

BEFORE THE WASHINGTON
UTILITIES & TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

v.

PUGET SOUND ENERGY,
DOCKETS UE-151871 and UG-151872 (*Consolidated*)

DIRECT TESTIMONY OF MARY M. KIMBALL (MMK-1HCT)

ON BEHALF OF
PUBLIC COUNSEL

June 7, 2016

REDACTED VERSION

****Highly Confidential information is shaded blue and Confidential information shaded in yellow and presented in boldface.****

DIRECT TESTIMONY OF MARY M. KIMBALL (MMK-1HCT)
DOCKETS UE-151871 and UG-151872

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EXHIBIT LIST

Exhibit No. MMK-2	<i>Consumer Reports: Water Heater Buying Guide</i>
Exhibit No. MMK-3	NEEA 2011 Water Heater Market Update
Exhibit No. MMK-4HC	Premium for Leased Equipment (Highly Confidential)
Exhibit No. MMK-5	Financing Options for Energy Efficient Upgrades
Exhibit No. MMK-6	Review of Natural Gas Water Heaters sold by Home Depot
Exhibit No. MMK-7HC	PSE Response to Public Counsel Data Request No. 35 (Highly Confidential)
Exhibit No. MMK-8	PSE Response to Public Counsel Data Request No. 36

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I. INTRODUCTION / SUMMARY

Q: Please state your name and business address.

A: My name is Mary M. Kimball and my business address is 800 5th Avenue, Suite 2000, Seattle, Washington, 98104.

Q: By whom are you employed and in what capacity?

A: I am employed as a Senior Regulatory Analyst with the Public Counsel Unit of the Attorney General’s Office.

Q: Please describe your educational background and professional qualifications.

A: I received a B.A. in Political Science from Williams College in Williamstown, Massachusetts. In 1997, I received a Masters in Public Policy (MPP) from the University of California, Berkeley. My employment with the Attorney General’s Office began in 2000, as a Regulatory Analyst with Public Counsel. I have worked on a variety of energy and telecommunications issues during my tenure with Public Counsel including energy decoupling mechanisms, natural gas hedging policies and strategy, analysis of utility conservation programs, service quality, and rate assistance programs for households with limited income. Prior to joining Public Counsel, I worked for a consulting firm conducting research and evaluation on youth development and workforce development programs, primarily on behalf of the U.S. Department of Labor.

Q: What is the purpose of your testimony?

A: My testimony provides a policy review of some of the major issues with Puget Sound Energy’s (PSE) proposed Equipment Lease Service program. The policy issues addressed in this testimony include the proposed lease prices, the

1 conservation savings PSE has identified as a public benefit associated with the
2 proposed program, and consumer protection issues raised by the proposal.

3 **Q: Please summarize your conclusions and recommendation to the Commission.**

4 A: I recommend the Commission reject PSE's proposed tariffs to implement a
5 leasing program. PSE used the results of a flawed and misleading online survey
6 to develop the proposed lease prices and to calculate alleged conservation savings,
7 ultimately undermining the validity of PSE's leasing proposal.

8 While PSE claims the leasing program "will fill a gap in the market" and
9 help address the barrier of upfront costs for efficient equipment, the prices
10 customers would face through the leasing program are excessive in comparison
11 with the market. Although PSE asserts conservation benefits from the program
12 due to replacement of aging equipment, the program was not filed as a
13 conservation program, and PSE has not undertaken a cost-effectiveness analysis.
14 If achieving conservation savings is the primary objective, PSE should actively
15 engage its Conservation Resource Advisory Group (CRAG) to consider other
16 opportunities that may reach a broader set of consumers at significantly lower
17 costs to consumers. These could include on-bill financing, or joint marketing
18 agreements and partnerships with credit unions and banks offering low interest
19 loans for energy efficient appliances. Other utilities in the region are offering
20 such programs, including programs that offer reduced financing rates for
21 households with limited income.

22 **Q: Do you address whether PSE's Equipment Leasing Service is appropriately**
23 **classified as a regulatory service?**

1 A: No. My testimony focuses on a review of PSE's as-filed leasing service tariffs,
2 which were filed as a proposed regulated service. However, Public Counsel
3 believes there is an issue as to whether the leasing service is properly treated as a
4 regulated service. Public Counsel anticipates that issue can be addressed by the
5 parties in their briefs, on the basis of the record developed in the case.

6 II. OVERVIEW OF THE LEASING PROGRAM

7 **Q: Please provide a brief description of PSE's proposed leasing program.**

8 A: PSE is proposing to implement an equipment leasing program to offer hot water
9 heaters and certain heating equipment to residential customers, and tank-style hot
10 water heaters to commercial customers. The program would be optional for
11 customers. PSE would enter into agreements with service partners for the
12 installation, maintenance, and repair of leased equipment.¹

13 **Q: What types of equipment would PSE provide through its proposed lease**
14 **program?**

15 A: PSE proposes to lease the following equipment to customers:

- 16 • Residential natural gas and electric tank-style water heaters;
- 17 • Residential electric heat pump water heaters;
- 18 • Residential natural gas furnaces; and
- 19 • Commercial natural gas and electric tank-style water heaters.

20 PSE projects that the most common type of equipment to be leased would be
21 residential natural gas furnaces and residential water heaters. For example, PSE's

¹ Prefiled Direct Testimony of Jason E. Teller, Exhibit No. JET-1T at 3:16-4:10.

1 highly confidential pricing model projects that each year PSE would lease **Withheld**
2 residential water heaters and **Withheld** residential gas furnaces, which together
3 represent **Withheld** total projected annual leased units.²

4 **Q: Please recap the procedural history of PSE’s proposed leasing filing.**

5 A: PSE initially filed tariffs for the program on September 18, 2015, but did not
6 include any leasing prices. PSE sought approval through a two-step process, with
7 design approved as a first step, followed by price approval. Public Counsel filed a
8 letter expressing concerns with the leasing program concept, supporting the Staff
9 recommendation to suspend the tariff filing. The Commission suspended the
10 tariff filing on November 13, 2015. On February 17, 2016, PSE filed revised
11 tariffs containing proposed monthly lease prices. On February 25, 2016, PSE
12 filed testimony to support its leasing program filing. PSE refers to its proposed
13 program as the Equipment Leasing Service.

14 **III. PSE HAS NOT DEMONSTRATED ITS PROPOSED EQUIPMENT LEASE**
15 **PRICES ARE FAIR, JUST, AND REASONABLE**

16 **Q: Please summarize what you will address in this section of your testimony.**

17 A: This section of my testimony will discuss PSE’s proposed prices for leased
18 equipment. Because PSE has filed this as a tariff filing, approval by the
19 Commission requires a finding that the prices are “just, fair, reasonable and
20 sufficient.”³ First, I will discuss concerns with the pricing model PSE used to
21 develop the prices included in the proposed leasing tariffs. Second, I will show

² PSE Lease Pricing Model, provided to Public Counsel Feb. 19, 2016, by e-mail from PSE Counsel, ‘Market Share Assumptions’ worksheet (Lease Pricing Model).

³ RCW 80.28.010(1). *See also* RCW 80.28.020 and RCW 80.01.040, which requires the Commission to regulate in the public interest.

1 that PSE’s prices appear excessive in comparison to the products and financing
2 options currently available to customers in PSE’s service territory. Much of my
3 discussion will focus on residential hot water heaters to illustrate these issues.⁴

4 PSE’s November 6, 2015, letter to the Commission in this docket states in
5 part that, “the regulated environment affords assurance to customers that the price
6 has been fairly set through the Commission approval process.”⁵ Based upon my
7 review, I do not believe the Commission can find that PSE’s proposed leasing
8 program prices are fair, just, and reasonable for consumers.

9 **Q: What prices does PSE propose for its optional leasing service?**

10 A: The table below outlines the monthly lease price, lease term, and total cost of the
11 leased equipment.⁶

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⁴ PSE projects that on an annual basis, residential hot water heaters would represent [Withheld] of leased equipment installations ([Withheld]). Lease Pricing Model, ‘Market Share Assumptions’ worksheet.

⁵ UE-151871 and UG-151872, PSE Letter to Mr. Steven King, substitute tariff filing, November, 6, 2015, at 5.

⁶ The total cost column in Table 1 is calculated by multiplying the monthly rate by 12 months, and then multiplying by the number of years of the lease term. The total costs shown in Table 1 do not include additional taxes that will be applied, including sales tax and city utility taxes.

1 **Table 1: PSE Proposed Monthly Lease Prices and Total Lease Service Cost**

Equipment	Fuel	Monthly Lease Price	Lease Term (Years)	Total Cost Leased Equipment
(a)	(b)	(c)	(d)	(e)=(c)*12*(d)
<i><u>Residential Water Heaters</u></i>				
Standard Vent (Tank)	Natural Gas	\$ 19.13	15	\$ 3,443
Efficient Wi-Fi Standard Vent (Tank)	Natural Gas	\$ 22.63	15	\$ 4,073
Efficient Direct Vent (Tank)	Natural Gas	\$ 29.24	15	\$ 5,263
Wi-Fi Enabled (Tank)	Electric	\$ 21.06	15	\$ 3,791
Efficient Wi-Fi Enabled (Heat Pump)	Electric	\$ 28.75	15	\$ 5,175
<i><u>Commercial Water Heaters</u></i>				
Efficient Wi-Fi Standard Vent (Tank)	Natural Gas	\$ 36.78	10	\$ 4,414
Efficient Large Volume Standard Vent (Tank)	Natural Gas	\$ 76.00	10	\$ 9,120
Standard (Tank)	Electric	\$ 42.73	10	\$ 5,128
Large Volume (Tank)	Electric	\$ 46.93	10	\$ 5,632
<i><u>Residential Heating & Air Conditioning</u></i>				
Two-Stage Furnace (80% AFUE ¹)	Natural Gas	\$ 58.19	17	\$ 11,871
Efficient Two Stage (95% AFUE ¹) Furnace	Natural Gas	\$ 67.68	17	\$ 13,807
Efficient Air Source Heat Pump	Electric	\$ 116.00	18	\$ 25,056

2 Sources: PSE Schedule No. 75, Sheets 175-A, 175-B, 75-E, 75-F.⁷

3 ¹ Annual Fuel Utilization Efficiency (AFUE).

⁷ PSE's tariff sheet 75-E does not provide the lease term for residential electric heat pump water heaters.

