under recovery).

13 **Table 1. Results of PSE's Electric Cost of Service Study**

<b>Customer Class</b>	<b>Rate Schedule</b>	<b>Parity Percentage</b>
Residential	7	97 %
General Service, < 51 kW	24	105 %
General Service, 51 – 350 kW	25	106 %
General Service, >350 kW	26	106 %
Primary Service	31/35/43	101 %
Special Contract	SC	99 %
High Voltage	46/49	106 %
Lighting Service	51 - 59	93 %
Choice/Retail Wheeling	448/449	88 %
Firm Resale/Special Contract	5	50 %
<b>System Total / Average</b>		<b>100 %</b>

1 **Q. Was the model used to develop the cost of service study the same model used**  
2 **in PSE's most recent general rate case?**

3 A. Yes, the model used for this study is the same model used in PSE's 2017 GRC.  
4 This model was originally developed for PSE by Navigant Consulting, Inc. for  
5 PSE's 2006 GRC.

6 **C. Classification of Production Costs**

7 **Q. Please describe how production costs were classified into energy and demand**  
8 **components in PSE's electric cost of service study.**

9 A. PSE utilized the "peak credit" methodology to divide production costs into  
10 demand and energy components. The peak credit method classifies PSE's electric  
11 production costs, regardless of the type of generating resource, as either energy-  
12 related or demand-related, based on the ratio of the cost of a proxy peaking  
13 generating resource to the cost of a proxy baseload generating resource. The  
14 numerator and denominator of the ratio are expressed in \$/kW-year.

15 **Q. Was the peak credit analysis for this rate case performed in accordance with**  
16 **the Rate Design Settlement approved by the Commission in Docket UE-**  
17 **141368?**

18 A. No. While the Rate Design Settlement approved by the Commission in Docket  
19 UE-141368 committed PSE to adjust the demand/energy cost allocation to fixed  
20 percentages, it was only required for PSE's 2017 GRC. The Settling Parties were

1 not bound by any cost of service or allocation agreements in any proceedings  
2 following the issuance of the final order in PSE's 2017 GRC.

3 **Q. Has the Commission endorsed any other classification methodology to be**  
4 **used for this rate case?**

5 A. No. However, the Commission filed a Preproposal Statement of Inquiry to  
6 address cost of service studies for investor owned utilities.<sup>1</sup> The Commission is  
7 seeking feedback on draft rules and is seeking clarification on several issues  
8 related to classification and allocation methods.

9 **Q. Does PSE propose departing from the peak credit methodology at this time?**

10 A. No. At this time, PSE proposes only to refresh the inputs and assumptions used to  
11 conduct this analysis. However, given the apparent support of other parties to  
12 explore alternatives to the peak credit methodology, PSE is amenable to  
13 continuing dialogue with parties to explore preferable approaches to allocating  
14 PSE's production and transmission costs in the future.

15 **Q. Does the peak credit analysis contain the most currently available data?**

16 A. Yes. The peak credit analysis used to support this rate case reflects the most  
17 currently available information. The analysis has been updated to use the 2017  
18 Integrated Resource Plan ("IRP") as filed with the Commission, updated  
19 emissions costs, and the rate of return proposed in this proceeding.

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<sup>1</sup> Dockets UE-170002 and UG-170003 (consolidated).

1 **Q. Why does the peak credit analysis not apply data from the 2019 IRP?**

2 A. PSE has commenced the process to develop its 2019 IRP, but final results will not  
3 be available until the first quarter of 2020. Therefore, the 2017 IRP provides the  
4 most recent available data for the peak credit calculation to support this rate case.

5 **Q. Please explain the proposed update to the peak credit analysis related to**  
6 **emissions costs.**

7 A. For the updated peak credit analysis, PSE proposes to employ carbon costs based  
8 on the recently enacted Washington state legislation, Senate Bill 5116, which  
9 mandates electric utilities to use the social cost of carbon, as defined in the U.S.  
10 Environmental Protection Agency's ("EPA") Technical Support Document under  
11 Executive Order 12866, in developing its IRP and clean energy action plan.

