BEFORE THE WASHINGTON
UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, Complainant, v. PUGET SOUND ENERGY, Respondent.	DOCKET UE-240004 and UG-240005 *(Consolidated)*

RESPONSE TESTIMONY OF

ROGER D. COLTON

ON BEHALF OF THE ENERGY PROJECT

EXHIBIT RDC-1T

August 6, 2024

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EXHIBIT LIST

I. Introduction

Q. PLEASE STATE YOUR NAME, PRONOUNS, AND ADDRESS.

A. My name is Roger Colton and I use the pronouns he, him, and his. My address is 34 Warwick Road, Belmont, Massachusetts.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT POSITION?

A. I am owner of the firm of Fisher Sheehan & Colton, Public Finance and General Economics of Belmont, Massachusetts. In that capacity, I provide technical assistance to a variety of federal and state agencies, consumer organizations and public utilities on rate and customer service issues involving water/sewer, natural gas and electric utilities.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS PROCEEDING?

A. I am testifying on behalf of The Energy Project (TEP), an intervenor in this proceeding that represents the interests of low-income customers and vulnerable populations. TEP works with Community Action Agencies that provide low-income weatherization and bill payment assistance for customers in Puget Sound Energy's (PSE or Company) service territory.

Q. PLEASE DESCRIBE YOUR PROFESSIONAL BACKGROUND.

A. I work primarily on low-income utility issues. This involves regulatory work on rate and customer service issues, as well as research into low-income usage, payment patterns, and affordability programs. At present, I am working on various projects in the states of New Hampshire, Massachusetts, Connecticut, Maryland, Pennsylvania, Ohio, Michigan, Wisconsin, Missouri, Oregon and Washington, as well as in the Canadian provinces of Nova Scotia and British Columbia. My clients include state agencies (e.g., Pennsylvania Office of Consumer Advocate, Maryland Office of People's Counsel, Connecticut Office of Consumers Counsel), federal agencies (e.g., the U.S. Department of Health and

Human Services), community-based organizations (e.g., Cleveland Legal Aid Society, Legal Action of Chicago, Sierra Club), and public and private utilities (e.g., Toledo Water, BC Hydro). Examples of my work include my current projects to assist the Connecticut Office of Consumers Counsel (OCC) in the annual generic review of the low-income affordability initiatives of that state's utilities by the Public Utilities Regulatory Authority. I am also assisting the Massachusetts Attorney General's Office (AGO) in the generic investigation by the Department of Public Utilities (DPU) into the design of low-income affordability programs. I am currently under contract to develop a universal service plan for Nova Scotia. In addition to state-specific and utility-specific work, I engage in national work throughout the United States. For example, I have recently completed a project with the Natural Resources Defense Council to develop a tool by which to assess the financial impact of differing types of low-income bill assistance. A brief description of my professional background is provided in Exhibit RDC-2.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND.

A. After receiving my undergraduate degree in 1975 (Iowa State University), I obtained further training in both law and economics. I received my law degree in 1981 (University of Florida). I received my Master's Degree (Regulatory Economics) from the MacGregor School in 1993.

Q. HAVE YOU EVER PUBLISHED ON PUBLIC UTILITY REGULATORY ISSUES?

A. Yes. I have published three books and more than 80 articles in scholarly and trade journals, primarily on low-income utility and housing issues. I have published an equal number of technical reports for various clients on energy, water, telecommunications and

other associated low-income utility issues. A summary of my publications is included in Exhibit RDC-2.

Q. HAVE YOU EVER TESTIFIED BEFORE THIS OR OTHER UTILITY COMMISSIONS?

A. Yes. Most recently, I testified before the Washington Utilities and Transportation Commission ("Commission") in the 2022 proceeding reviewing the Puget Sound Electric Clean Energy Implementation Plan (CEIP) (Docket No. UE-210795). In addition, I testified on behalf of The Energy Project in a 2010 PSE rate proceeding (Docket No. UE-100467). In 2000, I testified on behalf of The Energy Project in a PacfiCorp rate case (Docket No. UE-991832), and on behalf of the Spokane Neighborhood Action Program (SNAP) in an PSE rate proceeding (Docket No. UE-991606). Overall, over the past 40 years, I have testified in more than 340 judicial and regulatory proceedings in 43 states (and various Canadian provinces) regarding utility issues affecting low-income customers and customer service. My testimony has specifically included testimony in various proceedings involving low-income affordability, and low-income program design and operation, along with various rate design issues as they affect low-income customers. A list of the jurisdictions in which I have testified is listed in Exhibit RDC-2.

Q. PLEASE EXPLAIN THE PURPOSE OF YOUR TESTIMONY.

A. The purpose of my Testimony is to address the following topics:

1. The affordability of electric rates to PSE's low-income customers;
2. The usage levels of low-income customers;
3. The lessons that can be derived from the PSE reporting to date on metrics relating to low-income affordability, low-income payment patterns, and low-income collection patterns; and

4. The importance of maintaining ongoing reporting requirements regarding low-income affordability, low-income payment patterns, and low-income collection patterns.

Q. PLEASE SUMMARIZE YOUR FINDINGS AND RECOMMENDATIONS CONCERNING ENERGY BURDEN AND AFFORDABILITY.

A. My testimony presents data and analysis supporting the following findings and recommendations:

1. The Commission should consider the greater adverse impacts that inflation has imposed on low-income ratepayers when setting rates. This consideration should extend to all aspects of ratemaking including but not limited to the return on equity and rate design issues.

2. PSE witness Wallace's two recommended equity and affordability metrics should be rejected.

3. PSE witness Wallace's recommendation that PSE's existing MYRP reporting of equity and affordability metrics should be discontinued in lieu of substitute metrics proposed by Wallace and Hutson should be rejected.

4. PSE witness Hutson's proposed changes to PSE's affordability metrics should be rejected unless substantially modified. A full list of TEP's recommended affordability and equity metrics can be found in Exhibit SNS-17.

5. The first metric proposed by PSE witness Hutson should be modified. The metric should report, on a Census Tract basis, (a) the number of households by the energy tiers I describe below (High Burdens; Very High Burdens; Extreme Burdens); (b) the high/median and low energy burden within each of these tiers without energy assistance; and (c) the high/median and low energy burden after receiving energy assistance. In this fashion, the objective sought by PSE witness Hutson will truly be measured, i.e., the extent to which, if at all, energy assistance is resolving the "excess energy burden" within the PSE service territory.

6. The second metric proposed by PSE witness Hutson should be modified. The metric should report, on the same Census Tract basis, (a) the number of households by the energy tiers I describe below (High Burden, Very

High Burden, Extreme Burdens); and (b) the number and percentage of households within each energy tier who are receiving energy assistance.

7. When PSE reports data on arrears, both total arrears and arrears by aging bucket, that data should be reported for both dollars of arrears and accounts in arrears.

8. PSE should be directed not merely to file its MYRP metrics in the relevant UTC docket, but also to publish its data reports on its website.

9. PSE should not await explicit and timely direction from the Commission to modernize its practices and procedures to promote equity and affordability.

10. PSE should adopt the following improvements to its Energy Burden Analysis (EBA):

    a. PSE should incorporate energy burdens at different tiers of income throughout its EBA.

    b. PSE should adopt a more refined analysis with a stratification of energy burdens in any future EBA. The analysis should include the following tiers: (1) Affordable (<6%); (2) High energy burden (6-10%); (3) Very High energy burden (10-15%); and (4) Extreme energy burden (>15%). Whin each tier, the analysis should examine the number and percentage of customers in various demographic groups, including known low-income, estimated low-income, highly impacted communities, vulnerable populations, and deepest need.

    c. PSE should ensure that the "bills" included in its EBA include total energy bills, not merely bills for current service.

    d. PSE should consider not only *total* home energy burdens, but should also consider single-fuel home energy burdens

    e. PSE should reduce the amount of energy assistance considered in its EBA to reflect those benefits that are not available to pay bills for current service, but which are instead used as crisis or hardship funds available to pay arrears.

    f. PSE should present a discussion of the incidence and dollar level of mismatched benefits. The EBA should consider the extent to

which such mismatching, in effect, reduces the resources available to reduce overall excess energy burdens.

g. PSE should be directed to present its discussion of the coverage of excess energy burdens by the tiers of energy burdens identified above.

11. The proposed increases in the gas and electric customer charges be denied. If the Commission is inclined to allow an increase in the *electric* customer charge, I alternatively recommend that the Commission embrace the regulatory principle of gradualism and only allow an increase of only $0.15-0.25 for the electric customer charge during the rate plan. No increase in the gas customer charge, which is significantly higher than PSE's electric customer charge, should be approved.

II. The Affordability of PSE Bills.

Q. PLEASE DESCRIBE THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY?

A. In this section of my testimony, I consider the affordability of PSE bills to the Company's low-income customers. The presentation of this analysis is not an effort to supplant the Company's Energy Burden Analysis (EBA). I provide the Company suggestions to consider and incorporate into future EBAs it prepares.

A. Impacts of Inflation on Low-Income Households.

Q. IS THERE A PARTICULAR CONCERN ABOUT THE IMPACTS OF HIGHER PSE BILLS IN TODAY'S ECONOMIC ENVIRONMENT?

A. Yes. Inflation in today's economic environment is disproportionately affecting lower-income households. Given the Commission's obligation to balance the interests of investors and ratepayers in setting a reasonable return on equity, the Commission should consider the greater adverse impacts that inflation has imposed on low-income ratepayers when setting rates.

Q. DOES INFLATION HAVE A PARTICULARLY ADVERSE IMPACT ON LOWER INCOME HOUSEHOLDS?

A. The impact of inflation is felt most severely by low-income households. Research by the U.S. Department of Labor's Bureau of Labor Statistics, the agency that calculates and reports the "rate of inflation" (i.e., the Consumer Price Index [CPI]) each month, reports that "consumers with different incomes experience inflation quite differently."[1] According to this research, households earning lower incomes spend a higher share of their household budget on household necessities such as rent, food and medical care.

Table 1. Household budget shares of expenditure items for lowest and highest income quartiles, 2017–2018[2]

Expenditure	Lowest Income Quartile	Highest Income Quartile
Rent or owner's equivalent	34.93%	27.93%
Food at home	9.44%	6.58%
Medical care	8.36%	8.09%
Household utilities	4.36%	2.73%
Motor fuels	3.46%	3.42%
Motor vehicle operation	3.44%	3.40%
Telephone service	2.32%	2.00%

While low income households pay more of their budgeted income for this basket of essential goods, it is also important to note that the BLS researchers found that "prices for motor fuel, medical care, fuel and utilities, and shelter rose faster than the overall

[1] Klick and Stockburger (December 2022). Spotlight on Statistics: Inflation Experiences for Lower and Higher Income Households, U.S. Department of Labor, Bureau of Labor Statistics, available at https://www.bls.gov/spotlight/2022/inflation-experiences-for-lower-and-higher-income-households/home.htm

[2] Id.

average. . .”[3] Thus, “[b]ecause the lowest income households dedicate more of their spending on these categories,” the BLS researchers found, “their overall inflation rates grew faster than highest income households.”

Table 2. Average price change by item, 2005–2020

Item	2005–2020 average 12-month change (%)
Tuition, other school fees, and childcare	4.03
Motor Fuel*[4]	3.45
Medical Care*	3.28
Rent*	3.06
Food away from home	2.86
Fuel and utilities*	2.71
All items	2.00
Food at home*	1.89
Lodging away from home	1.16
Recreation	0.74
New and used motor vehicles	0.43
Apparel	-0.10
Telephone services*	-0.20

The Federal Reserve Bank of Dallas similarly found that

> Families have grappled with surging prices over the past 18 months, as the cost of meeting basic needs rose. Consumer prices were 7.1 percent higher in November 2022 than one year earlier.

[3] Id.

[4] Starred (“*”) items defined by BLS to be household necessities.

> Although inflation may have peaked, prices remain elevated, with food costs up 10.6 percent, gasoline rising 10.1 percent, rent increasing 7.9 percent and medical care services up 4.4 percent.
>
> Drawing upon recent household survey data, we show that high inflation is disproportionately hurting low-income households, including Black and Hispanic households and renters.[5]

Q. DO LOW-INCOME HOUSEHOLDS HAVE THE SAME TOOLS TO ADAPT TO HIGHER PRICES, RESULTING FROM INFLATION, AS NON-LOW-INCOME HOUSEHOLDS?

A. No. The Federal Reserve researchers found that the "stress" being placed on households by high inflation is much greater for low-income households. They explained:

> Prior research suggests that inflation hits low-income households hardest for several reasons. They spend more of their income on necessities such as food, gas and rent—categories with greater-than-average inflation rates—leaving few ways to reduce spending. When prices rise, middle-income households may react by consuming cheaper goods and buying more generic brands. Low-income households do not have the same flexibility; in many cases, they are already consuming the cheapest products.
>
> Additionally, many low-income households lack the ability of higher-income households to stock up when prices are discounted, buy in bulk and save, delay purchases if there is an opportunity to save in the future or buy more cheaply online. Low-income households are also likely to have smaller cash buffers to tide them over a period of high inflation.
>
> The recent Household Pulse Survey data confirm these tendencies. Households with incomes ranging from $25,000 to $35,000 in 2021 were about 19.3 percentage points more likely to be very stressed by inflation than households with incomes in the $75,000 to $100,000 range.