1 **Q: Are there any additional costs lease customers would incur in addition to**
2 **those outlined above?**

3 A: Yes. Lease customers would also pay the following costs, in addition to the
4 monthly and total costs provided above in Table 1:

- 5 • *State and local sales taxes.* Lease customers would pay state and local
6 sales taxes on the monthly lease rate. Seattle and Tacoma have a
7 combined state and local sales tax rate of 9.6 percent, for example, while
8 Olympia has a combined rate of 8.8 percent.⁸
- 9 • *City utility tax.* PSE has clarified in discovery that leasing customers may
10 also be subject to a city utility tax, where applicable. The Company
11 explained that some cities “bill city utility taxes on PSE retail sales, which
12 may include leasing.”⁹ The city utility tax rate varies by municipality, but
13 is most commonly about six percent. The city of Seattle currently has a
14 city utility tax rate of six percent, and the city of Olympia has a city utility
15 tax rate of nine percent.¹⁰
- 16 • *Non-standard installation costs.* The prices in Table 1 include standard
17 installation. However, PSE’s proposed tariff states that customers would
18 also be responsible for “installation costs for any non-standard conditions,
19 as discovered by PSE or its contractor upon inspection of the Premises.”¹¹

⁸ PSE Response to Staff Data Request No. 68, Attachment A.

⁹ PSE Response to Staff Data Request No. 68. In further discovery on this issue, PSE has recently stated that in certain cities, such as Seattle and Olympia, PSE may pay Business and Occupation taxes on leasing revenue, and in those instances, may not assess the city utility tax. PSE Response to Public Counsel Data Request Nos. 38 and 39.

¹⁰ PSE Natural Gas Schedule No. 001, Tax Adjustments; PSE Electric Schedule No. 81, Tax Adjustments.

¹¹ PSE Proposed Schedule No. 75, Sheet 175-L, filed Feb. 17, 2016.

- 1 • *Property taxes.* Leased equipment would be considered personal property
2 owned by PSE and thus the Company would be required to pay applicable
3 personal property tax based on its assessed value. PSE’s property tax
4 expense is collected from ratepayers through PSE’s Schedule 140 Property
5 Tax Tracker. The Company has stated in discovery that it would “allocate
6 a portion of its property taxes to Schedule 75 [leasing] customers.”¹² It is
7 not clear whether PSE’s property tax expense associated with leased
8 equipment would be borne solely by Schedule 75 lease customers, or
9 collected by all ratepayers through Schedule 140.¹³

10 To illustrate the impact of sales taxes and city utility taxes, in order to
11 lease the least expensive natural gas tank-style hot water heater from PSE
12 (standard vent, 55 gallons or less, Energy Factor at least 0.62) a customer with a
13 sales tax rate of 9.6 percent and a city utility tax rate of six percent would be
14 subject to the prices and taxes shown in Table 2, below. The sales taxes and city
15 utility taxes would add about \$3 per month in taxes, and over \$500 to the total
16 lease equipment price over the 15 year lease term, resulting in a total cost of about
17 \$4,000.

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¹² PSE Response to SMACNA Data Request No. 16 at 2.

¹³ Public Counsel understands that PSE may clarify issues related to property tax expense, including its impact on lease prices, in its rebuttal testimony.

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Table 2: Example of Monthly Lease Rate for Natural Gas Standard Vent Hot Water Heater, Including Taxes.¹⁴

Rate / Tax	Monthly Amount	Total Cost 15 year term
Residential standard vent natural gas hot water heater (.62 EF or greater), PSE Lease Rate	\$19.13	\$3,443
Sales tax at 9.6%	\$1.84	\$331
City utility tax of 6%	\$1.15	\$207
Total with taxes	\$22.12	\$3,981

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For more expensive lease equipment, such as an electric air source heat pump with a monthly lease price of \$116, the additional taxes would be substantial. An Olympia electric customer leasing an air source heat pump would pay approximately \$4,458 in taxes during the 18 year term of the lease, in addition to the total lease payment of \$25,056 shown in Table 1.¹⁵ More than half of that amount, approximately \$2,255, would include city utility taxes, in the event the city utility tax is assessed for Olympia customers.¹⁶

Q: Do all customers pay city utility taxes on the purchase, financing, or lease of the types of heating and hot water equipment offered in PSE’s lease service?

A: No. Notably, only PSE leasing customers would pay city utility taxes on the leased equipment, where applicable. Customers purchasing their own equipment,

¹⁴ In some jurisdictions, the city utility tax is assessed on gross revenues, including resulting tax revenue. In those instances, the tax rates applied will be higher, to account for this gross up. PSE Response to SMACNA Data Request No. 24.

¹⁵ Olympia combined sales tax rate is 8.8 percent and the city utility tax rate is 9 percent. PSE Response to Staff Data Request No. 68, Attachment A, and PSE Electric Schedule 81. Applying these rates to the \$116 monthly lease rate yields the following: $\$116 * (.088) * 12 \text{ months} * 18 \text{ years} = \$2,203$ sales taxes; $\$116 * (.09) * 12 \text{ months} * 18 \text{ years} = \$2,255$ city utility taxes. See Table 1 for lease equipment prices and length.

¹⁶ See p. 7, note 9 above.

1 as well as those seeking financing through a bank or credit union for equipment
2 upgrades, are not assessed city utility taxes.¹⁷

3 **A. Concerns with PSE’s Pricing Model.**

4 **Q: How did PSE develop its model for proposed lease equipment prices?**

5 A: PSE has developed a pricing model to determine the proposed equipment lease
6 prices reflected in the revised tariffs filed February 17, 2016.¹⁸ The pricing model
7 calculates lease prices based on a discounted cash flow methodology. As PSE
8 witness, Mr. Malcolm B. McCulloch explains, “[t]he rates are built on estimates
9 of all costs borne by the Company in installing, operating and maintaining the
10 equipment over the life of the lease term.”¹⁹ The pricing model assumes costs
11 associated with program launch such as software, marketing, as well as ongoing
12 program costs including labor and overhead. PSE’s weighted cost of capital is
13 applied to capital costs (equipment and installation) to calculate return on rate
14 base of the leased equipment.²⁰

15 The weighted cost of capital is also used to discount the total revenue
16 requirement into net present value terms to calculate the monthly lease rate.²¹
17 The Company has said it will “mitigate financial risk” by ensuring that only those
18 customers deemed credit worthy participate in the lease program, to minimize

¹⁷ My understanding is that this would also be the case with utility on-bill financing programs because the utility is collecting the loan payment on behalf of the lending financial institution, so the funds would not be considered utility revenues subject to a city utility tax.

¹⁸ PSE Counsel provided Public Counsel with the highly confidential Lease Pricing Model on Feb. 19, 2016. Public Counsel understands PSE has not filed its pricing model with the Commission. The Parties are currently discussing having the pricing and conservation models filed for the benefit of the record.

¹⁹ Prefiled Direct Testimony of Malcolm B. McCulloch, Exhibit No. MBM-1T at 18.

²⁰ McCulloch, Exhibit No. MBM-1T at 18.

²¹ McCulloch, Exhibit No. MBM-1T at 18:22 – 19:3.

1 defaults.²² PSE further states that its “pricing model ensures that by the
2 conclusion of the lease the Company recovers its expenses and its weighted
3 average cost of capital approved by the UTC effective upon the start date of the
4 lease.”²³ PSE’s current weighted average cost of capital is 7.77 percent.

5 **Q: Do you have concerns with any of the inputs used in PSE’s Equipment Lease**
6 **Service pricing model?**

7 A: Yes. I will discuss three areas of concern with PSE’s pricing model. First, I will
8 discuss that PSE’s estimated equipment costs are speculative at this time, making
9 it impossible to effectively evaluate whether the proposed lease prices are fair,
10 just, and reasonable, as we do not yet know what equipment will be offered to
11 consumers. Second, I will explain that PSE’s assumed level of customer
12 participation in the leasing program is unreliable and likely overstated due to a
13 highly flawed customer survey. Third, I will explain that PSE’s assumed
14 equipment failure rates are speculative and unsupported. This is not necessarily
15 the universe of all of my concerns with the pricing model, but highlights the most
16 significant issues.

17 **1. Projected Equipment Costs.**

18 **Q: Please describe PSE’s estimated equipment costs for leased equipment.**

19 A: One of the more significant cost inputs in PSE’s lease equipment pricing model is
20 the equipment cost for the hot water heaters, furnaces, and heat pumps that would
21 be offered through the program. PSE issued a Request for Qualifications
22 (“RFQ”) to potential service providers and then utilized the information provided

²² PSE Sept. 18, 2015, Letter to Mr. Steven King, Electric and Natural Gas Lease Tariff filings at 5.

²³ *Id.* at 5.

1 to estimate costs, including equipment costs, to develop rates for the leasing
2 program.²⁴

3 PSE has not yet determined the specific brands and models of equipment
4 that would be offered through the leasing program. PSE has stated the following
5 in response to discovery on this issue:

6 PSE's [*sic*] has not yet selected or executed material or service
7 contracts with any potential service partners in support of this
8 proposed schedule; therefore, PSE cannot provide technical
9 specifications on any specific equipment as such equipment has
10 not been selected.²⁵

11 The fact that the specific brands and models of equipment offered for lease
12 is not yet known is problematic. A tremendous variety in the range of features
13 and prices exists for the leased equipment, as illustrated in my discussion below
14 with respect to residential hot water heaters. Because we do not yet know the
15 specific equipment offered to potential leasing customers, it is impossible for the
16 Commission to effectively evaluate the relative value to customers of the
17 equipment they may lease, or whether PSE's proposed lease prices are fair, just,
18 and reasonable.

19 **Q: Please elaborate on your statement that there is tremendous variety with**
20 **respect to the equipment available to consumers in the market.**

21 A: For illustrative purposes, I will focus on the example of residential hot water
22 heaters. Attached to my testimony as Exhibit No. MMK-2 is a "Water Heater
23 Buying Guide" prepared by *Consumer Reports* in March 2016. This guide
24 outlines a range of features consumers should consider when buying a new hot

²⁴ McCulloch, Exhibit No. MBM-1T at 17.

²⁵ PSE Response to Staff Data Request No. 66, dated May 4, 2016.

1 water heater. Such features include capacity, length of warranty, thickness of
2 insulation, energy efficiency, anti-scale devices to reduce mineral buildup, glass
3 lined tanks, brass or plastic drain valves, and digital displays. For storage-tank
4 water heaters, *Consumer Reports* emphasizes the importance of the first-hour
5 rating (FHR), which indicates the amount of hot water the equipment can deliver
6 over a set period of time.²⁶ The guide also cautions that new water heaters are
7 more efficient, and that due to increased insulation and other improvements, the
8 new water heater may not fit in the same space as the customer's old water
9 heater.²⁷ As discussed in more detail later in my testimony, *Consumer Reports*
10 encourages consumers to purchase water heaters with as long a warranty as
11 possible, typically 12 years. The *Consumer Reports* guide reflects the wide
12 variety of features and types of equipment available to customers purchasing hot
13 water heaters.