12 **Q. What is the rationale for using the social cost of carbon in the peak credit**  
13 **analysis?**

14 A. In previous rate cases there was uncertainty surrounding the ultimate way in  
15 which greenhouse gases would be regulated in Washington; however, parties  
16 recognized that some form of regulation would apply in the future. Emission  
17 prices reflected in previous peak credit analyses were based on estimated costs  
18 reflecting impacts from several key pieces of potential carbon regulation. Now  
19 that Washington has passed Senate Bill 5116, which specifically requires electric  
20 utilities to utilize the social cost of greenhouse gas emissions as prescribed in the

1 legislation, it would be inappropriate to continue to use the projected carbon  
2 prices from the 2017 IRP.

3 Additionally, the peak credit method relies on forward-looking assumptions used  
4 by PSE in planning its power supply portfolio. The social cost of carbon has now  
5 become a significant and permanent factor in the costs of these portfolios.

6 Including the legislatively mandated emission costs in the peak credit method  
7 allows the analysis to be consistent with how PSE is required to determine  
8 resource planning and acquisition decisions, cost effectiveness of its conservation  
9 programs and calculation of avoided costs.

10 **Q. Have any other changes been applied to the peak credit analysis?**

11 A. Yes. Since Senate Bill 5116 mandates the production of 100 percent clean  
12 electricity by 2045, the useful life of gas plants as proxies for the peak credit  
13 calculation has been shortened to end in 2044.

14 **Q. What is the result of PSE's peak credit calculation?**

15 A. Applying assumptions consistent with the most currently available data, the  
16 percent of production cost classified as demand is 11 percent, with 89 percent  
17 classified as energy. The derivation of these percentages is provided in the Second  
18 Exhibit to the Prefiled Direct Testimony of Birud D. Jhaveri, Exh. BDJ-3C.

1 **Q. Does the use of the legislatively mandated social cost of carbon have a**  
2 **material impact on peak credit results?**

3 A. Yes. Emissions costs have a significant effect on the peak credit results in this  
4 case. Removing the prescribed social cost of carbon costs from PSE's proposed  
5 peak credit method would increase the percentage of demand-related electric  
6 production costs from 11 percent to 19 percent. Pages four through six of the  
7 Second Exhibit to the Prefiled Direct Testimony of Birud D. Jhaveri, Exh. BDJ-  
8 3C, provide calculations that remove emissions costs from PSE's proposed peak  
9 credit model.

10 **Q. Does limiting the useful life of gas plants as proxies for the peak credit**  
11 **calculation to year 2045 have a material impact on the peak credit results?**

12 A. No. Limiting the useful life of gas plants as proxies for the peak credit calculation  
13 to year 2045 has de minimis impact on peak credit results.

14 **D. Classification of Transmission Costs**

15 **Q. How are transmission costs classified in PSE's electric cost of service study?**

16 A. PSE uses the peak credit method, described above, to classify transmission costs.  
17 The peak credit percentages are applied to transmission costs under the theory that  
18 transmission lines are constructed to deliver the energy and capacity provided by  
19 generating plant, and in the same proportion as it is being provided.

20 Using the peak credit method, 11 percent of transmission costs are classified as  
21 demand and 89 percent are classified as energy. PSE also separately identifies

1 transmission related to generation-integration and other transmission before  
2 allocating costs to customer classes.

3 **Q. Why does PSE distinguish between generation-integration transmission and**  
4 **other transmission?**

5 A. Generation-integration transmission brings PSE's remote generation to PSE's  
6 integrated transmission system. One must segregate the costs of generation-  
7 integration transmission from other transmission because customers in the  
8 Choice/Retail Wheeling class, as well as the Special Contract class, do not use  
9 PSE's remote generation resources. Thus, it is appropriate to exclude these  
10 customers from the allocation of costs for transmission lines used for integration  
11 of remote resources. However, these classes continue to receive an allocation of  
12 PSE's other transmission costs.

13 **E. Classification of Distribution Costs**

14 **Q. How are distribution costs classified in PSE's electric cost of service study?**

15 A. With two exceptions, all electric distribution costs are classified as demand-  
16 related. The two exceptions are the costs of meters and service lines. These are  
17 classified as customer-related, as discussed below in Sections G(2) and G(3).



1 **F. Allocation of Production and Transmission Demand Costs**

2 **Q. How are production and transmission demand costs allocated in PSE's**  
3 **electric cost of service study?**

4 A. In accordance with a settlement approved by the Commission in Docket UE-  
5 141368, PSE's demand-related production and transmission costs were allocated  
6 in this case on the basis of each class's contribution to coincident system peaks  
7 ("CP") in the months of January, February, November and December 2018. This  
8 is referred to as the "4-CP" allocation factor. PSE utilized the same methodology  
9 as used in its last general rate case.