[5] Jayashankar and Murphy (January 2023). High inflation disproportionately hurts low-income households, Federal Reserve Bank of Dallas, available at https://www.dallasfed.org/research/economics/2023/0110#:~:text=Low%2Dincome%20households%20most%20stressed,few%20ways%20to%20reduce%20spending%20.

The data is clear and it is consistent. Lower income families expend a greater share of their income on necessities (which tend to have higher inflation rates); have smaller financial cushions to mitigate the impact of inflation; and may have less of an ability to switch to lower-priced alternatives. As Lael Brainard, a member of the Board of Governors of the Federal Reserve System, concluded, "All Americans are confronting higher prices, but the burden is particularly great for households with more limited resources."[6]

Q. WHAT DO YOU CONCLUDE?

A. The Commission is obligated to balance the interests of investors and ratepayers in setting reasonable rates. That balancing might occur in setting a return on equity. It should also occur in deciding upon rate design issues involving the fixed monthly customer charge, financial incentives for shareholders, and upon other issues. In so doing, the Commission should consider not merely the affordability impacts of PSE's request for higher rates, also, the greater adverse impacts that inflation has imposed on low-income ratepayers I discussed.

B. Electric Burdens which Result from PSE Proposed Rate Hikes.

Q. PLEASE INTRODUCE THIS SECTION OF YOUR TESTIMONY.

A. In this section, I first consider the impact of PSE 2022 electric bills as reported in the Company's MYRP metrics. I next escalate those bills at the percentage increase reported by PSE for its 2026 bills. In this proceeding, the Company proposes a two-year increase in its electric rates that would result in an increase in electric bills for a typical customer

[6] Brainard (April 2022). Variations in the inflation experiences of households, available at https://www.federalreserve.gov/newsevents/speech/brainard20220405a.htm

from $109.08 per month to $128.12 per month. The combined PSE proposed two-year rate increase of $19.04 per month, or $228.48.[7] The rate plan two-year bill increase I consider, therefore, is 17.5% ($128.09 / $109.08 = 1.175).

For purposes of this proceeding, I measure the affordability impacts of PSE's proposed residential rate increases by reference to the following metrics: (1) affordability at the First Quintile of Income (Q1);[8] and (2) absolute dollars of income (for households with annual income at or below $20,000).

Q. PLEASE EXPLAIN WHAT YOU FOUND WITH RESPECT TO Q1 INCOMES.

A. In assessing the impacts of PSE's requested rate increase on households in the First Quintile of income, I calculated a Bill-to-Income Ratio[9] for each PSE Census Tract given electric bills at PSE's proposed 2026 rates. By calculating a Bill-to-Income Ratio, I can assess whether PSE bills would exceed an affordable level, and by what degree. By

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[7] PSE, "Notice of requested changes to PSE rates and public hearings," https://www.pse.com/en/pages/rates/news-and-filings.

[8] The Census Bureau rank orders incomes from the highest to the lowest in each geographic area. It then divides that rank ordering into five equal parts, each part of which is referred to as a "quintile." The "First Quintile," also frequently known as the "Bottom Quintile" or "Lowest Quintile," is thus that one-fifth of the population with the lowest income. It should be noted, however, that a Q1 income is not necessarily a "low" income. If the geographic area is relatively small, such as the Census Tracts which I use, and the income within the geographic area is relatively high, the Q1 income can actually be reasonably high.

Q1 incomes in Washington State can reasonably be expected to be less than 80% of Area Median Income (AMI). While I have not compared each Census Tract to 80% of AMI in the respective county or metropolitan area in which the Census Tract is located, of Washington's 1,784 Census Tracts, only 1,765 have Q1 incomes that are *less* than the lowest dollar figure for 80% of AMI in the entire state.

[9] In my testimony, the term "Bill-to-Income Ratio" is considered to be interchangeable with "bill burdens" (i.e., bills as a percentage of household income).

focusing on the Q1 population in this inquiry, I do not determine the impact of PSE rates on the median (or average) household, but rather on the more vulnerable households. The Table below sets forth the data. The PSE service territory has some very concentrated areas of low-income households (as measured by First Quintile incomes). 30 Census Tracts have **electric** burdens (i.e., Bill-to-Income Ratios) of more than 8% of income, while 76 Census Tracts have burdens of greater than 6% of income. One Census Tract (319.09, King County) has a Q1 income of $1,620 and a 2022 electric bill of $1,094. The 2026 electric burden in this Census Tract would be 67.5% of income.

Table 3. Compare Bill-to-Income Ratios (BTI Ratios) at MYRP Bills Escalated at 2026 Rate Hike Percentage for First Quintile (Q1) Income

Electric Bill-to-Income Ratio (Burden)	Count of Census Tracts	Average of E-BTI at Q1 Income
<0% or (blank)	5	---
0% -2%	37	0.9%
2% - 4%	171	3.1%
4% -6%	94	4.9%
6% -8%	46	6.9%
8% -10%	9	9.0%
10% -12%	12	10.8%
12% - 14%	4	12.7%
14% - 16%	1	14.8%
16% - 18%	1	16.0%
22% - 24%	1	23.0%
30% - 32%	1	31.0%
66% - 68%	1	67.5%
Grand Total	383	4.7%

Table 3 demonstrates that the unaffordability of PSE bills is not only deep (i.e., bills that are unaffordable are unaffordable to a great degree), but the unaffordability is broad as well (i.e., unaffordable bills are widespread throughout PSE's service territory).

Q. PLEASE EXPLAIN WHAT YOU FOUND WITH RESPECT TO ABSOLUTE DOLLARS OF INCOME.

A. PSE bills are unaffordable, on average, for households with an annual income at or below $20,000. The depth of unaffordability, however, is stunning. For households with income at or below $20,000, PSE burdens exceed 10% of income. At each of the five income ranges considered, PSE burdens exceed 4% of income.[10] The burdens at the proposed 2026 PSE bills are set forth in Table 4 below. The Table shows that over all PSE Census Tracts with income reported,[11] 7.2% of the total population has an annual income at or below $20,000. Nearly half of that population (46.3%), in fact, has income less than $10,000. The remainder of the population with income less than $20,000 is split relatively evenly between those with income between $10,000 and $15,000 (25.9%) and those with income between $15,000 and $20,000.

The PSE electric burdens for these populations dramatically exceeds an affordable 4% of income range.

1. For households with income less than $10,000, the PSE electric burdens range from 25% to 29% of income.

[10] The 4% Bill-to-Income ratio deemed to be affordable begins with an affordable burden of 6% for total home energy. It then divides that 6% into an electric component of 4% and a non-electric heating component (whether that non-electric heating is with natural gas or a deliverable fuel) of 2%.

[11] Some Census Tracts have insufficiently large populations for the Census to report income disaggregated by income ranges. Populations that are too small implicate privacy concerns.

2. For households with income between $10,000 and $15,000, the PSE electric burdens range from 10% to 12% of income.

3. For households with income between $15,000 and $20,000, the PSE electric burdens range from 7% to 9% of income.

As can be seen, in other words, at the rates proposed in this proceeding, PSE electric burdens for households with an annual income less than $20,000 will have PSE electric burdens between two and more than seven times higher than an affordable level.

Table 4. Electric Bill Burdens at Selected Income Rates

Income at or Below $10,000			
Bill Burdens at Income < $10,000	Count of Census Tracts with Avg Bill Burdens <$10,000	Pct of Total Population with Income <$20,000	Pct of Population <$20,000 that has Income <$10,000
<25%	0	---	---
25% to 27%	205	6.3%	47.9%
27% - 29%	161	8.3%	45.0%
Total	366	7.2%	46.3%
Income Between $10,000 and $15,000			
Bill Burdens at Income $10,000 - $14,999	Count of Census Tracts with Avg Bill Burdens $10,000 - $14,999	Pct of Total Population with Income <$20,000	Pct of Population <$20,000 that has Income $10,000 - $14,999
<10%	0	---	---
10% - 11%	316	6.9%	25.4%
11% - 12%	50	8.9%	29.1%
Total	366	7.2%	25.9%
Income Between $15,000 and $20,000			
Bill Burdens at Income $15,000 - $19,999	Count of Census Tracts with Avg Bill Burdens $15,000 - $19,999	Pct of Total Population with Income <$20,000	Pct of Population <$20,000 that has Income <$15,000 - $19,999
<7%	0	---	---

7% - 8%	360	7.2%	26.8%
8% - 9%	6	8.8%	34.8%
Total	366	7.2%	27.2%

C. Natural Gas Burdens which Result from PSE Proposed Rate Hikes.

Q. HAVE YOU UNDERTAKEN A SIMILAR ANALYSIS OF PSE'S PROPOSED NATURAL GAS RATES?

A. Yes. PSE is proposing an increase in its natural gas rates that would result in an 11.7% increase in bills to a typical residential customer. According to PSE, its existing average residential bill of $80.72 per month would increase to $96.19 per month ($96.19 / $80.72 = 1.117). I compared natural gas bills provided by PSE for the Company's Census Tracts escalated at this 11.7% rate. As with my electric discussion above, I consider: (1) incomes at the First Quintile of income for each Census Tract; and (2) income at selected ranges of absolute dollars of income at or below $20,000 per year.

Q. WHAT DO YOU FIND WITH RESPECT TO FIRST QUINTILE INCOMES?

A. Few of PSE's Census Tracts would experience a natural gas bill burden at an affordable level given the increased rates proposed in this proceeding. Of the 521 Census Tracts with First Quintile income reported, only 56 would have a natural gas bill burden of at or below 2% of income.[12] In contrast, 217 Census Tracts would have a natural gas bill burden greater than 4% of income (two times higher than the affordable level), 82 Census Tracts would have a natural gas bill burden of greater than 8% of income (four times

[12] An affordable natural gas burden of 2% of income is based on a total affordable home energy burden of 6%, with a 4% affordable burden assigned to electricity, as explained above, and a 2% burden assigned to natural gas.

higher than the affordable level), and seven Census Tracts would have a natural gas bill burden of more than 20% (more than 10 times higher than the affordable level.

Table 5. Compare Gas Bill-to-Income Ratios (BTI Ratios) at MYRP Bills Escalated at 2026 Rate Hike Percentage for First Quintile (Q1) Income

Gas Bill Burdens	Count of Census Tract	Average of G BTI at Q1 Income
Less than 2%	56	1.7%
2% - 4%	248	2.9%
4% - 6%	135	4.8%
6% -8%	42	6.9%
8% -10%	17	8.7%
10% -12%	5	10.4%
12% - 14%	5	12.7%
14% -16%	3	14.9%
16% - 18%	2	17.1%
18% -20%	1	19.2%
20% - 22%	1	21.8%
22% -24%	1	23.9%
24% -26%[13]	1	25.0%
36% -38%	1	37.0%
42% -44%	1	42.5%
52% -54%	1	53.7%
>100%	1	124.0%
Grand Total	521	4.7%

I conclude that the unaffordability of PSE natural gas bill burdens is not only "deep" (i.e., when bills burdens exceed the demarcation of affordability, they do so by a

[13] Gaps in the ranges indicate that no Census Tracts had burdens falling into the range. So, for example, no Census Tract had a natural gas bill burden of between 26% and 36% of income.

lot), but they are broad as well (i.e., many Census Tract have bill burdens at unaffordable levels).

Q. DID YOU UNDERTAKE THE SAME ASSESSMENT OF AFFORDABILITY FOR FOR GAS AS YOU DID FOR ELECTRICITY?

A. Yes. An assessment of natural gas burdens at selected ranges of income at or below $20,000 shows the dramatically deep burdens which PSE rates impose on low-income households. The PSE natural gas burdens for these populations dramatically exceeds an affordable 2% of income range.

1. For households with income less than $10,000, the PSE natural gas burdens range from 18% to more than 45% of income.

2. For households with income between $10,000 and $15,000, the PSE natural gas burdens range from 7% to more than 20% of income.

3. For households with income between $15,000 and $20,000, the PSE natural gas burdens range from 5% to 14% of income.

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Table 6. Natural Gas Bill Burdens at Selected Income Rates

Income at or Below $10,000

Bill Burdens at Income < $10,000	Count of Census Tracts with Avg Bill Burdens <$10,000	Pct of Population <$20,000 that has Income <$10,000	Pct of Total Population with Income <$20,000
<15%	0	---	---
15% - 20%	38	50.3%	5.3%
20% - 25%	498	45.7%	7.5%
25% - 30%	21	36.4%	12.0%
30% - 35%	6	46.2%	6.2%
>40%	6	51.7%	9.6%
Total	569	45.8%	7.5%

Income Between $10,000 and $15,000

Bill Burdens at Income $10,000 - $14,999	Count of Census Tracts with Avg Bill Burdens $10,000 - $14,999	Pct of Population <$20,000 that has Income $10,000 - $14,999	Pct of Total Population with Income <$20,000
<6%	0	---	---
6% - 8%	38	29.9%	5.3%
8% - 10%	498	27.4%	7.5%
10% - 12%	21	28.1%	12.0%
>12%	12	23.7%	7.9%
Total	569	27.5%	7.5%

Income Between $15,000 and $20,000

Bill Burdens at Income $15,000 - $19,999	Count of Census Tracts with Avg Bill Burdens $15,000 - $19,999	Pct of Population <$20,000 that has Income <$15,000 - $19,999	Pct of Total Population with Income <$20,000
<4%	0	---	---
4% - 6%	146	22.0%	5.3%
6% - 8%	406	28.5%	8.1%
8% - 10%	11	27.3%	10.8%
12% - 14%	2	12.0%	9.7%
>14%	4	31.3%	9.6%
Total	569	26.7%	7.5%

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D. The Impact of Unaffordability.