14 **Q: Did you analyze equipment prices available to consumers in the market for**
15 **residential water heaters?**

16 A: Yes. In order to understand the range and variety of prices available, I examined
17 residential natural gas water heaters available at Home Depot. Home Depot leads
18 the retail market for residential water heaters in Washington and in the Northwest,
19 according to the Northwest Energy Efficiency Alliance (NEEA).²⁸ In particular, I
20 examined the products and prices available that met the specifications outlined in

²⁶ Exhibit No. MMK-2 at 2.

²⁷ *Id.* This would increase the likelihood of “non-standard installation” costs for potential PSE lease customers, which would result in costs to the customer in excess of PSE’s proposed lease prices.

²⁸ Northwest Energy Efficiency Alliance (NEEA), *2011 Water Heater Market Update*, Report #12-234, Prepared by Verinnovation Inc., (Jan. 16, 2012) (NEEA 2011 Water heater Market Update). This report is attached to my testimony as Exhibit No. MMK-3. *Id.* at 22, Table 4.7 (Home Depot as retail leader).

1 PSE's proposed tariff for a standard vent residential natural gas tank-style hot
2 water heater.

3 The proposed tariff indicates PSE's standard vent natural gas water heaters
4 will have an Energy Factor²⁹ of at least 0.62 (efficiency rating), and a size of 55
5 gallons or less. PSE proposes a lease price of \$19.13 per month for 15 years, for a
6 total of \$3,443 during the lease period (with additional costs for sales taxes, city
7 utility taxes).³⁰ PSE's pricing model assumes an equipment cost of [Withheld] for this
8 type of natural gas hot water heater.³¹

9 A review of products and prices available through Home Depot as of
10 May 2016 found 23 models of natural gas standard vent hot water heaters that
11 complied with these specifications, at prices that range from \$379 to \$799.³² The
12 lowest price hot water heater (\$379), a Sure Comfort model, has a three-year
13 warranty, 40 gallon tank, and delivers 67 gallons of hot water in the first hour.
14 The most expensive hot water heater (\$799), a Rheem model, has a 12-year
15 warranty, 50 gallon tank, and delivers 91 gallons of hot water in the first hour.
16 Both water heaters have an Energy Factor (EF) of 0.62 and meet the 2015 federal

²⁹ The Energy Factor (EF) is a measure of the overall efficiency of the water heater. It is the ratio of useful energy output from the water heater to the total amount of energy delivered to the water heater. Current federal standards require minimum EF of .60 for natural gas tank-style water heaters of 55 gallons or less. Such models must have an EF of 0.67 to meet Energy Star criteria. See Energy Star water heater criteria: https://www.energystar.gov/products/water_heaters/residential_water_heaters_key_product_criteria (last accessed Jun. 2, 2016).

³⁰ PSE's tariff has a higher rate of \$22.63 per month for standard vent gas water heaters with an efficiency rating of .67 or higher and Wi-Fi capability.

³¹ The model assumes equipment costs of [Withheld] and installation costs of [Withheld], for total capital costs of [Withheld] for a 0.62 EF residential natural gas tank-style hot water heater. Lease Pricing Model Sheet 35 (HC).

³² Review of Home Depot website, <http://www.homedepot.com/b/Plumbing-Water-Heaters-Residential-Gas/N-5yclvZc1tz> (last accessed May 24, 2016). These 23 natural gas hot water heaters had an Energy Factor of at least 0.62 but less than 0.67, as PSE's tariffs propose a higher monthly rate for standard vent hot water heaters with an EF of at least 0.67, with Wi-Fi capability. The 23 water heaters identified excluded those designed for manufactured homes. Exhibit No. MMK-6.

1 National Appliance Energy Conservation Act (NAECA) standards. Both match
2 the specifications in PSE's proposed tariff for a standard vent hot water heater
3 that could be offered under the leasing program.³³ The wide range of prices for
4 water heaters that meet PSE's lease tariff specifications and the fact that the
5 Company has not yet selected specific brands and models of equipment shows
6 that PSE's equipment costs are speculative at this time. The results of my
7 equipment review of hot water heaters are provided as Exhibit No. MMK-6.

8 **2. PSE's Online Customer Survey.**

9 **Q: What sources did PSE rely upon to estimate customer participation in the**
10 **equipment lease proposal?**

11 A: Customer participation in the leasing program was estimated in part using the
12 reported customer interest in the leasing concept according to the results of an
13 online customer survey described in the testimony of PSE witness, Mr. Malcolm
14 McCulloch.³⁴ PSE's pricing model includes an assumption that **Withheld**
15 customers that expressed interest in leasing equipment on the online customer
16 survey will in fact sign up and participate in PSE's leasing program.³⁵

17 **Q: Why does PSE need to make assumptions regarding the level of customer**
18 **participation in the leasing program?**

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³³ Exhibit No. MMK-6 at 10-12.

³⁴ McCulloch, Exhibit No. MBM-1T at 4:11-8:13. *See also* Revised Prefiled Direct Testimony of Dr. Ahmad Faruqui, Exhibit No. AF-1T at 17:2-19:2 (Revised Apr. 25, 2016), for an explanation of PSE's calculation of the realizable market for leasing, which includes an assumption that 65 percent of customers meet credit eligibility guidelines. *Id.* at 17:7-9.

³⁵ Lease Pricing Model, Market share assumptions worksheet. *See also* Lease Pricing Model, Program assumptions worksheet, Row 61, for estimated customer participation levels by equipment type.

1 A: The pricing model PSE used to develop the lease prices includes assumptions
2 regarding the extent of customer participation in the leasing program. Because
3 the lease program would be optional, the extent of customer uptake can only be
4 estimated. The level of customer participation in the lease program is relevant to
5 program pricing because with greater participation, certain costs such as program
6 launch and fixed costs are spread over a larger customer segment. Conversely, if
7 participation is less than projected, PSE may not fully recover its costs, which
8 would place upward pressure on lease prices going forward (all else being equal).

9 **Q: Can you summarize the results of the PSE customer survey?**

10 A: Yes. The table below summarizes the results. It shows large majorities of
11 customers (75 percent to 87 percent) are either neutral or uninterested in leasing.

12 **Table 3: Level of Customer Interest in Leasing**

Lease Product	Interested	Neutral	Uninterested
Residential Water Heater	25%	29%	46%
Residential Gas Furnace	18%	22%	60%
Residential Air Source Heat Pump	13%	20%	67%

13 Source: McCulloch, Exhibit No. MBM-4.

14 **Q: Please describe the major flaws you have identified with PSE's online**
15 **customer survey.**

16 A: There were several problems with the survey. Notably, when customers were
17 asked whether they would be interested in a leasing program, the survey failed to
18 disclose the total amount customers would pay for the equipment over the term of

1 the lease. PSE's online survey respondents were told the estimated monthly rate,
2 lease term, and maintenance frequency, but the total amount that customers would
3 pay for the equipment during the lease term was omitted.³⁶ This omission could
4 significantly affect reported customer interest in leasing.

5 According to a recent NEEA study of the residential hot water heater
6 market, the cost of purchase and installation of hot water heaters has the most
7 influence on consumer purchasing decisions.³⁷ PSE's own survey found that 70
8 percent of customers indicated their budget had a great deal of influence on their
9 decision to replace their hot water heater.³⁸ The failure to fully and accurately
10 disclose the total costs consumers would face from the leased equipment is a
11 critical flaw of the online customer survey that very likely overstates the level of
12 customer interest.

13 **Q: Did PSE's online survey disclose that PSE would own the equipment at the**
14 **end of the lease term?**

15 A: No. The survey failed to mention that at the end of the lease term, PSE would
16 own the equipment, not the customer. Under the program, PSE's tariff provides
17 that lease customers can return the equipment to PSE at the conclusion of the
18 lease or begin a new lease with new equipment at prices in effect at that time.³⁹
19

³⁶ See McCulloch, Exhibit MBM-1T at 5:9-6:2. The online survey instrument and results are provided as Exhibit No. MBM-4, with the leasing concept description provided on page 5 (hot water heater), page 6 (gas furnace) and page 7 (electric air source heat pump).

³⁷ Exhibit No. MMK-3 at 6.

³⁸ McCulloch, Exhibit No. MBM-4 at 4.

³⁹ Schedule 75, Sheet 175-U, at Section 12 (Termination).

1 **Q: Did PSE’s online survey contain misleading information about the energy**
2 **efficiency levels of the leased equipment?**

3 A: Yes. PSE’s survey described the leasing program concept as offering “energy
4 efficient equipment.”⁴⁰ Two of the three types of equipment described in the
5 survey, however, were the least efficient equipment available. Specifically, the
6 estimated lease prices mentioned in the survey most closely reflect the lease
7 offerings for the least efficient residential natural gas hot water heaters (standard
8 vent 0.62 Energy Factor tank-style hot water heaters) and the least efficient
9 natural gas furnaces (80 percent AFUE furnaces).⁴¹ PSE’s conservation
10 programs do not offer any incentives for either of those two types of equipment
11 because they are already largely consistent with current federal standards.

12 As noted earlier, residential hot water heaters and gas furnaces represent
13 **Withheld** of the anticipated customer uptake of the proposed lease program
14 offering, according to PSE’s pricing model. In each of those equipment offerings,
15 however, more efficient equipment would be available, but at a higher price, and
16 that higher price was not disclosed to consumers in the online customer survey.
17 In this regard, describing the lease program as offering “energy efficient”
18 equipment for the prices stated likely skewed the survey results to show greater
19 interest.⁴²

⁴⁰ McCulloch, Exhibit No. MBM-4 at 5.

⁴¹ The online survey estimated hot water heater prices of \$18 per month for 15 years, which is \$1.13 less than the \$19.13 monthly rate in PSE’s tariff for a standard vent 0.62 EF natural gas hot water heater. The gas furnace price shown in the survey was \$60 per month for 17 years, which is \$1.81 higher than PSE’s proposed tariff rate of \$58.19 for a natural gas furnace with an AFUE of 80 percent. Exhibit No. MBM-4 at 5-6.

⁴² The NEEA hot water heater market study found that only 7 percent of customers would be willing to pay an additional \$500 for an Energy Star hot water heater. Exhibit No. MMK-3 at 35.