10 **Q. Did the Commission endorse the use of this allocation methodology for this**  
11 **rate case?**

12 A. No. The Commission only approved this allocation methodology for PSE's 2017  
13 GRC, with the expectation that this subject would be explored more thoroughly in  
14 the future.

15 **Q. Has the Commission endorsed any other allocation methodology to be used**  
16 **for this rate case?**

17 A. No. However, the Commission filed a Preproposal Statement of Inquiry to  
18 address cost of service studies for investor owned utilities.<sup>2</sup> The Commission is  
19 seeking feedback on draft rules and is seeking clarification on several issues  
20 related to classification and allocation methods.

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<sup>2</sup> Dockets UE-170002 and UG-170003 (consolidated).

1 **Q. Why is the “4-CP allocation factor” a reasonable approach to use for**  
2 **allocating production and transmission demand costs?**

3 A. First, a 4-CP allocation factor has ample precedents within the industry, including  
4 at the Federal Energy Regulatory Commission (“FERC”). In fact, a FERC  
5 administrative law judge ruled in the late 1990s that, while not perfect, a 4-CP  
6 allocation factor appeared reasonable for PSE’s system at that time.<sup>3</sup> More  
7 recently, PSE evaluated the applicability of the 4-CP allocation factor to its  
8 system using the tests relied upon by FERC to evaluate the appropriateness of  
9 various CP allocation factors.<sup>4</sup> Applying these tests to PSE’s more recent loads,  
10 the results continue to support the conclusion that a 4-CP allocation factor is  
11 reasonable for PSE’s system.

12 Second, while not as theoretically pure as allocating on the basis of the  
13 contribution to PSE’s single annual peak load, use of a 4-CP allocator mitigates  
14 some of the volatility in results that may be experienced if an annual peak  
15 allocator were used instead.<sup>5</sup>

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<sup>3</sup> FERC Docket Nos. OA96-161-000 *et al.*, *Initial Decision Resolving Open Access Rate Questions*, 88 FERC P 63001 (F.E.R.C.), 1999 WL 500637 (July 15, 1999).

<sup>4</sup> These are discussed on pages 63-65 of *A Guide to FERC Utility Ratemaking* by Michael E. Small.

<sup>5</sup> In the past, PSE has considered using a 2-CP allocator, which instead would focus only on the months of December and January. While a stronger case could be made for the use of the 2-CP allocator from a cost causation perspective, as with the 1-CP allocator, it would also potentially lead to more volatility in results. Use of the 4-CP allocator is more consistent with the Commission’s preference for gradualism when making methodological changes that impact customer rates.

1 Finally, the use of an allocator based on PSE's top 75 hours of load, as utilized in  
2 PSE's 2011 GRC, appears to run counter to cost causation principles. Demand-  
3 related costs should be allocated using measures of peak demand, rather than  
4 energy use. While it could be argued that an allocation factor based on the top 75  
5 hours of load is indicative of peak loads, the use of so many hours tends to blur  
6 the lines between demand and energy.

7 **G. Allocation of Distribution Costs**

8 **1. Distribution Substations and Feeder Costs**

9 **Q. How does PSE allocate distribution substations and feeder costs in its cost of**  
10 **service study?**

11 A. Consistent with PSE's past general rate cases, PSE assigns the cost of distribution  
12 underground circuits, overhead circuits, and substations based upon allocation  
13 factors constructed from each class's contribution to feeder and substation peak  
14 loads and the length of the distribution circuit. These allocation factors are  
15 constructed from monthly energy and load factors for the twelve-month period  
16 ending December 2018.

17 **Q. Would you please describe specifically how substation costs are allocated?**

18 A. For each month, each customer class's contribution to the peaks of individual  
19 distribution substations, as a percent of those peaks, is calculated using the  
20 average hourly consumption of each class's load on the substation, divided by the  
21 non-coincident peak ("NCP") load factor of that class in that month. Each class's

1 contribution to the peak load on each individual substation is then averaged across  
2 the months of the year. This average monthly contribution to each substation's  
3 peak load is then multiplied by the booked cost of the individual substation in  
4 2018 dollars to derive the allocated cost of each substation. These allocated  
5 substation costs are then summed by customer class and compared with PSE's  
6 total substation investment in 2018 dollars to develop the substation cost  
7 allocations for FERC Accounts 360-362.