Q. PLEASE INTRODUCE THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I examine why it is important for a utility such as PSE to address the unaffordability issues facing its low-income customers. Over the most recent 24 months, for example, significant numbers of low-income customers received bills not reflecting a $0 balance.[14]

Bills with a $0 balance are important from the perspective of the customer and also from PSE, as the utility providing service. When customers carry arrears, there will be collection expense associated with those arrears. To the extent that PSE can adopt programs, practices and procedures which help low-income customers reduce the age and level of arrears, it will be helping not only the low-income customers, but it will also be helping all other customers as well.

[14] PSE Response to TEP DR-013.

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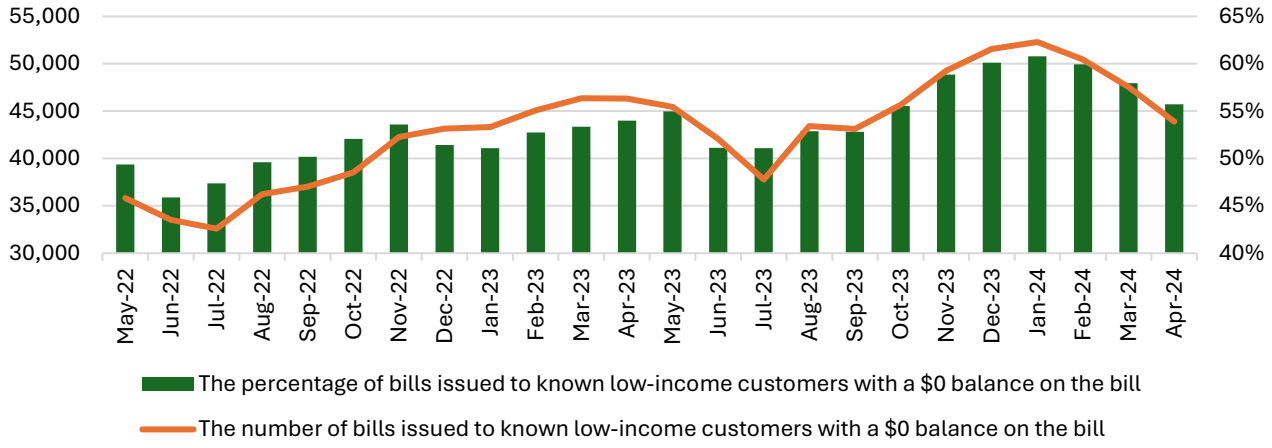
Table 7. Number and Percent of Bills Issued to Known Low-Income Customers with $0 Balance (PSE Response to TEP DR-013)

Bill Month	Number of bills issued to known low-income customers	The number of bills issued to known low-income customers with a $0 balance on the bill	Pct of bill issued to known low-income customers with a $0 balance on the bill
2022-05	72,531	35,803	49.4%
2022-06	73,045	33,523	45.9%
2022-07	68,796	32,585	47.4%
2022-08	73,027	36,219	49.6%
2022-09	73,819	37,034	50.2%
2022-10	73,974	38,520	52.1%
2022-11	78,875	42,268	53.6%
2022-12	83,954	43,165	51.4%
2023-01	84,752	43,306	51.1%
2023-02	85,442	45,069	52.7%
2023-03	86,892	46,351	53.3%
2023-04	85,811	46,335	54.0%
2023-05	82,675	45,444	55.0%
2023-06	82,234	42,053	51.1%
2023-07	73,942	37,788	51.1%
2023-08	82,077	43,415	52.9%
2023-09	81,618	43,114	52.8%
2023-10	82,206	45,654	55.5%
2023-11	83,679	49,263	58.9%
2023-12	85,771	51,571	60.1%
2024-01	86,033	52,297	60.8%
2024-02	84,168	50,448	59.9%
2024-03	82,047	47,542	57.9%
2024-04	78,738	43,885	55.7%

Q. DOES THE DATA IN THE TABLE ABOVE SUPPORT PSE'S ARGUMENT THAT THE COMPANY'S LACK OF AUTHORITY TO DISCONNECT SERVICE FOR NONPAYMENT LEADS TO NON-PAYMENT?

A. Not at all. If the inability to disconnect service for nonpayment was the "cause" of high arrearage balances, two things would be evident. First, the number (and percentage) of low-income customers with a $0 balance would be growing over time. The Chart below, however, shows the number and percentage of known low-income customers with a $0 balance on their account by month since May 2022. As can be seen, there has been a constant growth in both the number and percentage of low-income customers who have a $0 balance. This growth has occurred despite the existence of shutoff restrictions.

Chart 1. The Number and Percentage of Known Low-Income Customers with a $0 Balance on their Bills



Second, the growth in the number and percentage of known low-income customers with a $0 balance is occurring notwithstanding the fact that recent LIHEAP program years have seen an historic amount of federal fuel assistance flowing into the

state.[15] What can be seen in the Chart is that the growth in the number and percentage of known low-income accounts having a $0 balance on their bills each month has come after the federal COVID relief assistance was no longer available. Moreover, from May 2022 through April 2024, the number of Known Low-Income accounts with a $0 balance has grown by 23% despite PSE not having access to the disconnection of service for nonpayment as a collection tool. It is clear from the data above that PSE's low-income customers are continuing to recover from the economic crisis that was associated with the health pandemic caused by the novel Coronavirus.[16] This recovery continues without the

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[15] "Today, the Biden-Harris Administration announced that due to passage of the American Rescue Plan, Washington has received a record $143.6 million for the Low Income Home Energy Assistance Program (LIHEAP) available this fiscal year (October 2021 to September 2022). As part of a state-by-state breakdown of funding, the Administration reported that in addition to an annual appropriation of $57.4 million for Washington, the state received an additional $86.2 million in funds from the American Rescue Plan – more than double the state's typical annual funding. The total of $143.6 million is the highest amount Washington has ever received in LIHEAP to help families struggling with the costs of home heating.

- The American Rescue Plan More Than Doubled LIHEAP Funding Nationally: In 2021, the Biden-Harris Administration and Congressional Democrats delivered $8 billion in LIHEAP funding nationally, more than doubling typical annual appropriations due to $4.5 billion provided by the American Rescue Plan. This is the largest appropriation in a single year since the program was established in 1981. These resources are already allowing states across the country to provide more home energy relief than ever before.
- The American Rescue Plan Provided Additional Historic Resources for Utility Relief Including the Emergency Rental Assistance (ERA) Program and State & Local Fiscal Recovery Fund: The American Rescue Plan provided other critical resources that states and localities can use to address home energy costs. ERA programs, which received an additional $21.5 billion in funding from the American Rescue Plan, can provide help with past-due utility bills or ongoing assistance with energy costs to help distressed renters avoid shut-offs and keep current on expenses."

https://www.whitehouse.gov/wp-content/uploads/2022/01/LIHEAP-Washington.pdf

[16] This growth is not likely to be associated with the historic levels of LIHEAP assistance I just discussed. Federal LIHEAP appropriations have now returned to pre-COVID levels.

need for PSE to use nonpayment disconnections as the "hammer" in an effort to further compel payments that low-income customers simply cannot afford to make. Nonetheless, it is also evident that improving low-income payment patterns can generate benefits not only to the low-income customer population, but to all other customers as well.

Q. ARE THERE OTHER RATE-RELATED REASONS WHY PSE SHOULD ADDRESS THE AFFORDABILITY ISSUES YOU HAVE IDENTIFIED ABOVE?

A. Yes. It is in the utility's own best interests to address the unaffordability of bills I discuss above. Table 8 shows that PSE's low-income customers make good faith efforts not only to pay their bills in a full and timely fashion, but also to make *some* payment when they are not able to make payments that are on-time and in-full. Table 8 below supports three important conclusions. First, PSE routinely receives payments from its known low-income customers. Only in March and April 2024, did the number of low-income payments dip below 20,000 in a given month.[17] Second, low-income customers who *can* make payments generally make full- and timely payments. Throughout the 24 month period, the payments made by known low-income customers were both complete and on-time in anywhere from 60% to more than 70% of the instances. As the unaffordability of PSE bills is further addressed, this percentage can be expected to increase. Third, even the converse of this second observation is important. Even when PSE's known low-income customers were *not* making payments that were complete and on-time, they were

[17] In these two months, however, the data may reflect a timing difference as much as anything. A bill issued later in the month may not have a due date that occurred prior to the close of the data that was reported.

nonetheless still making *some* payments. Setting aside April 2024,[18] in the twelve months from April 2023 through March 2024, the percentage of complete and timely payments made ranged from 61.1% (April 2023) to 72.5% (March 2024). This clearly indicates that, even in the absence of a threat of utility disconnection for nonpayment, PSE's known low-income customers were making *some* payments on their bills even when those payments were neither complete nor on-time.

Table 8. Percent of Known Low-Income Payments that were Complete and On-Time
(PSE Response to TEP DR-013)

Bill Month	The number of payments received from known low-income customers	The number of on-time and complete payments received from known low-income customers	% Complete and on-time payments
2022-05	36,511	23,661	64.8%
2022-06	38,518	26,976	70.0%
2022-07	35,906	21,711	60.5%
2022-08	36,440	22,176	60.9%
2022-09	36,349	22,915	63.0%
2022-10	35,087	22,408	63.9%
2022-11	36,139	23,083	63.9%
2022-12	40,097	22,299	55.6%
2023-01	40,513	21,644	53.4%
2023-02	39,163	22,328	57.0%
2023-03	38,900	22,550	58.0%
2023-04	37,368	22,826	61.1%
2023-05	34,764	22,827	65.7%
2023-06	36,542	26,272	71.9%
2023-07	32,983	20,275	61.5%
2023-08	34,723	21,764	62.7%
202-309	34,090	22,529	66.1%

[18] As I explain elsewhere, April may include bills the due date for which has not yet been reached. Accordingly, despite there being bills, there would not be payments. A bill issued on April 20th, for example, is likely to have a due date (and thus no payment) in May.

2023-10	31,496	20,943	66.5%
2023-11	28,291	18,534	65.5%
2023-12	26,361	16,629	63.1%
2024-01	23,742	14,746	62.1%
2024-02	21,168	14,233	67.2%
2024-03	19,019	13,787	72.5%
2024-04	16,013	13,368	83.5%

Q. PLEASE EXPLAIN WHY IT IS IMPORTANT TO CONSIDER THESE AFFORDABILITY ISSUES IN THE CONTEXT OF A RATE PROCEEDING.

A. A consideration of affordability is a critical task to undertake within the structure of any utility rate case. As bills become increasingly unaffordable, the payment difficulties of those customers who face unaffordability become increasingly substantial as well. As I demonstrated in my testimony above, this conclusion can be well-documented for PSE. One impact of the unaffordability I discuss, in other words, is its impact on collection costs that are then normalized and passed on to other ratepayers. Also, the PSE proposals such as increasing the residential customer charge, seeking unprecedented financial incentives for shareholders as discussed in the testimony of TEP Director Shaylee Stokes, and seeking an increased return on equity, have disproportionate adverse effects on low-income customers who already are facing substantial unaffordability.

Moreover, establishing a return on equity is fundamentally predicated on balancing customer and investor interests. It is necessary for the UTC to understand the customer interests in order to appropriately balance them against the competing investor interests. The obligation of the Commission in deciding on the appropriate return on equity (ROE) and the reasonable mix of debt and equity securities should balance consumer and investor interests. (*FPC v. Natural Gas Pipeline Co.*, 315 U.S. 575, 606-

607 - 608 (1942)). Indeed, of the consumer issues that are important drivers of the just and reasonable ROE determination, one of the most significant is the concern about affordability. If a sizable portion of customers cannot afford to pay the rates imposed by the UTC, the UTC can hardly be said to have approved just and reasonable rates. Such concerns should bear directly on the determination of the fair ROE. In addition, as a utility such as PSE adds more and more expensive plant, this increases rates, which may in turn put downward pressure on the just and reasonable ROE not for financial reasons, but because of affordability concerns.

In sum, the concerns I identify with respect to the unaffordability of the rates of PSE can (and should) be considered even outside the consideration of the specific proposals I advance with respect to specific low-income initiatives and the reporting of data metrics.

III. The Commission should Retain PSE's Current Reporting of Affordability and Equity Metrics

Q. PLEASE INTRODUCE THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I respond to PSE's proposals to modify the affordability and equity metrics which the Company currently reports. In addition, while I commend the Company for its most recent Energy Burden Analysis (EBA), I recommend future modifications to further improve that work product.