1 **Q: Was there also a flaw with the heat pump information provided in the online**
2 **customer survey?**

3 A: Yes. Another design flaw with the customer survey was that the monthly fee and
4 lease terms included in the survey description for the electric air source heat pump
5 were significantly lower than those stated in PSE's proposed tariff. The survey
6 estimated the monthly fee as \$85 at a term of 17 years.⁴³ However, PSE's
7 proposed tariff has a monthly fee of \$116 (36 percent higher) and a term of 18
8 years for a heat pump. For respondents who calculated the total payment over the
9 term of the lease, the survey description suggested a total payment of \$17,340,
10 whereas PSE's proposed lease price and term as filed represent a total payment of
11 \$25,056 for an electric air source heat pump (before taxes). The survey reported
12 13 percent of customers expressed interest in leasing a heat pump for \$85 per
13 month. This figure might have been lower had respondents been informed that
14 the actual monthly price was \$116, and the total lease payment cost was over
15 \$25,000.⁴⁴

16 **Q: Is there evidence in the survey that customer interest in leasing is affected by**
17 **price?**

18 A: Yes. Customer interest in leasing declined as monthly lease prices rose.⁴⁵ The
19 portion of customers expressing interest in leasing hot water heaters (lowest cost),
20 gas furnaces, and air source heat pumps (highest cost) were 25 percent,
21 18 percent, and 13 percent, respectively.⁴⁶ Similarly, the portion of survey

⁴³ McCulloch, Exhibit No. MBM-4 at 7.

⁴⁴ McCulloch, Exhibit No. MBM-4 at 8.

⁴⁵ McCulloch, Exhibit No. MBM-4. Customer interest in leasing declined as monthly equipment prices increased. See Table 3, above.

⁴⁶ McCulloch, Exhibit No. MBM-4 at 6-8.

1 respondents indicating they were not interested in leasing increased from 46
2 percent to 67 percent as monthly lease prices rose, as shown above in Table 3.⁴⁷

3 **Q: Do you believe the online survey respondents were representative of PSE’s**
4 **customer population?**

5 A: No, I do not. The customer survey of PSE customers was conducted as an online
6 survey and therefore, very likely yielded biased results that are not representative
7 of PSE’s customer population. I respectfully disagree with the characterization in
8 Dr. Ahmad Faruqui’s testimony that PSE’s online customer survey reflected a
9 “representative sample” of PSE’s customer base.⁴⁸ Neither Dr. Faruqui nor PSE
10 have provided support for this claim.

11 Recent results from a NEEA survey regarding the Northwest residential
12 hot water heater market suggests that PSE’s online survey respondents are very
13 likely not reflective of PSE’s underlying customer population. The NEEA study
14 included both an online and a telephone survey of Northwest water heater
15 customers. The study observed “sharp differences” between the online and
16 telephone respondents based on a demographic analysis.⁴⁹

17 The phone group was older than the typical Northwest resident, but
18 close to the Northwest average for both income and education. In
19 contrast, the online respondents were approximately five years
20 younger than the phone group, had roughly four additional years of
21 schooling, and earned approximately \$24,000 more per year than
22 the phone respondents.⁵⁰

23

⁴⁷ McCulloch, Exhibit No. MBM-4 at 6-8.

⁴⁸ Faruqui, Exhibit AF-1T at 16:7-8.

⁴⁹ Exhibit No. MMK-3 at 11.

⁵⁰ Exhibit No. MMK-3 at 11. *See also, Id.* at 17-18, regarding differences between online and phone survey respondents.

1 The NEEA study, attached as Exhibit No. MMK-3, also found potential
2 self-selection bias in the online survey responses, and that respondents may have
3 been biased towards homeowners who are interested in energy efficiency and
4 conservation, concluding that “responses from our online samples—recent
5 purchasers in particular—might not be reflective of the Northwest population as a
6 whole.”⁵¹

7 Overall, this suggests that the online survey of PSE customers likely
8 reflected respondents with higher levels of income and education, and with some
9 bias towards conservation as compared with the general customer base.

10 **Q: Is PSE’s estimate of customer uptake realistic?**

11 A: PSE’s pricing model projects that Withheld customers that express
12 interest in the leasing concept on the survey will actually sign up for the leasing
13 program. PSE has not provided any support or explanation for this assumed level
14 of customer acquisition and this may be an unduly optimistic assumption.

15 A recent study of Oregon purchasers of heat pump water heaters
16 performed for NEEA by Evergreen Economics found that only eight percent of
17 purchasers used loans to finance their heat pump, typically through a loan from a
18 bank or credit union.⁵² To the extent avoidance of upfront costs through financing
19 is a motivation for customers to consider leasing, the Evergreen Economics study

⁵¹ NEEA 2011 Water Heater Market Update, Appendix C at C-1. Residential, Heat Pump Water Heater Reports, <http://neea.org/resource-center/market-research-and-evaluation-reports> (last accessed Jun. 3, 2016).

⁵² NEEA, *Northwest Heat Pump Water Heater Initiative Market Progress Evaluation Report #1*, Prepared by Evergreen Economics, at 15 (Oct. 14, 2015), <http://neea.org/resource-center/market-research-and-evaluation-reports> (last accessed Jun. 3, 2016).

1 suggests that the PSE assumption is overly aggressive and that the actual
2 customer participation in the leasing program may be much lower than PSE
3 projects. The NEEA water heater market study found that homeowners
4 preferred rebates as the most appealing incentive to purchase an energy efficient
5 water heater (44 percent), ahead of tax credits (21 percent), interest-free financing
6 (15 percent), and monthly payments through the utility bill (on-bill financing) (11
7 percent), respectively.⁵³

8 **Q: How do these flaws with the customer survey likely affect the results?**

9 A: As Dr. Faruqui states in his testimony on behalf of PSE, “imperfect information is
10 the lack of adequate information to make an optimal decision.”⁵⁴ In PSE’s online
11 customer survey, respondents were not informed of the total price of the
12 equipment under the leasing concept. Moreover, as discussed above, they were
13 misled that leased equipment would be energy efficient. These critical flaws
14 failed to provide the “adequate information” Dr. Faruqui references, and
15 prohibited the online survey respondents from making a fully-informed decision
16 regarding their interest in PSE’s leasing program concept.

17 Customer interest in the proposed lease program would likely have been
18 lower, perhaps substantially lower, if the survey question had also included this
19 description of the hot water heater lease proposal:

20 By the end of the 15 year lease term you will have paid between \$3,400
21 and \$5,100 for the leased hot water heater, depending on the type of
22 equipment you choose.
23

⁵³ NEEA 2011 Water Heater Market Update, Appendix D at Table H-22. See also Exhibit No. MMK-3 at 40, Figure 4.AC.

⁵⁴ Faruqui, Exhibit No. AF-1T at 8:5-6.

1 Lease prices for more energy efficient equipment will cost \$4000 to
2 \$5000.
3

4 In addition, you will also pay sales tax each month, and likely a city utility
5 tax of about six percent each month, depending on the rate in your city.
6

7 At the end of the 15 year lease term, you would not own the hot water
8 heater. At that point you would have the option to begin a new lease with
9 PSE for new or similar equipment, or PSE can remove the equipment from
10 your home.
11

12 If you choose to sign up for a new lease at that point, the monthly rate may
13 be different from the amount you paid originally.

14 **Q: Please summarize your concerns with PSE's online customer survey.**

15 A: In summary, the level of customer interest in leasing is unknown because the
16 online customer survey conducted for PSE suffered from several critical flaws.
17 The survey failed to clearly disclose the total costs faced by the customer from the
18 leasing program, when cost is of paramount interest to consumers. The online
19 methodology also likely yielded a biased sample not representative of PSE's
20 customers. The survey included a much lower lease price for electric air source
21 heat pumps than the amount filed in PSE's proposed tariffs. Lastly, PSE's
22 assumptions regarding the portion of customers expressing interest in leasing that
23 will actually choose to sign up for the lease equipment program also appears
24 aggressive and has not been supported by evidence in the record.

25 **Q: Are your concerns with PSE's online customer survey relevant to other**
26 **aspects of PSE's filing, in addition to the pricing model?**

27 A: Yes. The results of the online customer survey were also used by PSE to
28 calculate alleged conservation savings, as described later in my testimony.

1 **3. PSE's Estimated Failure Rate.**

2 **Q: What is your concern with the assumed failure rates assumed in PSE's**
3 **pricing model?**

4 A: PSE's pricing model assumes a failure rate of four percent for each type of
5 equipment that would be offered in the program (water heaters, furnaces, heat
6 pumps).⁵⁵ This failure rate is based upon the failure rate of water heaters in PSE's
7 current natural gas rental program.⁵⁶ PSE has explained in discovery that the four
8 percent failure rate from the rental hot water heater program was "conservatively
9 applied to all types of equipment proposed in Schedules 75 as it represents the
10 most current data available to PSE."⁵⁷

11 It is not self-evident exactly what is "conservative" about this assumption.
12 It is possible that PSE's rental hot water heaters have a shorter warranty period as
13 compared with some of the proposed lease equipment, which might affect the
14 failure rate. However, space heating equipment such as gas furnaces and air
15 source heat pumps clearly serve a different purpose and have different
16 components, features and functionality than hot water heaters. PSE has provided
17 no evidence that this failure rate is applicable or relevant to other equipment not
18 offered through the rental program, including space heating equipment as well as
19 electric heat pump hot water heaters.

⁵⁵ PSE response to Public Counsel Data Request No. 21.

⁵⁶ The failure rate was determined by analyzing water heaters in the rental program that had failed after the manufacturer warranty but prior to the end of the lease term proposed by PSE in Schedule 75. *Id.*

⁵⁷ *Id.* at 1.

1 If the failure rate is higher than what is assumed in the model, then PSE’s
2 actual costs for the program would be higher (all other things being equal), which
3 would put upward pressure on lease prices going forward.

4 **B. PSE’s Proposed Leasing Prices are Excessive.**

5 **Q: What costs would customers face, in addition to the capital costs for**
6 **equipment and installation of leased equipment?**

7 A: Customers choosing to lease equipment from PSE would pay total costs for the
8 equipment over the term of the lease far in excess of the assumed capital costs for
9 equipment and installation. This differential represents the premium that
10 customers would pay to receive the asserted benefits of the leasing program, such
11 as no upfront costs, financing, maintenance and repair, and replacement upon
12 failure during the term of the lease. The table below shows the amount of this
13 premium for residential hot water heater leased equipment, using the capital cost
14 assumptions in PSE’s highly confidential pricing model. (A Table showing the
15 premium for all types of leased equipment is provided as Exhibit MMK-4HC).