8 **Q. How does PSE allocate distribution line costs?**

9 A. PSE uses customer information system ("CIS") and geographic information  
10 system ("GIS") to associate each customer with a feeder. Monthly NCP load  
11 factors are then used for each customer class to determine each class's  
12 contribution to each feeder's monthly NCP as a percent of each month's peak on  
13 the feeder. Each class's contribution to monthly peak load on the feeder is  
14 multiplied by the number of overhead and underground miles on the feeder. These  
15 load-weighted line miles are then added across all the feeders to develop the total  
16 load-weighted overhead and underground distribution line miles allocated to each  
17 class. Allocation factors for overhead and underground lines are then developed  
18 by dividing the total load-weighted line miles attributable to each class by the  
19 total load-weighted line miles for all classes. The overhead allocators are applied  
20 to FERC Accounts 364 and 365, and the underground allocators are applied to  
21 FERC Accounts 366 and 367.

1           **2.       Distribution Line Transformer Costs**

2       **Q.       How does PSE classify line transformer costs in its cost of service analysis in**  
3       **this case?**

4       A.       In this case, line transformer costs are classified as being demand-related.

5       **Q.       Is the classification of line transformer costs as demand-related consistent**  
6       **with prior Commission guidance?**

7       A.       Yes. The Commission has previously treated line transformer costs as demand-  
8       related costs. In the 2017 GRC, the Commission rejected proposals that would  
9       have treated these costs as customer-related costs. The Commission stated:

10                   We are not persuaded on the basis of the current record that  
11                   transformer costs should be recovered in basic charges, or through  
12                   a minimum bill. We have never approved such a proposal and  
13                   continue to believe these costs are not customer-related costs as  
14                   that term is generally understood. Transformer Costs should be  
15                   recovered as distribution charges subject to PSE’s electric  
16                   decoupling mechanism, which adequately protects the Company’s  
17                   recovery of its fixed costs...<sup>6</sup>

18       **Q.       Please describe how the line transformer cost allocation factor is developed.**

19       A.       PSE uses its CIS and GIS to associate each line transformer with the customers  
20       using the transformer. This results in allocating approximately 330,550  
21       transformers to PSE’s different customer classes by type and size. The majority of  
22       line transformers are used by a single class and thus are directly assigned. The  
23       remaining transformers are allocated to each class based upon the class’s relative  
24       contribution to the transformer’s load. The transformers are priced at current

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<sup>6</sup> Dockets UE-170033 and 170034 (consolidated) Order 08 at paragraph 357

1 costs, including installation, to determine each class's contribution to embedded  
2 line transformer costs (FERC Account 368). The embedded line transformer costs  
3 in the FERC account reflect PSE's line extension policy and are reduced for  
4 customer contributions.

5 **3. Service Line and Meter Costs**

6 **Q. How are service line and meter costs allocated in PSE's cost study?**

7 A. Service line costs are allocated based on the number of customers taking service  
8 at secondary voltage. Costs of all underground service lines are assigned to the  
9 residential class because non-residential secondary voltage customers own their  
10 underground services. Costs of overhead service lines are allocated based on the  
11 number of secondary voltage overhead service customers in each class. Meter  
12 costs are allocated based on the current cost of electric meters assigned to  
13 customers in each class relative to the current cost of all electric meters.

14 **H. Administrative and General Costs and Other Cost Allocation Factors**

15 **Q. How does PSE allocate administrative and general costs in its electric cost of  
16 service study?**

17 A. Most administrative and general costs are assigned based on production,  
18 transmission, distribution, and customer costs. Property insurance allocations are  
19 based on allocated plant, and pensions and employee insurance follow the  
20 allocation of salary and wages.

1 **Q. What other cost allocations does PSE use in its electric cost of service study?**

2 A. PSE reviews historical experience with late payments and assigns the costs to  
3 each class. Other miscellaneous revenues associated with non-sufficient fund  
4 checks and reconnects are allocated to each class based upon a historical analysis  
5 of revenues received from these sources.

6 **Q. Has PSE provided a summary of its electric cost of service study in this**  
7 **proceeding?**

8 A. Yes. PSE's proposed electric cost of service study is summarized in the Third  
9 Exhibit to the Prefiled Direct Testimony of Birud D. Jhaveri, Exh. BDJ-4.

10 **IV. CONCLUSION**

11 **Q. Does this conclude your testimony?**

12 A. Yes.