A. PSE Witness Wallace's Proposed Changes to PSE's Affordability and Equity Metrics Should be Rejected.

Q. PLEASE INTRODUCE THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I respond to the changes to the PSE affordability and equity metrics recommended by PSE witness Carol Wallace. PSE witness Wallace proposes to add two new performance metrics to be reported by PSE: (1) the average

annual residential electric customer bill; and (2) the average annual residential gas bill. Wallace proposes to calculate these metrics by summing the residential bills for each fuel and dividing that number by the total number of bills for each fuel.[19] The calculation would not be broken out by census tract.[20] Wallace asserts that "PSE does not find disaggregating affordability by census tract a useful metric for understanding changes in the overall level of affordability of PSE's services across all of its residential customers."[21] Wallace thus recommends "removing the remaining metrics."[22]

In my discussion below, I will begin by examining the flaws in the two metrics recommended by PSE witness Wallace. I will then turn my attention to the corresponding recommendation by witness Wallace to eliminate the reporting of all equity and affordability metrics other than the four which are contained in the testimonies of witness Wallace and witness Hutson.

Q. FIRST, DO THE NEW METRICS PROPOSED BY WITNESS WALLACE MEASURE WHAT WITNESS WALLACE ASSERTS THEY MEASURE?

A. No. The two new metrics do not measure the outcomes which the Wallace testimony asserts they measure. PSE's data shows that it is not sufficient to know what the energy bill is in a particular Census Tract to understand what energy burdens are being faced. Table 9 below shows that for the PSE service territory, while average bills differ between Census Tracts, the average bill burdens do not. Indeed, the Census Tracts with the highest electricity bills ($1,200 - $1,249) have the lowest average electric bill burdens

[19] Exh. CLW-1T, at 23.

[20] Id., at 24.

[21] Id.

[22] Id., at 23.

(2.4%) (at median income). In contrast, the Census Tracts with the lowest bills ($1,050 - $1,099) have the highest electric bill burdens (2.8%) (at median income). Without the information specific to individual Census Tracts, the UTC (and parties such as TEP) would have no information prompting them to inquire into the factors which are driving those electricity burdens. Knowing only the average bill for the service territory as a whole would not be sufficient to prompt further inquiry.

Table 9. Electric Energy Burdens Given Different Electric Bills by Census Tract (PSE) (2022)

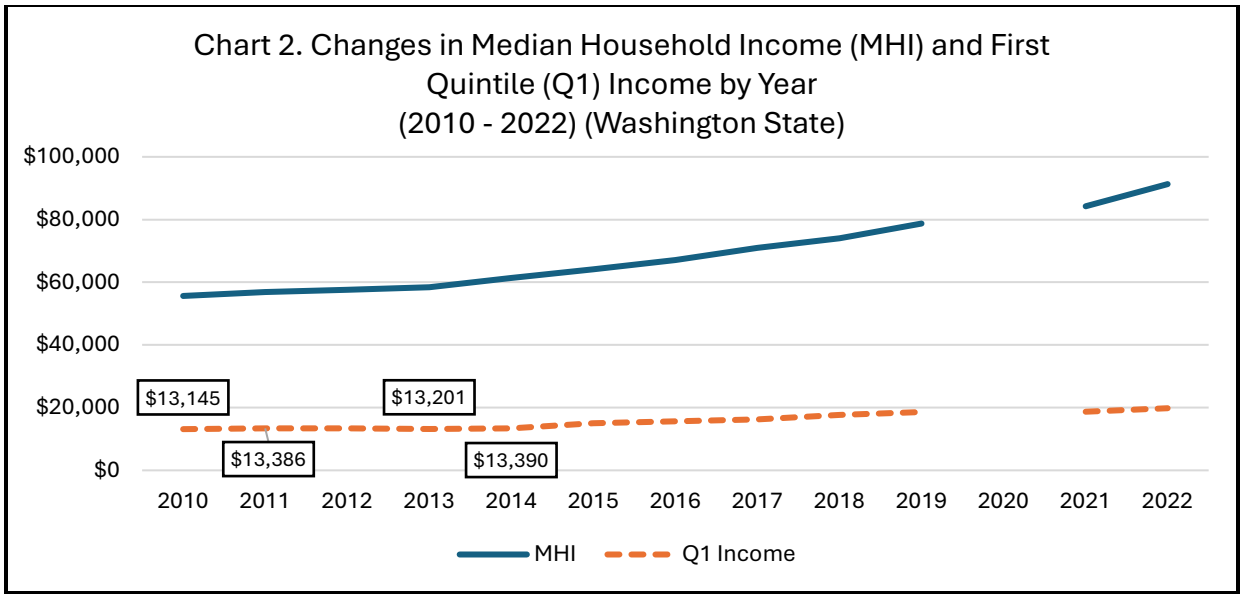
Electric Bills	Count of Census Tract	Average Electric Burden (at median income)
$1,050 - $1,099	145	2.8%
$1,100 - $1,149	141	2.7%
$1,150 - $1,199	208	2.7%
$1,200 - $1,249	8	2.4%
Grand Total	502	2.7%

Q. IS THERE AN ADDITIONAL PROBLEM WITH THE PROPOSED METRICS PROPOSED BY WITNESS WALLACE?

A. Yes. PSE's flawed reasoning is reflected in its assertion that it would expect to see constant improvement year-over-year in the percentage reduction in energy burdens and in the percentage of high burden customers who receive energy assistance. The Company proposes to include all energy assistance in its definition of what comprises energy assistance. The percentage of customers who receive energy assistance, however, can vary based on many variables. If federal appropriations for LIHEAP decline, for example, or if those federal appropriations remain constant but are directed to include more utility services (e.g., adding water assistance to LIHEAP), odds are that the percentage of high burdened households receiving energy assistance will decline as well.

Even more of a problem is the changing nature of "need" as influenced by income. It is unreasonable to expect that incomes will only increase, or that they will increase at a rate that reflects increases in the price of energy. Indeed, I documented earlier in my testimony the extent to which PSE rates have increased to an extent that is substantially greater than increases in income.

Moreover, PSE proposes to use median incomes to calculate energy burdens. Chart 2 below shows that lower incomes grow more slowly than median income, if they grow at all. In some years there is no growth or a decrease in income. The Chart tracks two measures of income over the years 2010 through 2022: (1) median household income; and (2) First Quintile income (as I described earlier in my testimony). Given that PSE proposes to use a single figure for its entire service territory, the data used in the Chart below uses a single figure (statewide) as well. As incomes increase, both the number of households having an excess energy burden and the extent of the excess will be more likely to decline. However, the data in the Chart below shows that increasing incomes are more likely to occur for the incomes proposed to be used by PSE in the calculation of its proposed metrics than would occur for lower income households.



Note: The Chart shows a gap in 2020 data. 2020 Census data was not released due to problems with data collection due to the COVID-19 health pandemic.

The data in the Chart above clearly shows that in some years, Q1 incomes grew while in other years Q1 incomes declined. The average Q1 income in 2013 ($13,201) was actually lower than the average Q1 income in 2011 ($13,386). The average Q1 income in 2014 ($13,390) was virtually identical to the average Q1 income three years previously ($13,386 in 2011).

Q. PSE RECOMMENDS ELIMINATING ALL EXISTING EQUITY AND AFFORDABILITY METRICS. WHAT ELSE WOULD BE LOST IF THAT PROPOSAL IS ADOPTED?

A. Analysts would be unable to establish that as the number of nonpayment disconnections in PSE zip codes increases, the average energy burdens increases as well. Table 10 below shows the distribution of zip codes by the number of disconnections in a zip code. It shows that all three sets of PSE zip codes with the highest number of nonpayment disconnections have average electric burdens higher than the average electricity burden for the PSE service territory as a whole. While the average electricity burden (at median

income) is 2.7% for the PSE service territory as a whole, PSE zip codes with between 120 and 160 nonpayment disconnections have average electricity burdens of between 3.6% and 3.9% of income.

Table 10. Number of Shutoffs by Zip Code and Average Electricity Burdens

Count of Nonpayment Disconnections	Count of Zip Codes	Average Electric Burden (E)
1-20	67	2.8%
21-40	26	2.7%
41-60	12	2.2%
61-80	13	2.7%
81-100	8	2.8%
101-120	6	3.0%
121-140	1	3.9%
>161	7	3.6%
Grand Total	**140**	**2.7%**

The relationship between electricity burdens and nonpayment service disconnections merits further inquiry. The lesson for our purposes here, however, is that if the recommendation made by witness Wallace to eliminate reporting at the zip code and Census Tract levels is adopted, the data would not exist to identify the apparent relationship.

Q. PSE PROPOSES ELIMINATING ALL EXISTING EQUITY AND AFFORDABILITY METRICS. HOW DOES THIS AFFECT PARTIES' ABILITY TO ASSESS AND RESPOND TO ENERGY UNAFFORDABILITY?

A. In addition to not being able to associate electric bills with burdens, the proposal made by PSE witness Wallace would eliminate the ability to engage in further inquiries into the relationships between electricity bills and other critical factors. The proposal, for

example, would eliminate the ability to inquire into the relationship between electricity bills and the level of arrears. It would eliminate the ability to inquire into the relationship between electricity bills and the rate of disconnections. It would eliminate the ability to inquire into the relationship between Census Tracts which are Highly Impacted Communities (HICs), Census Tracts which are High VPs, or Census Tracts with high numbers of Known Low-Income customers and any of the markers of unaffordability (burdens, arrears, collection outcomes).

Q. IS THE DATA REPORTED BY PSE IMPORTANT IN OTHER WAYS?

A. Yes. The metrics which PSE reports allows organizations such as The Energy Project (TEP) to meaningfully participate in a range of activities affecting affordability, both before the UTC and elsewhere.

TEP participates in a wide range of activities for which the MYRP metrics provide invaluable information. Proceedings before the UTC, for example, include not merely this rate proceeding, but also rulemaking and policy dockets regarding credit and collections, equity, and PBR. Outside of the UTC, TEP participates in multiple advisory groups, which are important not because of the ***substance*** of their discussions but also because of the improved procedural equity introduced by allowing interested persons to participate. Allowing such participation, while constricting access to information, undoes much of the procedural equity introduced by the existence of advisory groups with which to begin.

Advisory groups with which TEP is involved are multi-faceted, including not merely the investor-owned utilities' low-income and conservation advisory groups, but also statewide forums concerning the policies and administration of LIHEAP,

Weatherization Assistance Program (WAP), and clean energy (CEIP/CETA) advisory committees.

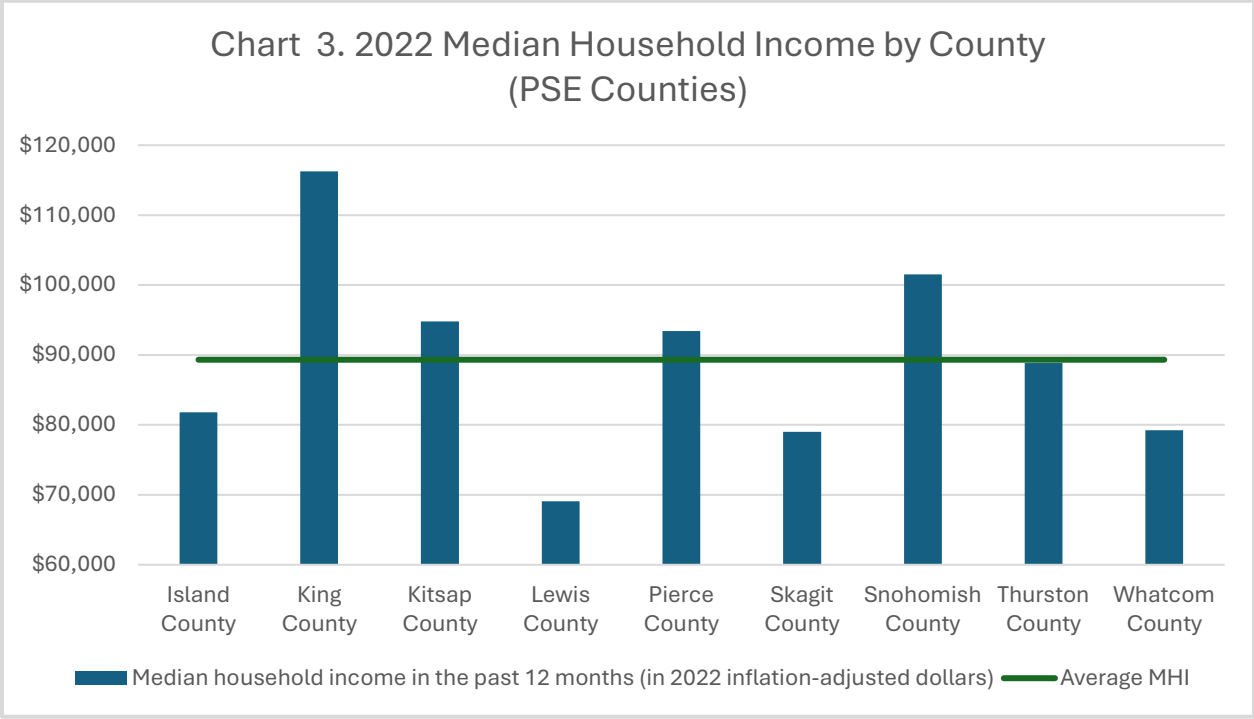
Moreover, TEP is often called upon to provide assistance to local and state agencies in efforts to address affordability. Local communities have sought advice on extreme heat responses and "braiding" different sources of money to support affordable housing programs. TEP has worked with state and local government agencies and outside advocates to advise on implementation of the state Healthy Environment for All Act (HEAL Act) as well as studies for the legislature on issues of utility affordability. With each of these activities, having detailed geographically differentiated information on income, utility bills, payment patterns, and energy burdens is an important support for effective participation.