16 //

17 ///

18 ////

19 /////

20 //////

21 ///////

22 //////////

23 ///////////

24

1

Table 4: Premium for Leased Equipment – Residential Hot Water Heaters

Equipment	Capital Costs (equip. + install)	Total Cost Leased Equipment	Difference/ “Premium” (\$)	Ratio of Premium to Capital Costs
(a)	(b)	(c)	(d)=(c)–(b)	(e)=(d)/(b)
<i>Residential Water Heaters</i>				
Standard Vent (Tank)	Withheld	\$ 3,443	Withheld	Withheld
Efficient Wi-Fi Standard Vent (Tank)	Withheld	\$ 4,073	Withheld	Withheld
Efficient Direct Vent (Tank)	Withheld	\$ 5,263	Withheld	Withheld
Wi-Fi Enabled (Tank)	Withheld	\$ 3,791	Withheld	Withheld
Efficient Wi-Fi Enabled (Heat Pump)	Withheld	\$ 5,175	Withheld	Withheld

2

Sources: PSE Pricing Model (Capital Costs); Table 1 (Total Lease Cost)

3

For a standard vent natural gas hot water heater, the premium that

4

customers would pay, for the various asserted benefits of the leasing program, is

5

Withheld PSE’s assumed capital costs for the equipment and installation.

6

Q: Did you obtain information regarding hot water heater equipment and installation costs available in the market?

7

8

A: Yes. My review of hot water heaters available at Home Depot found prices

9

ranging from \$379 to \$799 for natural gas water heaters with 0.62 EF. In

10

addition, I also contacted Home Depot to request prices for equipment and

11

installation of natural gas tank-style hot water heaters, and was quoted prices

12

1 of \$1,049 to \$1,279.⁵⁸ These prices are generally consistent with the amounts
2 shown in Table 5 that appears later in my testimony, illustrating financing costs
3 for water heater loans of \$1,000 and \$1,500.

4 **Q: Did you find any data that puts PSE’s proposed lease prices in perspective**
5 **with regard to customer expectations?**

6 A: Yes. The NEEA market study referenced above found that a majority of
7 residential customers expect to pay less than \$1,000 for a hot water heater, for
8 equipment and installation.⁵⁹ Admittedly, this is for an outright purchase, so a full
9 comparison would require a comparison of the costs of leasing equipment from
10 PSE with the customer’s cost of financing equipment with a longer warranty, and
11 purchasing a maintenance and repair plan. I will discuss purchase of a longer
12 warranty as well as financing options later in my testimony. At Table 5, I provide
13 a comparison between leasing and financed purchase of hot water heater
14 equipment with warranty. I am not specifically addressing maintenance and
15 repair plans in my testimony, but I generally understand that many retailers offer
16 such plans for hot water heater and heating equipment. My review of hot water
17 heaters found several models advertised as being “maintenance free.”⁶⁰


⁵⁸ I contacted Home Depot via the toll-free telephone number shown on the website, 1-855-400-2552, on June 2, 2016, requesting prices for natural gas tank-style water heaters less than 55 gallons, with an Energy Factor of 0.62, for installation in Seattle. The higher price range (\$1,279) was for a Rheem 50 gallon tank with 12-year warranty, and the lower price was for a 40 gallon Rheem model with a six-year warranty. Installation costs were not separately provided but appear to represent about \$600 based on the equipment prices shown on the Home Depot website.

⁵⁹ Exhibit No. MMK-3 at 40.

⁶⁰ See e.g. Exhibit MMK-6 at 10.

1 **Q: What guidance does Consumer Reports provide to customers regarding**
2 **purchase of a hot water heater?**

3 A: As discussed above, *Consumer Reports* recommends purchase of a residential hot
4 water heater with as long a warranty as possible, typically 12 years. My review of
5 hot water heaters available at Home Depot revealed five natural gas hot water
6 heaters available with a 12-year warranty, at prices ranging from \$599 to \$799,
7 meeting PSE’s tariff specifications for standard vent natural gas hot water heaters
8 with an Energy Factor of at least 0.62.⁶¹ Consumers may need to pay
9 approximately \$100 to \$150 additionally upfront for a hot water heater with a
10 12-year warranty.⁶²

11 A hot water heater with a 12-year warranty provides one of the key
12 benefits of the leasing program, namely, replacement of the equipment in the
13 event of equipment failure during the warranty period. Water heaters with a
14 12-year warranty are likely to contain features and specifications that contribute
15 to longer equipment life, according to *Consumer Reports*.⁶³ PSE’s pricing model
16 assumes that residential hot water equipment will have a warranty of  years.⁶⁴

17 **Q: If a customer purchases a hot water heater with a 12 year warranty, how**
18 **does that compare to the PSE lease option?**

19

⁶¹ Exhibit No. MMK-6; This review was conducted in May 2016. The standard vent water heaters had an Energy Factor of at least 0.62 but less than 0.67, and capacity less than 55 gallons, consistent with PSE’s tariff specifications. Schedule 75, Sheet 175-A. The water heater available for \$599 was shown as on sale, with a regular price of \$669. *Id.* at 6.

⁶² For example, Home Depot offers a Rheem 50 gallon natural gas hot water heater with a 12-year warranty for \$799, and a similar model is also available with a six-year warranty for \$679, reflecting a premium of \$120 for the 12-year warranty. Exhibit No. MMK-6 at 6-7.

⁶³ Exhibit No. MMK-2 at 9. Such equipment may therefore be of superior quality compared to the equipment with shorter warranty periods.

⁶⁴ PSE Highly Confidential Lease Pricing Model.

1 replacement of older, less-efficient equipment and installation of newer, more
2 efficient equipment than would otherwise be purchased in the market.⁶⁵

3 According to PSE, this will result in electric and natural gas energy savings,
4 which will then result in reduced greenhouse gas emissions, avoided generation
5 and distribution capacity costs, and supposedly lower utility bills for leasing
6 customers due to the assumed energy savings.⁶⁶

7 **Q: Does PSE consider the leasing program to be a conservation program?**

8 A: No. While the Company points to various asserted conservation benefits from the
9 Equipment Lease Service, PSE also maintains that the program is not a
10 conservation program.⁶⁷ This is puzzling. To the extent the Company would like
11 the Commission to consider any purported conservation savings associated with
12 the Equipment Lease Service as a public benefit and justification for the program,
13 the Commission should have the opportunity to evaluate those conservation
14 savings claims according to its standard practice for review of conservation
15 programs. PSE has not performed or provided any of the traditional cost-
16 effectiveness analyses typically undertaken for evaluation of conservation
17 programs to support its Equipment Lease Service, such as the Total Resource
18 Cost Test (TRC).⁶⁸ Such analysis is central to the pursuit of conservation
19 acquisition, but has not been provided by PSE in this case, either in testimony or
20 in response to discovery.

⁶⁵ Faruqui, Exhibit No. AF-1T at 19:7-10.

⁶⁶ Faruqui, Exhibit No. AF-1T at 2.

⁶⁷ Prefiled Direct Testimony of Eric E. Englert, Exhibit No. EEE-1T at 8:19 – 9:2.

⁶⁸ PSE Response to Staff Data Request No. 33. The TRC, as utilized and applied by PSE for its conservation programs, is described in PSE's Electric Schedule 83, and Natural Gas Schedule 183.

1 **Q: If PSE has quantified conservation benefits of the leasing program, has the**
2 **Company analyzed the costs to deliver those savings?**

3 A: No. The conservation model developed by Dr. Faruqui for PSE is a benefits-only
4 model.⁶⁹ The model calculates estimated energy savings from the leasing
5 program, with several critical flaws discussed below, but fails to consider any
6 costs associated with the proposed leasing program. There are no calculations in
7 the conservation model regarding the costs of the Equipment Lease Service, either
8 for the Company or for participating customers. This is inconsistent with the
9 Commission’s standard practice for review of conservation programs.⁷⁰

10 As one example, the purported bill savings calculated by the model fail to
11 account for the obvious costs participating customers will face, in the form of
12 monthly lease payments for 10 to 18 years, depending on the type of equipment.
13 Instead, PSE’s claimed “bill savings” only consider the alleged energy savings
14 associated with leased equipment. As discussed below, those asserted energy
15 savings are substantially overstated by PSE.

16 **Q: Do you agree with the purported conservation savings PSE says will be**
17 **achieved from the leasing program?**

18 A: No, not at all. The alleged conservation savings described in the testimony of
19 Dr. Faruqui are substantially overstated, as discussed in more detail below.

⁶⁹ PSE provided the conservation model in response to a data request. PSE Response to Public Counsel Data Request No. 6, Attachment A (HC-C). Public Counsel’s understanding at this time is that PSE has not filed the model as part of the workpapers supporting Dr. Faruqui’s testimony.

⁷⁰ See, e.g. WAC 480-109-060(7) defining “cost-effective;” PSE Schedule 83 (Electric Conservation Service); PSE Schedule 183 (Natural Gas Conservation Service); *In the Matter of PSE Report Identifying Its 2016-2025 Ten-Year Achievable Electric Conservation Potential and Its 2016-2017 Electric Biennial Conservation Target Under RCW 19.285.040 and WAC 480-109-010*, Docket UE-152058, Order 01, Attachment A at § 8 (Dec. 15, 2015).

1 **Q: Was the conservation model shared with the CRAG for review and input?**

2 A: No, it was not. The conservation savings model, as described in Dr. Faruqui's
3 testimony, was provided to parties in response to discovery.⁷¹

4 **Q: In addition to the concern that the model does not account for any costs**
5 **associated with the Equipment Lease Service, what other concerns do you**
6 **have with the estimated conservation savings?**

7 A: The PSE conservation model assumes that *every* customer that indicated interest
8 in the leasing concept through the online customer survey will lease equipment
9 from PSE. This is a highly unrealistic assumption, particularly in light of the
10 flawed and misleading nature of the online customer survey discussed earlier in
11 my testimony. Dr. Faruqui states that the assumption is based on the portion of
12 customers that "have indicated in the survey that they are likely to undertake a
13 lease, if offered the option."⁷² However, PSE's online customer survey asked
14 about "interest" in the leasing concept, rather than likelihood of participation, an
15 important distinction.

16 This assumption is also at odds with the pricing model, where **Withheld**
17 **Withheld** customers expressing interest in leasing from the online survey are
18 assumed to participate in the program. This itself is an aggressive assumption,
19 but the conservation model assumes **Withheld** this level of participation. PSE does
20 not provide any explanation for these assumptions of customer participation.

21

⁷¹ PSE Response to Public Counsel Data Request No. 6, Attachment A (HC). All worksheets in the model have been designated as Confidential or Highly Confidential by PSE (Conservation Model).

⁷² Faruqui, Exhibit No. AF-1T at 17:6-7. In this section of his testimony, Dr. Faruqui is describing how the model accounted for savings for natural gas furnaces.

1 **Q: Are there any other errors with the conservation model that you have**
2 **identified?**

3 A: Yes. While a comprehensive review of the conservation model is beyond the
4 scope of my testimony, I did identify several additional errors with the model.
5 For example, savings associated with natural gas furnaces are overstated. The
6 model assumes that 65 percent of PSE’s residential customers heat their home
7 with natural gas.⁷³ However, the source of this 65 percent ratio applies only to
8 PSE’s single family customers, not to all PSE residential customers.⁷⁴ PSE’s
9 model applies this 65 percent ratio to all of PSE’s residential customers (gas,
10 electric, combined gas and electric), but some portion of those residential
11 customers reside in multi-family dwellings.

12 In addition, while PSE’s lease tariff offers two types of natural gas
13 furnaces for lease (80 percent efficient and 95 percent efficient), conservation
14 savings can only be claimed for 95 percent efficient furnaces, as 80 percent
15 efficiency largely reflects current federal standards. The conservation model
16 assumes that 80 percent of natural gas furnaces leased would be 95 percent
17 efficient furnaces. The source for this assumption is indicated as “vendor
18 feedback.”⁷⁵ This, too, appears to be an aggressive assumption with minimal
19 support. I have provided PSE’s responses to discovery on this issue as Exhibit
20 Nos. MMK-7HC and MMK-8 to my testimony. PSE’s conservation model

⁷³ Faruqui, Exhibit No. AF-1T at 17:5-6.

⁷⁴ McCulloch, Exhibit No. MBM-3 at 1, *see also* PSE Response to Staff Data Request No. 31 Attachment B, which indicates gas forced air furnaces are present in 65 percent of single family homes, 19 percent of multifamily homes, and 13 percent of mobile homes. *Id.*

⁷⁵ Faruqui, Exhibit No. AF-1T at 17:9 & n.38.

1 assumes PSE will lease 6,000 95 percent efficient furnaces each year.⁷⁶ For
2 comparison purposes, that represents a 150 percent increase over the 4,000
3 furnace rebates provided through PSE’s high efficient furnace program in 2014.⁷⁷

4 **Q: Are there other ways in which the model is inconsistent with the**
5 **Commission’s standard practice and methodology for determining**
6 **conservation savings?**

7 A: Yes. The conservation model claims savings for equipment that is not currently
8 eligible for energy efficiency rebates or incentives by PSE. Of the 12 types of
9 lease equipment offered by PSE, only four are currently included in the
10 Company’s conservation portfolio.⁷⁸ The conservation model assumes
11 conservation savings for certain equipment that is not currently included in PSE’s
12 conservation portfolio, including residential natural gas tank-style hot water
13 heaters (both 0.62 and 0.67 Energy Factor lease offerings).⁷⁹ However, a 2010
14 evaluation of PSE’s tank-style, natural gas water heater program found the market
15 had largely been transformed, with program participants and non-participants
16 increasingly looking to purchase efficient equipment options such as EnergyStar
17 models.⁸⁰ Consequently, PSE ended its residential natural gas tank-style water
18 heater program at that time.

⁷⁶ Faruqui, Exhibit No. AF-1T at 17:12-18:2.

⁷⁷ Docket UE-132043, PSE 2014 Annual Report of Energy Conservation Accomplishments (Feb. 27, 2015), Exhibit 1 Supplement 4, Significant Program Counts at 1.

⁷⁸ PSE currently offers rebates for residential electric heat pump water heaters, electric air source heat pumps, and 95 percent efficient natural gas furnaces. Commercial natural gas water heaters with an efficiency rating of 0.94 or higher are also eligible for an incentive.

See <http://pse.com/savingsandenergycenter/Pages/default.aspx>.

⁷⁹ Conservation Model at “Accel_Energy_Conserv_Det (C)” worksheet.

⁸⁰ *Impact Evaluation of the PSE Efficient Hot Water Heater Program, Program Years 2005-2007*, KEMA (Jun. 16, 2010). PSE Response to Public Counsel Data Request No. 15, Attachment B at 1-3.

1 Another area of inconsistency between PSE’s Conservation Model and the
2 Commission’s standard practice is that the leasing conservation model calculates
3 “incremental benefits” of additional conservation savings related to accelerated
4 replacement of equipment. These incremental savings stem from an assumption
5 that some of the replaced equipment has been operating at levels below current
6 codes or federal standards.⁸¹ Dr. Faruqui states in part: “In the absence of hard
7 data, I am assuming that an old furnace past its useful life has efficiency savings
8 that are 20% greater than the units that would have been replaced at the end of
9 their useful life.”⁸² The PSE conservation model applies these additional 20
10 percent incremental benefit savings to all “accelerated” equipment, not just
11 furnaces. Both the Northwest Power and Conservation Council’s Regional
12 Technical Forum, and the Commission, however, employ a methodology that
13 utilizes a baseline of either existing code (or federal standards) or current market
14 practice, whichever is more efficient.⁸³

15 **Q: Are there initiatives PSE could pursue to encourage replacement of aging**
16 **equipment, aside from the leasing concept?**

17 A: Yes. If PSE’s objective is to achieve conservation savings by encouraging
18 customers to replace aging equipment that has exceeded its average useful life,
19 the Company should engage the CRAG in the design and development of such a
20 program or effort.

⁸¹ Faruqui, Exhibit No. AF-1T at 21:1-23:3 (including n.45).

⁸² Faruqui, Exhibit No. AF-1T at 22:20-23:3.

⁸³ Regional Technical Forum, *Complete Operative Guidelines*, at 11 (Released Dec. 8, 2015),
<http://rtf.nwccouncil.org/subcommittees/Guidelines/Complete%20Operative%20Guidelines%20%28Release%20202015-12-08%29.pdf>.

1 PSE could work with the CRAG to consider development of a new
2 program or pilot and/or to develop new initiatives designed to expand
3 participation in PSE’s existing efficiency programs. Such efforts might include,
4 for example, partnerships with credit unions and banks, on-bill financing
5 programs, or further promotional efforts to improve awareness of efficient
6 equipment.

7 **Q: Please describe possible partnerships with credit unions or banks.**

8 A: PSE could determine creditworthiness based upon consistent utility bill payment
9 history, in partnership with a credit union offering loans for energy efficient
10 equipment or upgrades. Seattle City Light has such a partnership with Craft3, a
11 Community Development Financial Institution (CDFI).⁸⁴ Craft3 examines SCL
12 bill payment history in evaluating loan applications. Indeed, Craft3 explicitly
13 states: “Applicants who pay their Seattle City Light Bills regularly may be
14 eligible for a loan even with a less than-perfect credit score.”⁸⁵

15 PSE has identified its unique access to utility bill payment history data to
16 determine credit worthiness as a benefit of the leasing program. The Company
17 has explained “PSE uses its own data on creditworthiness based on a customer’s
18 credit history with PSE. This will differ from a credit score obtained from a credit
19 reporting agency and used by other lenders, who do not have access to this

⁸⁴ Craft3 is a nonprofit Community Development Financial Institution (CDFI) providing loans to businesses, nonprofit organizations and individuals in the Pacific Northwest. *See* <http://www.craft3.org/About/Mission>.

⁸⁵ Exhibit No. MMK-5 at 4.

1 data.”⁸⁶ However, the Seattle City Light and Craft3 partnership illustrate that the
2 same approach can be utilized through efforts other than leasing.

3 **Q: Please describe potential on-bill financing programs.**

4 A: On-utility bill financing provides an opportunity for customers to make payments
5 for energy efficiency upgrade loans through the utility bill. Seattle City Light
6 currently offers such a program in partnership with Craft3 that includes lower
7 interest rates of 3.49 percent for households with incomes up to 80 percent of the
8 Area Median Income (for a household of four, income of up to \$66,000 would
9 qualify for the lower rate).⁸⁷ Other households can receive loans at a rate of 4.49
10 percent. Northwest Natural Gas also has an on-bill financing program with
11 Craft3.⁸⁸

12 **Q: Could those efforts help promote customer interest in the most efficient
13 equipment and potentially reach a broader set of customers?**

14 A: Yes. Efforts such as on-bill financing could potentially help drive more customers
15 to PSE’s existing rebate programs, and could reach those customers that would
16 benefit from replacement of aging equipment, at financing rates and total costs
17 much lower than PSE’s lease proposal. PSE’s customer survey found that many
18 more customers stated that they were uninterested in leasing as compared to those
19 that expressed interest in leasing, as shown in Table 3 earlier in my testimony. In
20 this regard, PSE may have opportunities to reach a broader set of customers
21 through efforts other than a leasing program, to encourage replacement of aging
22 equipment. These possible new ventures could be coupled with promotional

⁸⁶ PSE Response to Public Counsel Data Request No. 3.

1 efforts to encourage adoption of the most efficient equipment. The recently
2 completed NEEA study regarding heat pump hot water heaters, referenced above,
3 concluded that the Northwest region is still earning about heat pump water
4 heaters. Regional mass marketing was recommended, to increase public
5 awareness and understanding of the equipment.⁸⁹

6 **V. PSE'S PROPOSED EQUIPMENT LEASE PROGRAM SUFFERS FROM**
7 **NUMEROUS CONSUMER PROTECTION CONCERNS**

8 **Q: Do have any concerns about consumer protection aspects of the PSE**
9 **proposal?**

10 A. Yes. As a general matter, consumer protection principles seek to ensure that
11 customers are fully informed about purchasing decisions and that they receive
12 accurate, non-deceptive, and complete disclosures from the seller of the product
13 or service. PSE's leasing proposal raises a number of concerns in this area.

14 **Q: What specific issues do you believe are raised?**

15 A: Issues include the following:

- 16 • Will customers be fully informed of all their rights and responsibilities as
17 program participants?
- 18 • Will customers be fully informed, in a clear and transparent manner, of the
19 total costs of the loan, including all applicable taxes and fees?
- 20 • What information and/or disclosures will be provided about alternatives to
21 leasing, and alternative equipment options?

⁸⁷ Exhibit No. MMK-5 at 7.

⁸⁸ Dockets UE-151871 and UG-151872, Commission Staff Open Meeting Memo at 2 (Nov. 13, 2015).