Q. IS THERE AN ADDITIONAL PROBLEM WITH PSE'S RECOMMENDATION TO ELIMINATE ALL EXISTING EQUITY AND AFFORDABILITY METRICS?

A. Eliminating all metrics other than the four proposed by PSE witnesses Hutson and Wallace—I will address the metrics recommended by witness Hutson in further detail below—does not allow the UTC, or any party, to consider the consequences of energy unaffordability. I have discussed throughout my testimony how energy unaffordability presents itself. I documented how it may be reflected in high arrears. I documented how it may be reflected in the number and/or rate of nonpayment disconnections. The PSE proposal eliminates all of the data on these consequences of unaffordability.

Q. IS PSE'S PROPOSAL TO USE ONLY A SINGLE ENERGY BURDEN FOR THE ENTIRE SERVICE TERRITORY A PROBLEM?

A. Yes. The PSE proposal to develop and track only a single metric to represent the entire PSE service territory is perhaps the biggest problem both with the metrics recommended by witness Wallace along with the corresponding recommendation to eliminate the more geographically disaggregated numbers. On the one hand, the proposal not only assumes that all parts of PSE's service territory will experience similar magnitudes of the factors affecting energy burdens, but also assumes that the factors affecting energy burdens will change at the same rate, or even in the same direction, at the same time. That assumption is unreasonable. Consider the data presented in the Chart below setting forth the 2022 Median Household Income (MHI) for the counties served in whole or part by PSE. The Chart also shows the average MHI for the counties as a group. As can be seen, only Thurston County is reasonably represented by the average of the group as a whole. King, Kitsap, and Snohomish counties have higher incomes, while Island, Lewis, Skagit, and Whatcom counties have MHIs lower than the average for the group as a whole.



Moreover, this Chart will somewhat understate the variation in data given that it already aggregates Census Tracts into the larger geographic unit of counties. The Chart, in other words, presents the variation ***among*** the counties, but it already masks the variations ***within*** each county.

In sum, PSE's proposal to combine all energy burden data throughout its service territory into a single number and to track only that single metric is a serious problem. It combines widely disparate results by geography into a single number with that number being applicable to few, if any, of the individual components which underlie it.

Q. ARE THE METRICS PROPOSED BY WITNESS WALLACE INSUFFICIENT TO MEASURE AND TRACK AFFORDABILITY IN ANY OTHER WAY?

A. Yes. Witness Wallace, for example, proposes to replace the reporting of natural gas and electricity bills by census tract with reporting an average residential electricity and natural gas bill for the total Company.[23] Consider the consequences of that change. The end-in-view of producing and reporting the metrics which witness Wallace proposes to eliminate is not simply to develop data for stakeholders to use in utility rate cases as a means to track the affordability of rates. PSE reports that its 2023 average residential electricity bill was $1,204.02, while its average residential natural gas bill was $1,141.46. Witness Wallace errs when asserting that examining bills by Census Tract does not add to an understanding of those bills. The data set forth in the Table below shows that the average (measured as the 50th percentile in the Table) does not reflect the various Census Tracts. Instead, the data shows considerable variation in bills by Census Tract. For electricity, there is a 15% difference between the Census Tract with the highest and

[23] Exh. CLW-1T,a t 24.

lowest PSE bills, while for natural gas, there is a 162% difference.[24] For Census Tracts with combination PSE service, the difference between the highest and lowest bills was between 30% and 40%.

Table 11. PSE Electric and Gas Bills Distributed by Census Tract

	2022 Bill Impact Electricity	2022-Bill Impact Gas	2022 Bill Impact Combo- E	2022 'Bill Impact Combo- G
25th percentile	$1,094	$938	$1,094	$936
50th percentile	$1,133	$986	$1,142	$972
75th percentile	$1,162	$1,024	$1,152	$993
Maximum	$1,229	$2,167	$1,363	$1,218
Minimum	$1,066	$827	$1,056	$862
Difference	15%	162%	29%	41%
# of census tract	504	715	352	352

Nor would an average for the service territory reflect the distribution of home energy burdens. Table 12 below shows the distribution of Census Tracts within the PSE service territory by electricity burden. The Table shows that while there is a concentration of Census Tracts with burdens below 4% of income—remember these burdens are calculated using median income within each Census Tract; they do not reflect low-income impacts—there are Tracks with noticeably higher burdens. Eliminating the geographically dispersed data collection would not allow the identification of these particular areas of need.

[24] In this calculation, Census Tracts with average bills exceeding $10,000 were deleted as outliers.

Table 12. Distribution of Electric Energy Burdens by Census Tract (PSE Service Territory 2022)	
Electricity Burden	Count of Census Tract
<1%	8
1% - 2%	117
2% -3%	212
3% - 4%	112
4% - 5%	40
5% - 6%	9
6% - 7%	1
7% - 8%	2
8% - 9%	1
Grand Total	502

Q. WHAT DO YOU CONCLUDE?

A. The recommendation of PSE witness Wallace to develop and track only two metrics to represent affordability in their entire service territory is perhaps the single biggest problem with the proposal to consolidate PSE's metrics and to eliminate the disaggregated geographic reporting of data. First, the proposal assumes that all parts of the service territory will experience a movement in factors affecting energy burdens at the same rate, or even in the same direction, at the same time. That assumption is demonstrably in error. Income growth (including negative growth) not only might, but is likely to, vary based on urban/suburban/rural status and coastal/inland location. As shown above, to assume that different areas with different economic bases will experience similar, let alone identical, income growth is unreasonable.

In addition, examining only a median consolidates multiple disparate numbers so that it no longer presents an accurate picture of anything. The problem is the same as reflected in the old adage of the person who drowned in a pond with an average depth of 10 inches.

B. PSE Witness Hutson's Proposed Changes to PSE's Affordability Metrics Should be Rejected Unless Substantially Modified.

Q. PLEASE INTRODUCE THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I respond to the changes to the PSE affordability and equity metrics as recommended by PSE witness Troy Hutson. PSE witness Hutson proposes to add two new metrics to measure the Company's progress in reducing energy burdens for customers: (1) median percentage reduction in energy burdens from energy assistance, among high energy burden customers who receive energy assistance; and (2) percentage of high energy burden customers who receive energy assistance.[25] Hutson argues that the first new metric would allow the Company to "measure PSE's performance in reducing the energy burden of customer provided the benefit of energy assistance."[26] Hutson argues further that "PSE expects that it would make continuous progress towards reducing energy burden for customers via its energy assistance programs. . . PSE would expect a downward trend."[27] PSE "would exclude energy efficiency, demand response, and DER products and services from the definition of energy assistance programs. . ."[28]

[25] Hutson, Exh. TAH-1T, at 41 – 42.

[26] Id., at 42.

[27] Id., at 43.

[28] Id.

Hutson argues that the second proposed metric would be used "to determine what proportion of its energy burdened customer population is receiving energy assistance." Hutson asserts that "the higher the value for this metric, the greater success PSE is achieving at directing its energy assistance resources to its customers most in need of economic benefits."[29]

In combination, Hutson said, the two metrics would "evaluate [the] effectiveness of the programs and mechanisms used by PSE to reduce energy burden in both short-term and sustained energy burden reductions."[30]

Q. ARE THE TWO NEW METRICS RECOMMENDED BY PSE WITNESS HUTSON FATALLY FLAWED IN THEIR UNDERLYING OBJECTIVES?

A. Not at all. Measuring the extent to which energy assistance reduces excess energy burdens for customers receiving energy assistance, who are also energy burdened, is a desirable objective. In addition, if PSE measures the extent to which energy assistance reduces the excess energy burdens of energy burdened customers, it is further desirable to measure the proportion of such customers receiving assistance. While I agree with these objectives, I have serious concerns with the specific recommendations. Below I explain the modifications needed to effectively and accurately measure those objectives. As proposed, the metrics recommended by PSE witness Hutson are neither appropriate nor adequate.

[29] Id., at 44.

[30] Id., at 45.

Q. PLEASE SUMMARIZE THE ISSUES PRESENTED BY THE TESTIMONY OF WITNESS HUTSON REGARDING PSE'S EQUITY AND AFFORDABILITY METRICS.

A. The questions presented to the UTC by witness Hutson's recommendations are two-fold: (1) do the two metrics proposed by witness Hutson measure what Hutson asserts they measure; and (2) are the two metrics sufficient to replace the existing affordability and equity metrics which the Company proposes to eliminate. I conclude that the response to each of these two questions is "no."

Q. ARE THE TWO METRICS RECOMMENDED BY PSE WITNESS HUTSON SUFFICIENT TO REPLACE THE EXISTING AFFORDABILITY AND EQUITY METRICS PROPOSED TO BE ELIMINATED?

A. No. PSE is required to report affordability metrics as part of the MYRP metrics agreed to by parties in PSE's last general rate case. The metrics PSE proposes to eliminate include, among other things:

1. The number and percentage of disconnections for nonpayment disaggregated by geographic area (§63.d.4). Knowing both of these metrics is critical. Having one without the other is less meaningful. If there are 50 disconnections in a zip code, it tells us a different story whether those 50 disconnections are 2.5% of the total or 0.25% of the total. The converse is true as well. Knowing the percentage of disconnections in a zip code is less meaningful if one does not know the absolute number that percentage represents.

2. The number and percentage of disconnection notices for gas and electricity (§63.d.1, 63.d.2). Again, public reporting of both is essential. Having one without the other is less meaningful. Knowing the number of disconnect notices is meaningful only when also knows the percentage that number represents. A bigger number may simply indicate the zip is a bigger zip code.

3. Total arrears (electric: §63.e.1; gas: §63.e.2), as well as arrears by the aging of arrears (§63.e.3: electricity; §63.e.4). This metric presents arrears only in terms of dollars, so it is less useful than the two discussed above. In addition to knowing the dollars of arrears, it is also important to know the number of accounts in arrears. Both are important unto themselves, but the two are of particular importance in combination. Accordingly,, as I discuss below, the Commission should modestly modify this metric to include both the dollars and number of accounts in arrears.

These examples are only examples. They are presented as illustrations of data which, pursuant to the proposal by PSE, would no longer be reported. Elimination of the data reported through the MYRP metrics would result in a substantial impediment to the ability of the Commission and the public to develop insights into payment patterns and nonpayment disconnections. For purposes of reviewing the recommendations of PSE witness Hutson's proposed metrics, my conclusion is that the two metrics recommended in Hutson's testimony are not replacements for the metrics that PSE recommends be eliminated.

Q. PLEASE EXPLAIN THE IMPORTANCE OF THE MODEST MODIFICATION YOU PROPOSE FOR THE ARREARAGE METRIC.

A. I recommend that when PSE reports data on arrears, whether that data is for total arrears or for arrears by aging bucket, the data be reported both in terms of dollars (as is now done) and in terms of numbers of accounts. Having both sets of data is important to understand the significance of any arrearage data. Knowing that a particular geographic area has $50,000 in arrears presents a different story depending on whether that $50,000 in arrears is associated with 50 customers or 500 customers. I used such information in the past, for example, to ensure that rural arears do not receive an undue lack of attention

because the dollar of arrears would indicate the lack of a nonpayment problem (i.e., total aggregate arrears are low even though average per-household arrears are high).

In addition, analysts can identify the need for different "remedies" to different payment problems with both dollars and numbers of accounts available. During cold weather months, for example, I have seen low-income arrears increase substantially even though the numbers of accounts in arrears remain relatively constant. The higher bills did not impose payment problems on more customers. The seasonally higher bills instead drove those customers who could not afford to pay even deeper into arrears. I concluded that these customers would benefit from efforts to level their bills (e.g., budget billing).

In another instance, I found that the percentage increase in the dollars of arrears substantially exceeded the percentage increase in the number of accounts in arrears. This led to targeting usage reduction investments to customers with high seasonal arrears rather than an exclusive focus on customers with high annual consumption. Helping customers control their high volatility in the total dollars of arrears by reducing their seasonal consumption was an appropriate response.

Finally, knowing both the dollars of arrears and the number of accounts in arrears helps an analyst assess the impact of the aging of arrears. Particularly in the oldest aging bucket (e.g., 180+ days), a very high dollar amount of arrears may mean many different things. If the dollars are high, but the number of accounts is not correspondingly high, it may simply indicate that a utility carried a few number of customers for an extended period of time without a nonpayment disconnection. In contrast, if both the dollars and number of accounts in the oldest aging bucket are high, the utility may well have a more substantial systematic nonpayment problem.