⁸⁹ NEEA, *Northwest Heat Pump Water Heater Initiative Market Progress Evaluation Report #1*, Prepared by Evergreen Economics, at 25-26 (Oct. 14, 2015), <http://neea.org/resource-center/market-research-and-evaluation-reports> (last accessed Jun. 3, 2016).

- 1 • What disclosures will be provided about credit alternatives to PSE leasing in
- 2 the market, including for customers with good credit?
- 3 • How will the program affect (or be affected by) PSE’s role as an energy
- 4 advisor?
- 5 • How and when will customer information and disclosures be provided?
- 6 • How would a leasing program affect PSE’s existing natural gas rental
- 7 program participants?

8 **Q: Has the Washington UTC addressed consumer protection for leasing in**
9 **connection with other utility-related services?**

10 A: Yes. After conducting a review of distributed generation and third-party
11 ownership, focused generally on solar issues, the Commission issued a policy and
12 interpretive statement in July 2014 in Docket UE-112133, which addressed
13 consumer protection in connection with leasing of equipment to consumers.⁹⁰
14 The Commission noted that Chapter 63.10 RCW (Consumer Leases) “requires
15 that leases for the use of personal property include specific consumer protections.
16 A violation of RCW 63.10 is considered an unlawful or deceptive act in violation
17 of the Consumer Protection Act, RCW 19.86, facilitating enforcement by the
18 Attorney General.”⁹¹

⁹⁰ *In the Matter of Amending and Repealing Rules in WAC 480-108 Relating to Electric Companies-Interconnection with Electric Generators*, Docket UE-112133, Interpretive Statement Concerning Commission Jurisdiction and Regulation of Third Party Owners Of Net Metering Facilities (*Third Party Ownership Policy Statement*) (Jul. 30, 2014). The Commission reviewed the consumer protection provisions in RCW 80.28 conferring the authority to protect consumers of regulated services. The Commission further noted the applicability of the Consumer Protection Act, RCW 19.86 for companies not regulated by the Commission.

⁹¹ *Id.* ¶ 30.

1 **Q: What kinds of protections are included in Chapter 63.10 RCW for**
2 **consumers who lease property?**

3 A: The law includes detailed disclosure requirements. These include:

- 4 • A clear statement of the total amount to be paid at the consummation of the
5 lease;
- 6 • Details on the payment schedules as well as the total amount of periodic
7 payments;
- 8 • The total amount paid or payable by the lessee during the lease term for fees,
9 registration, certificate of title, license fees or taxes, and all other charges;
- 10 • Any insurance associated with the lease, express warranties or guarantees;
- 11 • The party responsible for maintaining or servicing the leased property and the
12 standards for wear and use;
- 13 • A description of any security interest held or to be retained by the lessor in
14 connection with the lease;
- 15 • A clear identification of the property to which the security interest relates;
- 16 • A statement of whether or not the lessee has the option to purchase the leased
17 property; and
- 18 • The conditions under which the lessee or lessor may terminate the lease prior
19 to the end of the lease term.

20 The law also addresses the lessee's liability at the expiration of a lease.⁹²

21 **Q: Did the Commission discuss the issue of consumer risk in the context of the**
22 **third-party ownership business model?**

⁹² Policy Statement ¶¶ 31-32 (containing specific statutory references).

1 A: Yes. The Commission discussed a number of risks that consumers face when
2 entering into a contract for services with a third-party owner of utility equipment,
3 including: (1) fraud and deceptive business practices; (2) quality of installed
4 systems; (3) unfulfilled contract obligations; (4) securitization of consumers'
5 lease payments; (5) possible limitation of consumers' legal remedies;
6 (6) inadequate communication and disclosure of contract terms; and (7) impacts at
7 the time of the sale of a customer's home.⁹³

8 **Q: Are these points relevant to PSE's proposal, given that PSE is not a "third-**
9 **party" generation owner?**

10 A: Yes. While the specific illustrations of consumer protection problems in the
11 Policy Statement are drawn from the solar industry, the types of risks posed to
12 customers by the leasing model provides a useful framework for evaluating the
13 PSE proposal in this docket. Although PSE is proposing to offer leasing as a
14 regulated service, and not as third-party vendor, the leasing transaction itself
15 raises these kinds of concerns, concerns which are not adequately addressed in the
16 current proposal.

17 **Q: Has federal law also recognized the specific consumer protection issues**
18 **raised by leasing?**

19 A: Yes. At the federal level, Congress has passed the Consumer Leasing Act,
20 15 USC 1667 et seq., which has been accompanied by regulations in the Code of
21 Federal Regulations. The law requires detailed disclosures in connection with a
22 consumer lease, addresses the lessee's liability at the time of expiration or

⁹³ *Id.* ¶¶ 34-47.

1 termination of the lease, and creates requirements for advertising of leased
2 products.

3 **Q: Has the Washington legislature attempted to address this issue?**

4 A: Yes. Partly in response to the Commission Policy Statement, as well as other
5 initiatives, House Bill 1927 was introduced in the 2015 Regular Session.
6 Section 14 of the bill contained a set of consumer protections applicable to third-
7 party solar providers regulated by the Commission. The bill prohibited a solar
8 company from engaging in “unfair and deceptive business practices” and required
9 that consumer contracts had to clearly state: the payment schedule and amount of
10 periodic payments; total contract payments in the first year and over time; any
11 potential fees and penalties for late payment; customer obligations other than
12 payment; description of warranties provided the manufacturer and model of
13 system components; the customer’s responsibility for paying both the utility bill
14 and the equipment contract payment; and the customers options and rights upon
15 sale of the property. Any limitations on customer remedies were required to be
16 separately and conspicuously disclosed and separately agreed to, and any
17 limitation on seeking damages was declared void as against public policy.

18 While HB 1927 did not pass and these requirements do not apply to PSE
19 specifically, the provisions again illustrate the types of protections that are
20 appropriate to consider in connection with this type of a transaction between the
21 customer and the utility.

22 **Q: Is PSE subject to the state and federal consumer leasing laws?**

1 A: I am not an attorney and am not stating a legal opinion as to the applicability of
2 these laws. However, it is my understanding they would only apply if PSE was
3 providing leasing as an unregulated service. Regardless of whether or not they
4 apply as a legal matter, the specific protections listed illustrate the types of
5 protections that should be required by the Commission in connection with the
6 proposed leasing program if it is approved.

7 **Q: What has PSE said about the disclosures it intends to make to customers?**

8 A: PSE has not provided much information about disclosures or other consumer
9 protections that it would implement or agree to for the leasing program, beyond
10 stating that consumers will be provided a copy of the terms and conditions
11 applicable to the lease agreement, either electronically or in paper form, prior to
12 the customer's acceptance of the lease equipment service.⁹⁴ While the Lease
13 Agreement contains a reference to "Lease Terms and Conditions attached hereto
14 and incorporated herein by reference,"⁹⁵ PSE has not provided parties with a copy
15 of the Terms and Conditions, aside from the terms and conditions as outlined in
16 the proposed tariff sheets. We have not been provided with any specific
17 disclosures PSE would provide to customers in advance of signing up for the
18 lease equipment program, aside from the language and documents in the proposed
19 tariff. The Company further states that pursuant to its standard practice, the lease
20 tariffs would be available through PSE's website.⁹⁶

⁹⁴ PSE Response to Staff Data Request No. 21. The terms and conditions would be included in a separate document that is attached to an executed Lease Agreement. *Id.*

⁹⁵ Attachment A to PSE proposed Schedule 75 at 1.

⁹⁶ PSE Response to Staff Data Request No. 21.

1 Upon executing a Lease Agreement, PSE would provide a customer with a
2 copy of the Lease Agreement, and upon installation the customer would receive
3 the manufacturer’s specifications and operating instructions.⁹⁷ PSE also provided
4 the following statement in discovery: “PSE does not currently plan to provide
5 additional documents to explain the terms and conditions of the lease service to its
6 leasing customers.”⁹⁸

7 These disclosures are not adequate to protect consumers regarding the
8 range of concerns raised by PSE’s proposed leasing arrangements.

9 **Q: In addition to the issues you have discussed above, do you believe the PSE**
10 **proposal presents other consumer protection concerns?**

11 A: Yes. A number of additional areas have the potential for harm to consumers
12 including: (1) impact on PSE’s existing role as an energy advisor to its
13 customers; (2) financing options; (3) quality and variety of equipment offered;
14 and (4) options for existing rental customers.

15 **A. PSE Role as Energy Advisor.**

16 **Q: Can you explain your concerns about how the proposal may affect PSE’s role**
17 **as an energy advisor for customers.**

18 A: PSE currently has an important role acting as an energy advisor to its customers.⁹⁹
19 Because of its expertise and its public service obligations as a monopoly provider
20 of an essential service, customers typically view the utility as a reliable source of

⁹⁷ PSE Response to Public Counsel Data Request No. 20.

⁹⁸ PSE Response to Public Counsel Data Request No. 20.

⁹⁹ McCulloch, Exhibit No. MBM-1T at 8:5 (PSE as a “trusted partner”). *See also*, Teller, Exhibit No. JET-1 at 4:22.

1 information about energy decisions.¹⁰⁰ PSE is not generally seen merely as one
2 competitor in a market where sales representations are subject to the maxim
3 *caveat emptor*. On the contrary, because PSE’s services and practices are
4 pervasively regulated by the Commission, customers are likely to assume that any
5 PSE program has been thoroughly reviewed by the UTC and only approved if
6 found to be fair, just, and reasonable.

7 This trusted advisory role is reflected on PSE’s website, where customers
8 who click on “Savings and Energy Center” are told:

9 Save energy, save money

10 You work hard for every dollar, and PSE wants to help you save as
11 much as you can. At our Savings and Energy Center, you’ll find
12 lots of money- and energy-savings programs, including instant
13 rebates, valuable offers, useful energy efficiency tips and more.

14 Customers can “Ask an Energy Advisor” and get a “Home Energy
15 Assessment” that will include information about equipment rebates, contractor
16 referrals, and a customized summary of recommended energy efficiency
17 upgrades.

18 If PSE itself becomes a vendor of specific equipment under a specific
19 business model to lease equipment, it will have a financial interest in steering
20 customers to its own program, rather than providing neutral information about
21 equipment and financing options. To the extent PSE customers view the
22
23

¹⁰⁰ *Energy Efficiency: A Growing Utility-Business Solution to Reliability, Affordability & Sustainability*, IEE Issue Brief, September 2013 (Institute of the Edison Foundation). The paper cites an international customer survey by the global consulting firm Accenture. One of the “Key Findings” of the Accenture survey was that “Utilities/electricity providers are a strong first choice among consumers for general and customized advice and support on electricity management programs, for signing up for such a program and for support on existing programs [.]” *Understanding Consumer Preferences in Energy Efficiency: Accenture end-consumer observatory on energy management 2010* (Accenture) at 13. The survey also

1 Company as a trusted, knowledgeable, and impartial source of energy advice, they
2 are vulnerable to being misled with incomplete or inaccurate information and
3 biased recommendations about energy choices. Because of PSE’s special role as
4 a regulated monopoly provider and energy advisor, its customers may be less
5 inclined to “shop and compare” when considering the purchase and financing of a
6 hot water heater, furnace or heat pump.