Q. IS THERE A PROBLEM COMMON TO BOTH OF WITNESS HUTSON'S PROPOSED METRICS?

A. Yes. Both of PSE's proposed metrics apply "high energy burdens" as though that term is a yes/no toggle. Under PSE's approach, a customer either has a "high energy burden" household or it does not. An energy burden of 6% of income is considered the same as an energy burden of 10% of income, which in turn is considered the same as an energy burden of 20% of income. PSE should adopt a set of gradations in energy burdens. A more refined analysis should be presented with a stratification of energy burdens. My recommended stratification is: (1) Affordable (= or <6%); (2) High Burdens (>6% - 10%); (3) Very High burdens (10% to 15%); and (4) Extreme Burdens (>15%).

Q. ARE THERE ADDITIONAL SHORTCOMINGS IN THE TWO DATA METRICS RECOMMENDED BY WITNESS HUTSON?

A. Yes. First, measuring the median percentage reduction in energy burdens provides information on where high energy burden customers end up after receiving energy assistance. As I described earlier, energy burdens vary widely based on both a household's income in absolute terms and a household's income in terms of Federal Poverty Level. Energy burden reduction may be 10% and yet reduce energy burdens only from 40% to 30%, a not particularly effective outcome. A median energy burden reduction of 5% may be half as much, but may reduce energy burdens from 10% to 5%.

Second, using a median reduction is less than helpful as well. Calculating a median reduction may show as much about the mix of incomes in the PSE service territory (as their corresponding energy burdens) as it does about the effectiveness of energy assistance. Two different parts of the PSE service territory may have widely

different mixes of income, as I established earlier. One part may have a high density of very low-income households, while another part may have a higher mix of less low-income households. Combining the two into a median yields a result that is applicable to neither.

The same flaws exist in Hutson's second metric as well. Measuring the percentage of energy burdened customers who accessed energy assistance is less than helpful. PSE's lack of nuance in treating a customer as "energy burdened" with a simple yes/no toggle carries forward into Hutson's recommended metric. Hutson's first metric measures the median percentage reduction in energy burdens from energy assistance, among high energy burden customers who receive energy assistance, but does not distinguish if a customer's beginning energy burden is 7% or 27%. Moreover, Hutson's first metric does not distinguish between whether (hypothetically) a 6% "reduction in energy burden from energy assistance" moves the customer from 11% to 5%, or from 32% to 26%. In the same way, Hutson's second metric would count reaching 50% of "high energy burden customers" as receiving energy assistance the same regardless of whether those customers primarily have beginning burdens of 8% or 18%.

While the two new metrics proposed by PSE witness Hutson have serious flaws, those flaws can be remedied.

Q. WHAT "REMEDY" HAVE YOU IDENTIFIED FOR THESE TWO FLAWS?

A. As I noted above, the overall objective sought by PSE witness Hutson is well-intentioned. The two proposed metrics, however, are simply not designed to measure what they purport to measure. The modifications I recommend are:

1. The first metric should report, on a Census Tract basis, (a) the number of households by the energy tiers I describe above (High Burdens; Very High

Burdens; Extreme Burdens); (b) the high/median and low energy burden within each of these tiers without energy assistance; and (c) the high/median and low energy burden after receiving energy assistance. In this fashion, the objective sought by PSE witness Hutson will truly be measured, i.e., the extent to which, if at all, energy assistance is resolving the "excess energy burden" within the PSE service territory.

2. The second metric should report, on the same Census Tract basis, (a) the number of households by the energy tiers I describe above (High Burden, Very High Burden, Extreme Burdens); and (b) the number and percentage of households within each energy tier who are receiving energy assistance.

As modified, the two metrics can and would provide not merely into the status of energy unaffordability on the PSE system, but would also provide important information into the design, targeting, and delivery of energy assistance.

C. The Proposals by Witnesses Wallace and Hutson have Problems that are Common to Both.

Q. PLEASE EXPLAIN WHAT THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY IS.

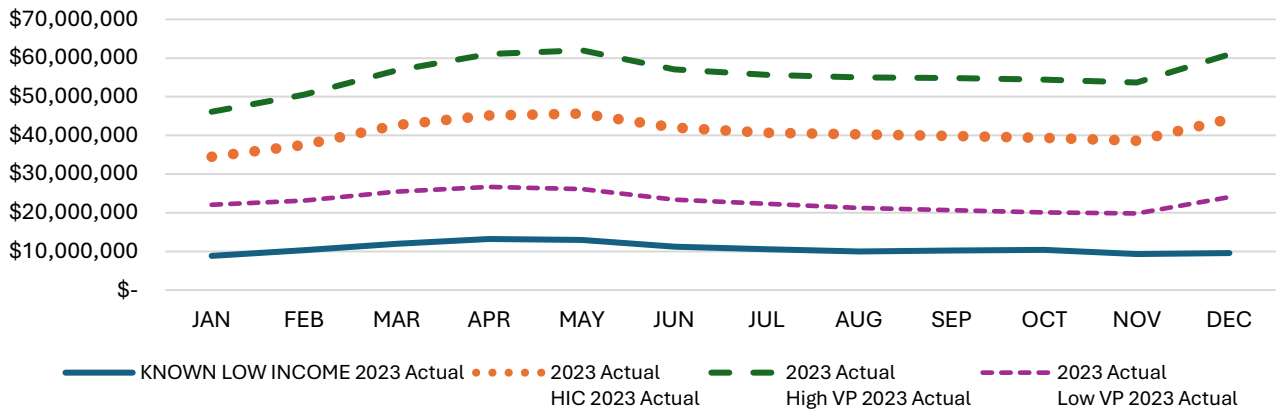
A. While my discussion above addresses the problems unique to the recommendations of PSE witness Wallace and of PSE witness Hutson, there are some issues with those recommendations that are common to the set of recommendations as a whole.

Q. ARE THE METRICS PROPOSED BY WALLACE AND HUTSON SUFFICIENT TO ALLOW TEP TO USE SUCH DATA REPORTING IN THE MULTIPLE FUNCTIONS IT SERVES BEFORE THE UTC AND ELSEWHERE?

A. No. As I explained above, one aspect of high energy burdens that is of concern is the extent to which the unaffordability of bills affects the payment patterns of populations of concern. The inability to pay bills affects those populations in multiple ways. It forces customers to make choices between paying and not paying competing household

necessities (e.g., the "heat or eat" phenomenon). It forces customers to make household sacrifices (e.g., not heating or cooling their homes, and thus keeping them at uncomfortable and/or unsafe temperatures). In addition, it imposes additional costs on them (e.g., interest on borrowing to pay utility bills). These real world consequences drive TEP's participation in many of its activities, whether it be a LIHEAP or WAP advisory committee, or a PSE low-income advisory group, or a consultation with local officials about how (and when and where) to respond to extreme heating episodes. Arrearage trends and payment patterns within Names Communities are another facet of affordability that cannot be properly examined if PSE's proposal to eliminate most affordability metrics is accepted. The Chart below tracks the total arrears disaggregated by: (1) known low-income customers, (2) Highly Impacted Communities , (3) HICs and high vulnerable populations (VPs), and (4) HICs and low VPs. As can be seen, the total arrears in "High Vulnerable Population" Census Tracts for most of the year ranged near or in excess of $60 million each month.

Chart 4. Total Arrears by Selected Populations of Concern (Highly Impacted Communities, Known Low-Income, Vulnerable Populations)



Eliminating these affordability metrics would not only impede TEP's participation in the UTC's credit and collection docket, but would also deny the UTC, itself, critical information that could and should be used in that docket.

PSE's disconnection metric reporting reinforces the well-documented finding that disconnections disproportionately harm named communities. PSE reports that it disconnected service for nonpayment to 5,614 residential accounts in 2023 (MYRP metric §64.m.3). 2,333, or 42%, of those nonpayment disconnections occurred in Highly Impacted Communities. By comparison, only 25% of PSE's customers are located in HICs,[31] clearly showing that PSE's disconnection practices disproportionately impact customers in HICs. PSE's metric reporting also shows an association between Vulnerable Populations and nonpayment disconnections: while 3,311 disconnections occurred in High VP zip codes, only 723 nonpayment disconnections occurred in Low VP zip codes.

Notably, the difference in the number of nonpayment disconnections is not driven by the extent of nonpayment. While the ratio of total arrears in High VP zip codes to low VP zip codes was 2.4:1 (i.e., for every $100 in arrears in a Low VP zip code, there were $240 in arrears in a High VP zip code), the ratio of nonpayment disconnections in High VP zip codes to Low VP zip codes was 4.6:1 (i.e., for every 100 disconnections in a Low VP zip code, there were 460 disconnections in a High VP zip code). The Commission should endeavor to explore the root cause of an increased level of nonpayment disconnections appearing unrelated to the level of arrears in the credit and collections docket. Again, this information, would not exist should the recommendations of PSE witnesses Wallace and Hutson be adopted.

[31] PSE Response to TEP DR-057.

The data above supports TEP Director Shaylee Stokes recommendation to modernize PSE's disconnection practices to promote equity. Elimination of the data reporting proposed by PSE witnesses Wallace and Hutson would severely impede the UTC's ability to exercise oversight not only over PSE's services provided to low-income customers, but also over PSE's response to nonpayment. If PSE does not know what the problems are associated with unaffordability, it is simply not possible for the utility (and the UTC) to appropriately respond to those problems (and the factors which contribute to those problems).

D. The Commission Should Order PSE to Post Metrics to its Website.

Q: DOES PSE CURRENTLY POST ITS METRICS ON ITS WEBSITE?

A: No. PSE currently does not post its metrics online.

Q: HAS THE COMMISSION TAKEN A POSITION ON WEBSITE METRIC ACCESSIBILITY?

A: Yes. In the Policy Docket, the Commission noted its "preference that all reported metrics be readily available, easily located, and presented in an organized and accessible fashion on the utilities' respective websites."[32] Additionally, other utilities, like Avista and Hawaiian Electric,[33] already post metrics on their websites.

Q: WHAT COMMISSION ACTION DO YOU RECOMMEND?

A: The Commission should require PSE to publish both its historical data and currently reported metrics in native format, on an easily accessible part of its website. This is a

[32] Dkt U-210590, Interim Policy Statement Addressing Performance Measures and Goals, Targets, Performance Incentives, and Penalty Mechanisms at 12 (Apr. 12, 2024).

[33] Hawaiian Electric, *Performance Scorecard and Metrics*, https://www.hawaiianelectric.com/about-us/performance-scorecards-and-metrics.

simple, low-cost change, given that PSE already compiles and reports the data. Posting readable online metric tables will promote transparency and accessibility, enabling the Commission and interested parties to assess PSE's performance.

Q. WHY DO YOU RECOMMEND POSTING METRICS IN NATIVE FORMAT ON PSE'S WEBSITE?

A. One of the purposes of routine periodic data reporting of MYRP metrics is to increase the transparency of utility operations to the public. In this respect, "the public" is not only those interested parties who routinely appear before the Commission and participate in Commission proceedings, but includes organizations and entities that address affordable energy issues in other forums as well. Parties that focus on the affordability of housing would find such data useful. For example, I have used utility affordability data to help states prepare Consolidated Plans for submission to the U.S. Department of Housing and Urban Development (HUD) in guiding the distribution of housing dollars. Parties that are working to distribute other federal funds regarding solar installations, electrification, and energy efficiency would also find this information helpful. For many years, I worked with states such as Iowa, Wisconsin and Illinois to consider the affordability of energy in helping them to structure their "Standard Utility Allowance" for their Food Stamp (now SNAP) programs. Researchers, both at academic institutions[34] and at nonprofit organizations[35] use data such as this in their work.

[34] Consider, for example, the work of Diana Hernández, who is associate professor of sociomedical sciences in the Mailman School of Public Health and managing director of the Energy Opportunity Lab's Domestic Program at the Center for Global Energy Policy in the School of International and Policy Affairs at Columbia University in New York, New York.

[35] *See* Boston Medical Center Child Health Impact Working Group, Unhealthy Consequences: Energy Costs and Child Health (April 2007), https://www.pewtrusts.org/-

E. PSE Should Not Await Explicit and Timely Direction From the Commission to Modernize Its Practices and Procedures to Promote Equity and Affordability.

Q. PLEASE INTRODUCE THIS SECTION OF YOUR TESTIMONY.

A. PSE witness Monica Martinez[36] requests specific guidance from the UTC regarding the equity goals which PSE should meet. According to witness Martinez, "the Commission could be more direct in its expectations for how utilities should be implementing energy equity."[37] Martinez asserts that "with added direction and approval of PSE's direction in energy equity, the Commission can help provide a consistent regulatory framework from which PSE can work within. The Commission should adopt the specific equity metrics proposed by PSE, and should provide additional specific guidance in this rate case or in the Equity Docket (A-230217) explaining its expectations for improvement."[38] I discussed PSE's proposals regarding metrics for affordability and equity above and will not address them again here. In this section of my testimony, I address only the request that the Commission "provide additional specific guidance."