7 PSE also maintains a Contractor Alliance Network (CAN) of
8 pre-screened, independent contractors. PSE’s website explains that through the
9 CAN, customers will have access to:

- 10 • Referrals to pre-screened, independent contractors;
- 11 • Special seasonal offers for energy-efficient products;
- 12 • Suggestions for energy-related improvements that can save energy and
13 money.¹⁰¹

14 If PSE itself begins to lease equipment through certain service partners,
15 the Company will have a financial interest in steering customers to its own leasing
16 program, rather than providing information about other contractors and options
17 available.

18 **B. Financing options.**

19 **Q: What is the risk to consumers in the financing arena?**

20 A: One of the issues related to the question about PSE’s role as a neutral advisor is
21 how PSE will provide information about financing options. Under “Financing,”
22 the PSE website lists:

ranked consumer trust levels for different information sources. Utilities ranked below environmental groups, academia, and consumer organizations, but ahead of government, Google, and retailers. *Id.* at 14.

1 credit unions and banks that have financing programs for PSE
2 residential energy efficiency retrofits and/or natural gas
3 conversions. This list is provided solely for the convenience of
4 PSE customers and is not an endorsement by PSE of any of the
5 credit unions or banks on the list. PSE has received no
6 compensation from any credit union or bank to be included in the
7 list[.]

8 The website lists five credit unions (Industrial, Kitsap, Seattle Metropolitan, Puget
9 Sound Cooperative, and Verite) as well as Umpqua Bank, and provides contact
10 information for each institution.¹⁰²

11 Leasing, however, is itself a form of financing, as Washington state law
12 recognizes.¹⁰³ If PSE is offering leasing of a new hot water heater in competition
13 with the alternative of financing the same hot water heater, PSE has little
14 incentive to ensure that the customer is selecting the most inexpensive form of
15 financing the purchase. Similar to information allowing a price comparison
16 between units, if PSE does not provide transparent information about leasing vs
17 purchasing/financing, it may be misleading to customers.

18 **Q: Have you examined financing options available to customers in the market?**

19 A: Yes. Puget Sound Cooperative Credit Union (PSCCU) offers “Energy Smart
20 Loans” at rates of about 4.5 percent to 8 percent for qualifying consumers to
21 finance energy efficient home upgrades. In addition, as mentioned earlier, Craft3
22 offers on-bill financing programs in partnership with Seattle City Light and
23 Northwest Natural Gas. The program includes lower rates of 3.49 percent for
24 eligible households with limited income. Exhibit No. MMK-5 provides

¹⁰¹ See www.pse.com/can (last accessed Jun. 1, 2016).

¹⁰² <http://pse.com/savingsandenergycenter/tips-tools-ideas/Pages/Energy-Efficiency-Financing.aspx> (last accessed Jun. 1, 2016).

¹⁰³ RCWs 63.10.010 and 63.10.020.

1 information about the financing options offered by these two financial
2 institutions.

3 A 2011 Report of the American Council for an Energy-Efficient Economy
4 (ACEEE) found average interest rates of 5.3 percent for residential borrowers.¹⁰⁴
5 Craft3 offers loans to Washington customers of Northwest Natural Gas at rates
6 with an annual percentage rate (APR) of 4.49 percent.¹⁰⁵ Home equity lines of
7 credit (HELOC) represent another attractive financing option for customers, as
8 interest charges would be tax deductible.

9 **Q: Have you examined the monthly payments and interest charges for**
10 **customers financing hot water heaters?**

11 A: Yes. Table 5 below provides an illustrative comparison of financing costs from
12 the customer's perspective, showing the monthly payments, interest charges, and
13 total loan payments for various loan amounts at different interest rates. A
14 customer with good credit who can purchase a hot water heater with a six or
15 12-year warranty at Home Depot, and finance the equipment and installation
16 through a credit union, for example, would see dramatic savings compared with
17 the PSE Equipment Lease Service. A customer financing a \$1,000 purchase
18 through the credit union would pay a total of \$1,377. A customer leasing the
19 same type of equipment from PSE would pay \$3,443 over the lease term, over
20 \$2,000 more.

¹⁰⁴ Hayes, S. et. al., American Council for an Energy-Efficient Economy, *What Have We Learned From Energy Efficiency Financing Programs?*, Report Number U115 at 2 (September 2011). This report recommended providing attractive loan terms consideration of on-bill financing to achieve broader participation in energy efficiency financing programs. *Id.* at IV.

¹⁰⁵ See <http://energytrust.org/residential/Promotions/on-bill-repayment-wa.aspx> (last accessed Jun. 3, 2016).

1 **Table 5: Comparison of Energy Efficient Loan Terms & PSE Lease (Shaded)**

	Financed Amount	Term (years)	Interest Rate	Monthly Payment	Interest Charges	Total Loan Payment
Credit Union Loan 6-yr WH	\$1,000	15	4.5%	\$7.65	\$377	\$1,377
	\$1,000	15	8.0%	\$9.56	\$720	\$1,720
PSE Lease	\$1,000	15	22.1%**	\$19.13*	\$2,443	\$3,443
Credit Union Loan 12-yr WH	\$1,500	15	4.5%	\$11.47	\$565	\$2,065
	\$1,500	15	8.0%	\$14.33	\$1,080	\$2,580
PSE Lease	\$1,500	15	13.15%**	\$19.13*	\$1,943	\$3,443

2 Source: Puget Sound Cooperative Credit Union, Loan Calculator

3 * PSE lease rate, standard vent residential natural gas hot water heater, 0.62 EF.

4 ** Interest rates for PSE lease are imputed, to illustrate the effective interest rate at
 5 assumed capital costs of \$1,000 and \$1,500.

6 **Q: Have you conducted an analysis of the imputed interest rate for PSE's**
 7 **Equipment Lease Service?**

8 A: Yes. For illustrative purposes, Table 5 above provides an imputed interest rate for
 9 the PSE Equipment Lease Service, to show that from the customer's perspective,
 10 the imputed interest rate of the leasing program would be 22.1 percent for a leased
 11 standard vent natural gas hot water heater with 0.62 EF (\$19.13), assuming that
 12 \$1,000 of capital costs are being financed. If \$1,500 of capital costs are financed,
 13 the imputed interest rate would be 13.15 percent. As Table 5 above illustrates,
 14 PSE's lease program carries an imputed interest rate that is much higher than
 15 financing currently available in Washington.

1 **C. Equipment Options.**

2 **Q: What are your concerns with the equipment options PSE apparently will**
3 **offer to customers through the leasing program?**

4 A: A primary concern is that, at this point, PSE has not selected the specific
5 equipment brands and models to be offered to customers, as discussed above.
6 Consequently, Public Counsel has not been able to consider the relative quality
7 and features of the proposed leased equipment. We also do not know the extent to
8 which customers would have a choice in equipment. For example, would PSE
9 offer only one type of natural gas hot water heater with an Energy Factor of 0.62,
10 or would customers have a range of options from which to choose, with different
11 sizes, features, and varying underlying prices for PSE?

12 Customers also may not understand that leased equipment is not
13 necessarily the most efficient. For example, a natural gas tank-style water heater
14 with an Energy Factor of 0.62 does not meet Energy Star qualifications, and thus
15 this lease offering does not represent the most efficient equipment available.¹⁰⁶
16 Indeed, as discussed earlier, PSE has not offered a natural gas tank-style, water
17 heater program as part of its conservation portfolio for several years. The
18 promotional language on PSE's website tells customers that "PSE wants to help
19 you save as much as you can." Customers who trust PSE to provide them
20 accurate information may assume that PSE is offering the most efficient
21 equipment through its program. PSE's conservation model assumes that each

¹⁰⁶ See Energy Star water heater criteria:
https://www.energystar.gov/products/water_heaters/residential_water_heaters_key_product_criteria (last
accessed Jun. 2, 2016).

1 year **Withheld** residential customers would lease a .62 Energy Factor standard vent
2 natural gas water heater.¹⁰⁷

3 **D. Existing Natural Gas Rental Customers.**

4 **Q: What is your concern with the existing natural gas rental program?**

5 A: It appears that PSE intends to transition its existing natural gas rental customers
6 to the new lease program. Currently, PSE has approximately 35,000 existing
7 natural gas rental customers. The Company's original filing stated in part:

8 For natural gas customer taking one of the current optional rental
9 service offerings, a means to end, or transition over to the proposed
10 optional energy equipment lease service will be made available.
11 This will be accomplished by a subsequent filing, after the current
12 filing is approved, that will add language to the current tariff
13 schedules for optional rental services.¹⁰⁸

14 The Company recently reiterated that it "has not yet finalized a plan for transition
15 of existing rental customers to the new lease program," but anticipates rental
16 water heater customers may have the option to continue the existing rental,
17 terminate their rental agreement and enter into a lease agreement, or terminate the
18 rental agreement.¹⁰⁹

19 PSE's highly confidential pricing model includes the following statement
20 regarding the transition of rental water heater customers to the leasing program:

21 **Withheld**

22 **Withheld**

23 **Withheld**¹¹⁰

¹⁰⁷ Conservation Model, at Annual_Deploy_Forecast (C), Excel Row 14. As discussed earlier, PSE's Lease Pricing Model has different deployment assumptions.

¹⁰⁸ PSE letter to Mr. Steven King, September 18, 2015, Advice No. 2015-24, at 5.

¹⁰⁹ PSE Response to Public Counsel Data Request No. 08.

¹¹⁰ PSE Highly confidential pricing model, Program Assumptions worksheet, Excel cell G128.

1 the Company to engage the CRAG in the design and development of such a
2 program or effort that would comply with the Commission's standard practice for
3 review of conservation programs. Programs such as on-utility bill financing may
4 enhance customer participation in PSE's existing rebate programs, could be
5 targeted to those customers that would benefit from replacement of aging
6 equipment with the most efficient equipment available, at financing rates and total
7 costs much lower than PSE's lease proposal.

8 **Q: Does this conclude your testimony?**

9 A: Yes, it does.