Q. WHAT IS YOUR REACTION TO THE REQUEST FOR THE COMMISSION TO "PROVIDE ADDITIONAL SPECIFIC GUIDANCE"?

A. The request from PSE witness Martinez that the Commission "provide additional specific guidance" on the equity goals that PSE is expected to achieve is at direct odds with the PSE recommendations to eliminate nearly all reporting metrics regarding equity and

/media/assets/2018/07/childhiaofenergycostsandchildhealth.pdf?la=en&hash=A78716D84BFA327E8C14C6D01AB4E4F7963D2D66.

[36] Martinez, Exh. MM-1T.

[37] Id., at 6–7, 11.

[38] Id., at 26.

affordability. The guidance should be the objective that home energy is considered an essential life necessity and that utilities should facilitate households' access to home energy without undue sacrifice or hardship. The guidance should be that utilities should make continuous progress toward achieving that first objective. The guidance also should incorporate elements similar to environmental justice objectives, that utilities should: (1) prevent the disproportionate imposition of risks, harms and burdens, and (2), pursue a proportionate distribution of benefits and amenities.[39] In a changing utility industry, one objective is that no-one be left behind. As can be seen from this discussion, and as was recognized in the PSE Energy Burden Analysis discussed in greater detail below,[40] there are multiple elements which influence the pursuit of equity. The pursuit of equity goals is a journey, not a destination which the Commission can identify at a single point in time.

Moreover, the nature of the journey is that equity goals are fluid, both from place-to-place and from time-to-time. The data that is currently being reported, which PSE recommends eliminating, should be the basis for establishing future equity goals. It is through this data reporting that the need for specific improvements (whether in time or place) can be identified.

Q. IS THERE A POTENTIAL SHORTCOMING IN HAVING THE COMMISSION ESTABLISH "ADDITIONAL SPECIFIC GUIDANCE" FOR PSE?

[39] A comprehensive discussion of the affirmative distribution of "benefits and amenities," and an avoidance of a disproportionate distribution of "risks, harms and burdens," can be found in Colton (2018). "The equities of efficiency: distributing energy usage reduction dollars," published in Salter, Gonzalez and Warner (eds.) (2018). Energy Justice: US and International Perspectives, Edward Elgar Publishing, London, England.

[40] See, Exh. BDJ-3, at 11.

A. Yes. The manner in which equity objectives are pursued by PSE may change from time-to-time and from place-to-place. To the extent that the Commission might establish specific quantitative equity goals for PSE to pursue, those goals may become out-of-date or inappropriate over time. As I discuss above, for example, incomes increase at different rates in different locations over time. As PSE witness Mikelson identified in his discussion of low-income usage, energy consumption may differ based on the age and energy efficiency of homes in different geographic areas. As the PSE Energy Burden Analysis identifies, energy burdens are a function of the interaction between household incomes and household energy bills, an interaction which almost certainly will vary by time and place.

Q. DO YOU HAVE A FINAL REACTION TO WITNESS MARTINEZ'S REQUEST FOR THE COMMISSION TO ESTABLISH "MORE SPECIFIC GUIDANCE"?

A. Yes. It is not possible for the Commission to establish, particularly in a short period of time, the types of specific quantitative equity and affordability outcomes sought by PSE. The equity and affordability goals applicable to PSE should be based on an ongoing review of the full set of equity and affordability metrics that PSE only recently began to report. While it may indeed be within the purview of the Commission to establish specific quantitative performance targets in some circumstances (e.g., reliability, customer service), that approach does not always—and never quickly—translate into actions appropriately available to the Commission in the realm of equity and affordability.

Q. WHAT DO YOU CONCLUDE?

A. I conclude that the Commission should not excuse PSE from making significant progress

towards equity and affordability because it thinks the Commission does not provide specific or timely instructions. The Commission should continue to find that its job is to establish the equity and affordability framework within which PSE should operate. The Commission should, of course, express its intent to retain and exercise its regulatory authority to review the reasonableness of PSE actions and decisions. Put simply, PSE's progress towards providing more equitable and affordable service should not be contingent the Commission providing direction PSE thinks is explicit or timely enough.

IV. Improvements to PSE's Energy Burden Assessment (EBA).

Q. PLEASE INTRODUCE THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I respond to the PSE Energy Burden Analysis (EBA) presented by PSE witness Birud Jhaveri.[41] According to witness Jhaveri, the EBA is intended to allow "PSE to design and target products and energy assistance to better address the needs of its customers that are most in need of energy assistance."[42] PSE conducts the EBA as part of its effort to comply with RCW 19.405.120. While I commend PSE's overall approach to the preparation of its EBA, and compliment the Company for its efforts to date, I further conclude that PSE should make several modifications to its future EBAs in order to improve its analysis even further.

Q. PLEASE DESCRIBE YOUR GENERAL REACTION TO THE ENERGY BURDEN ANALYSIS PREPARED BY PSE?

A. I compliment and commend PSE's efforts to prepare its Energy Burden Analysis (EBA). In particular:

[41] Exhibit BDJ-3 to Prefiled Direct Testimony of Birud Jhaveri, Exhibit BDJ-1T.
[42] Exh. BDJ-1T, at 15.

1. PSE recognizes that the pursuit of energy affordability is a journey, not a destination. According to its EBA, multiple factors can affect whether and to what extent energy burdens might change from year-to-year. [43] Some of those elements affect the bills facing customers, while other elements affect customer incomes.[44] Accordingly, it is essential that EBAs be routinely updated.

2. PSE recognizes, to a limited extent, that the number of PSE customers classified as energy-burdened can vary dramatically by the income tier into which the customer falls.[45] This recognition incorporates the observation that neither "low-income" customers nor "energy burdened" customers are monolithic populations, but there is merit to considering sub-populations within these larger groups.

3. PSE recognizes that as incomes decline, energy burdens increase.[46] While still focusing on median energy burdens, this recognition incorporates the observation that there is merit in sub-dividing the "low-income" population into components, differentiated by income tier, for more extended analysis.

4. The PSE EBA recognizes that there is a geographic component to an analysis of energy burdens.[47] This recognition incorporates the observation that looking at the PSE service territory as a whole is insufficient to gain a true understanding of energy unaffordability.

Having noted these strengths of the EBA, however, there is certainly room for improvement in the ways which I describe below.

Q. PLEASE DESCRIBE HOW PSE CALCULATED "ENERGY BURDEN" IN ITS 2022 EBA.

[43] Exh. BDJ-3, at 11.

[44] I work on the assumption that the illustration provided by PSE in its EBA on the factors influencing energy burdens is intended to be a simplified illustration and not a comprehensive portrayal of such elements.

[45] Id., at 16.

[46] Id., at 18.

[47] Id., at 20 – 22.

A. PSE's 2022 Energy Burden Analysis sets forth a seemingly simply calculation of "energy burden." It places a household's "energy bill" in the numerator and a household's "income" in the denominator, with the resulting percentage being the "energy burden." The process, however, is not quite as simple. Several improvement should be made by the company in the preparation of any future EBA.

Q. WHAT DO YOU RECOMMEND CONCERNING THE EBA'S EVALUATION OF INCOME?

A. PSE should incorporate energy burdens at different tiers of income throughout its EBA. The top tier, of course, must comply with the statutory definition of "low-income." That definition provides that "the definition may not exceed the higher of eighty percent of Area Median Income or two hundred percent of Poverty Level, adjusted for household size."[48] While the definition bars use of an income higher than the maximum, it does not dictate that a utility (or the UTC) use *only* a single income in its analysis.

My testimony above demonstrates the substantial differences in energy burdens associated with different tiers of income (see, Table 4[electric], Table 6 [gas]). Table 4, for example, shows that, at the rates proposed in this proceeding, households with income less than $10,000 would have burdens ranging from 25% to 30%, while households with income of $10,000 to $15,000 have burdens ranging from 10% to 12%. As incomes increase, burdens decrease. The same results occur for natural gas.

Q. DOES THE SAME NEED TO DEVELOP A TIERED ANALYSIS APPERTAIN TO PSE'S DEFINITION OF "ENERGY BURDENED HOUSEHOLD" AS WELL?

[48] RCW 19.405.020 (CETA 2019).

A. Yes. PSE defines an "energy burdened" household as one that has an energy burden exceeding 6% of income. PSE, in other words, views the question of whether a household is energy burdened as a yes/no toggle. Either someone ***has*** an energy burden exceeding 6% or they do ***not*** have an energy burden exceeding 6%. There is no gradation.[49] While the Company refers to "highly burdened" customers on occasion, in response to discovery it concedes that those references, in fact, are simply references to customers with energy burdens exceeding 6%.[50]

The resulting conclusions are thus incomplete, if not entirely misleading. Consider the "summary of results" presented by witness Jhaveri: "about 185k of PSE's residential customers in the EBA are estimated to be energy burdened and low-income."[51] The story from that number, however, differs sharply between whether those 185,000 customers in fact represent 60,000 with burdens exceeding 15% or 6,000 with burdens exceeding 15%. The story differs sharply between a result with 40,000 households at 20% energy burdens and 7,000 households with burdens at 7%, or a result with 4,000 households with 20% burdens and 70,000 at 7%. PSE's yes/no toggle approach does not differentiate between the level or degree of energy burdens.

[49] The EBA references "severely burdened" (>10%) only once and it does not otherwise use any tiering o energy burdens. Exh. BDJ-3, at 24.

[50] PSE Response to TEP Data Request No. 020 ("the reference to 'highly burdened customers' in the Prefiled Direct Testimony of Troy A. Hutson, Exh. TAH-1T, refers to 'energy burdened' customers"); see also, TEP Data Request No. 024 (". . .PSE used the words 'highly burdened' to mean the same as 'customers with high energy burden (above 6%)' which is also is the same as 'energy burdened customers.' Please see the definition of 'high energy burden (HEB) customers' on pages 35 and 46 in the Revised Second Exhibit to the Prefiled Direct Testimony of Birud D. Jhaveri, Exh. BDJ-3r (defined as households with energy burden above 6%).")

[51] Jhaveri, Exh. BDJ-1T, at 15. It is assumed that Mr Jhaveri's use of the term "185k" means 185,000.

Q. WHY IS IT IMPORTANT TO CONSIDER ENERGY BURDENS IN ASSOCIATION WITH DEMOGRAPHICS SUCH AS CUSTOMERS WITH DEEPEST NEED, VULNERABLE POPULATIONS, HIGHLY IMPACTED COMMUNITIES, AND LOW-INCOME CUSTOMERS?

A. The impacts of unaffordable home energy bills are considerably greater when they are considered in association with other factors identifying the vulnerability of low-income populations. These synergistic impacts would be recognized by my recommendation that PSE continue to report energy burdens associated with demographics, such as customers with Deepest Need, Vulnerable Populations, Highly Impacted Communities, and Known Low-Income customers. In this respect, my use of the term "demographic factors" below is intended to be the cover term which references these three different types of communities.

Synergistic factors are those which are a greater problem in combination with each other than they are standing alone. A high rate of utility arrearages combined with high energy burdens is a much greater problem than arrearages or burdens standing alone. High energy burdens combined with a high rate of heat-related deaths that impede access to air conditioning, is a much greater problem than either of those factors standing alone.

Moreover, the health-related impacts of extreme heat (including death) can be expected to related to home energy burdens and deepest needs. Because of concerns over the affordability of their bills, low-income customers are not only less likely to have air conditioning, they are also less likely to operate their air conditioning, and more likely to operate their air conditioning for less time, than are higher income customers. During extreme heat events (which will become increasingly likely as a result of climate change),

having limited or no access to air conditioning can cause serious illness, hospitalization, and even death.

Furthermore, poor indoor air quality, poor housing quality, and extreme heat can have devastating synergistic impacts on named communities that are far worse than any of these factors on its own. Low-income communities, in particular, have the least ability to protect themselves from the consequences of climate change. As climate change causes more extreme temperatures and wildfires, and people more frequently take shelter indoors from heat and smoke, indoor air quality increases in significance. But poor housing quality with inadequate HVAC systems and an inability to afford air conditioning can leave low-income people quite literally with "no place to hide."

For these reasons, PSE should track the impacts of energy burdens among customers identified as estimated low-income, known low-income, highly impacted communities, vulnerable populations, and deepest need.

Q. WHAT DO YOU RECOMMEND?

A. I recommend that the UTC direct PSE to include tiered energy burdens in any future EBA. The analysis should include the following tiers: (1) Affordable (<6%); (2) High energy burden (6-10%); (3) Very High energy burden (10-15%); and (4) Extreme energy burden (>15%). Whin each tier, the analysis should examine the number and percentage of customers in various demographic groups, including known low-income, estimated low-income, highly impacted communities, vulnerable populations, and deepest need.

Q. DO YOU RECOMMEND ANY CHANGES IN THE WAY PSE CONSIDERS BILLS IN ITS EBA?

A. Yes. I recommend two modifications to the way PSE considers "bills" in its EBA. First, in producing its EBA, PSE should specifically define the input data it uses and abide by those definitions. While the term "energy burden" is statutorily defined in CETA (". . .the share of annual household income used to pay annual home energy bills"), the subcomponents of that definition need further examination. Consider the question specifically of what comprises a low-income household's "home energy bill." Company witness Jhaveri testifies that the source of this data is the company's own billing data base.[52] He does not, however, further explain what "billing data" is used.

This failure could be significant. As my testimony above documents, the Company's own affordability metrics show that High Vulnerable Population Census Tracts have total arrears of near or above $60 million per month. Given that level of arrears, many, if not most, are likely to be very old arrears. Accordingly, even if late payment charges are *currently* be waived for these arrears, there is no assurance that those waivers will continue in the future. PSE should ensure that the "bills" included in its EBA include total energy bills, not merely bills for current service.

Q. WHAT IS THE SECOND RECOMMENDATION YOU MAKE WITH RESPECT TO PSE'S DISCUSSION OF "ENERGY BILLS" AND "ENERGY BURDENS" IN ITS EBA?

A. PSE should consider not only *total* home energy burdens, but should also consider single-fuel home energy burdens in its EBA. A household may be energy burdened not only because its total home energy bill exceeds 6% of income, but because its natural gas bill exceeds an affordable burden for natural gas, or because electric non-heating bills

[52] Exh. BDJ-1T, at 21-22.

exceeds an affordable burden for electricity. I recommend that PSE extend its analysis of energy burdens to consider single-fuel burdens.[53] The Company should work with interested stakeholders to define what portion of the 6% burden for total home energy should be allocated to electricity and what portion allocated to natural gas.[54]

Q. DOES PSE'S EBA EVALUATE THE EXTENT TO WHICH ENERGY ASSISTANCE COVERS "EXCESS" ENERGY BURDENS NEED IMPROVEMENT IN ANY WAY?

A. Yes. PSE appears to mistakenly assume that all "energy assistance" is available to help reduce excess energy burdens. However, not all energy assistance is available for, and devoted to, reducing energy burdens. According to the Washington state LIHEAP Plan (draft for 2025), for example, 10% of Washington's LIHEAP funding will be devoted to year-round crisis assistance.[55] Not all energy assistance, in other words, is available to

[53] PSE undertakes some analysis disaggregated by whether customers are electric-only customers, electric/gas combination customers, or natural gas customers. See, e.g., Exh. BDJ-3, at 14, 26 – 33. It does not, however, extend that analysis to a consideration of fuel-specific burdens.

[54] It is commonly accepted that a reasonable demarcation of "affordability" for *total* home energy is 6% of income. When a household is facing a single fuel (electricity, natural gas), however, that 6% is needs to be allocated between the two fuels. Two alternative allocations are reasonable: (1) to split the 6% half-and-half and allocate 3% to each; or (2) to allocate 4% to electricity and 2% to natural gas. Each of these decisions has a reasonable basis. Because the Department of Energy's Residential Energy Consumption Survey appears to document that electricity consumes a somewhat higher portion of a household's home energy expenditures, I recommend a 4%/2% split. I would not, however, "argue" should the UTC decide, for simplicity's sake, to allocate the total home energy burden 50-50, and adopt an affordable electricity burden of 3%. My objection extends only to those who might assert that the allocation occur at a precision incorporating tenths of one percent (e.g., 3.8% vs. 2.2%). That allocation implies a precision in the allocation that I do not believe exists.

[55] Washington 2025 Model State LIHEAP Plan, at 3.

reduce the current bills used to calculate energy burdens. The amount of energy assistance considered by PSE should be reduced to reflect those benefits that are not available to pay bills for current service.

Any future EBA prepared by PSE should present a discussion of the incidence and dollar level of mismatched benefits. The EBA should consider the extent to which such mismatching, in effect, reduces the resources available to reduce overall excess energy burdens.

In this regard, PSE should be directed to present its discussion of the coverage of excess energy burdens by the tiers of burdens I discuss above. Assuming, hypothetically, for example, that PSE finds that available energy assistance is sufficient to cover 30% of the excess energy burdens of low-income households, it makes a difference whether the excess burden exists because households have burdens of 20% (with the coverage reducing burdens to 14%) (20% - [30% x 20%] = 14%) or whether the excess burdens exist because households have burdens of 8% (8% - [30% x 8%] = 5.6%). The tiering of burdens discussed above should be extended to inform PSE's discussion of excess burdens and the degree to which energy assistance reduce those excesses.

Q. DO YOU HAVE ANY FINAL RECOMMENDATION REGARDING PSE'S EBA?

A. Yes. For all the same reasons I identified above which merit requiring PSE to publish its performance metrics report on its website, the Company should also ensure that its EBA is publicly available by annually publishing it on the PSE website and presenting its findings to its Low Income Advisory Committee and Equity Advisory Committee. The EBA should not be merely one exhibit among hundreds in a rate case. In addition to

updating its EBA on an annual basis, PSE should make its EBA publicly available to increase its usability and to increase the Company's data transparency.

V. The Impact of Increased Customer Charges on Low-Income Customers.

Q. PLEASE INTRODUCE THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I examine the impacts of the Company's proposed increase in its fixed monthly customer charge for both gas and electric service. PSE proposes to increase the electric customer charge from $7.49 to $9.74, an increase of 30%.[56]. The Company proposed to increase its natural gas customer charge from $12.50 to $14.86, an increase of 19%. For a combination customer pay both customer charges, the total annual increase in the customer charge alone is $55.32.

Q. DO YOU OBJECT TO PSE'S PROPOSED INCREASE IN ITS ELECTRIC AND NATURAL GAS CUSTOMER CHARGES?

A. Yes. The Company's proposed increase in its basic monthly customer charge will disproportionately adversely affect low-income customers. I recommend that the proposed increase in the customer charges be denied.

Q. PLEASE EXPLAIN YOUR REASONING.

A. In presenting this analysis, I first document the fact that low-income customers tend to have lower usage levels than residential customers generally. While it is *not* my testimony that *all* low-income customers are also low use customers, I do reach the conclusion that low-income customers tend to be, and are disproportionately, also low use customers. Income and electricity usage are directly related. As low use customers, low-income customers will be disproportionately harmed by the proposed increase in the

[56] Mickelson, Exh. CTM-1T, at 39.

fixed customer charge. In addition, I consider the ways in which the fixed customer charge impedes the ability of low-income customers to respond to higher bills through a reduction in their consumption.

Q. IS YOUR CONCLUSION AT ODDS WITH FINDINGS THAT LOW-INCOME HOUSEHOLDS HAVE A HIGHER CONSUMPTION ON A PER SQUARE FOOT BASIS?

A. No. It is often argued–as PSE witness Christopher Mickelson does--[57]that since low-income households tend to have less efficient energy use, as measured by consumption per square foot of housing, they must have higher overall consumption as well.[58] That, however, is not the case. While low-income households may well have less efficient usage per square foot of housing, these households live in sufficiently smaller housing units that their *total* consumption, even if less efficient, is lower overall. The Energy Information Administration of the U.S. Department of Energy (EIA/DOE) documents this impact. EIA/DOE reports income and electricity use have a direct relationship with each other; as income increases, so, too, does electricity use increase on a per household basis. The 2020 EIA/DOE is set forth below. As can be seen, as income increases, so, too, does electricity usage increase.

[57] Mickelson, Exh. CTM-1T, at 43–46.

[58] https://www.eia.gov/consumption/residential/data/2020/index.php?view=consumption#by%20fuel

Table 13. Average Site Energy Consumption by Income in the West			
Income	Electricity per Household[59]	Average Square Footage Per Housing Unit[60]	Avg Square Footage per HH Member
Less than $5,000	6,909	1,044	417
$5,000 - $9,999	6,103	978	397
$10,000 to $19,999	6,295	1,159	564
$20,000 to $39,999	7,525	1,352	573
$40,000 to $59,999	8,185	1,539	632
$60,000 - $99,999	8,937	1,679	646
$100,000 - $149,999	9,711	1,904	674
$150,000 or more	10,786	2,340	771

The 2020 RECS reports electricity usage by housing unit size, both directly by using square footage of the housing unit, and indirectly by using different indicators of housing unit size. The Table below shows that as the square footage of housing increases, so, too, does the electricity use increase.

Finally, the 2020 RECS then reports data providing insights into factors that are related to housing size. The two primary factors reported by EIA/DOE include the number of bedrooms and the number of rooms.[61] Not surprisingly, as either the number of rooms, or the number of bedrooms, increases in a housing unit, the square footage of the housing unit increases as well.

[59] EIA/DOE, 2020 Residential Energy Consumption Survey, Table CE2.5.

[60] Id., at Table HC10.13.

[61] The number of rooms excludes bathrooms.

Table 14. Average Site Energy Consumption by Size of Housing Unit in the West

Number of Rooms	Square Footage of Housing Unit	Number of Bedrooms	Square Footage of Housing Unit
1 or 2	595	0	536
3	771	1	738
4	990	3	1,177
5	1,329	3	1,766
6	1,600	4	2,378
7	1,912	5 or more	3,209
8	2,244		
9 or more	2.948		

Q. HOW IS THIS DATA APPLICABLE TO THE PSE SERVICE TERRITORY?

A. Census data from the PSE service territory unambiguously demonstrates that PSE households demonstrate the same characteristics that EIA/DOE found lead to the conclusion that electricity usage decline as income declines. Each of the characteristics EIA/DOE found to be associated with lower usage are associated with low-income households in the PSE service territory as well. I reached this conclusion after considering data from the Census Tracts that comprise PSE's service territory. I undertook a two-step process. First, I examined the extent to which households are homeowners or renters disaggregated by income level. Second, I examined the extent to which homeowners and renters exhibit the characteristics which EIA/DOE report are associated with lower electricity consumption.

Low-income households clearly tend to be renters in the PSE service territory. The Table below sets forth data from the most recent (2022) American Community

Survey by the Census Bureau.[62] The Table shows that renters (particularly as compared to homeowners) tend to overwhelmingly be lower income. The "cumulative percentage" columns show, for example, that while 5.7% of homeowners have income less than $25,000, 18.0% of renters do. While 26.5% of homeowners have income less than $75,000, 55.9% of renters do. While 38.2% of homeowners have income less than $100,000, 69.8% of renters do.

Table 15. Tenure by Income (PSE Census Tracts)

	Homeowners		Renters	
	Percent by Income	Cumulative Percent By Income	Percent by Income	Cumulative Percent By Income
Less than $5,000	1.3%	1.3%	3.4%	3.4%
$5,000 - $9,999	0.7%	2.0%	2.2%	5.5%
$10,000 - $14,999	0.9%	2.9%	4.9%	10.5%
$15,000 - $19,999	1.3%	4.2%	3.8%	14.3%
$20,000 - $24,999	1.5%	5.7%	3.7%	18.0%
$25,000 - $34,999	3.3%	9.0%	7.4%	25.4%
$35,000 - $49,999	5.7%	14.8%	1.2%	37.6%
$50,000 - $74,999	11.7%	26.5%	18.3%	55.9%
$75,000 - $99,999	11.8%	38.2%	13.9%	69.8%
$100,000 - $149,999	21.7%	60.0%	16.2%	86.0%
$150,000 or more	40.0%	100%	14.0%	100%
Total	100%	---	100%	---

[62] American Community Survey (2022) (5-year data), Table B25118.

Q. WHY IS THIS DATA SIGNIFICANT?

A. This data is significant in that the Census data then corroborates the fact that renters exhibit the characteristics associated with lower electricity usage. The Table below shows the data. I examined the percentage, disaggregated by tenure, of households by both the number of rooms and the number of bedrooms. With each characteristic, homeownership (which the discussion above documents is associated with income) is associated with residence in housing units with a greater number of rooms, and with housing units with a greater number of bedrooms.

The data shows that renters live in smaller homes when measured by the number of bedrooms in the housing unit. While 34.0% of renters in PSE's service territory live in units with two or fewer bedroom, only 2.9% of homeowners do. While 71.6% of renters live in units with three or fewer bedrooms, only 18.3% of homeowners do. In contrast, while 32.9% of homeowners live in housing units with four or more bedrooms, only 8.2% of renters do.

Similarly, the Table below shows that renters in PSE's service territory live in smaller units when measured in the total number of rooms. On the one hand, while 37.4% of renters have homes with three or fewer rooms, only 3.9% of homeowners do. While 78% of renters have homes with five or fewer rooms, only 28.6% of homeowners do. In contrast, while 35% of homeowners in the PSE service territory have homes with eight or more rooms, only 6.9% of renters do. While 21% of homeowners have homes with nine or more rooms, only 3.6% of renters do.

Table 16. Tenure by Selected Characteristics of Housing Units
(Units in Structure, Number of Rooms, Number of Bedrooms)

Number of Rooms[63]

	Homeowner		Renter	
	Pct	Cum Pct	Pct	Cum Pct
1	0.4%	0.4%	7.4%	7.4%
2	0.7%	1.1%	9.8%	17.2%
3	2.8%	3.9%	20.2%	37.4%
4	9.3%	13.2%	25.2%	62.6%
5	15.4%	28.6%	15.4%	78.0%
6	20.1%	48.7%	9.9%	87.9%
7	16.4%	65.1%	5.0%	92.9%
8	14.0%	79.1%	3.3%	96.2%
9+	21.0%	100%	3.6%	100%
Total	100%	---	100%	---

Number of Bedrooms[64]

	Homeowner		Renter	
	Pct	Cum Pct	Pct	Cum Pct
0	0.5%	0.5%	8.2%	8.2%
1	2.4%	2.9%	25.8%	34.0%
2	15.4%	18.3%	37.6%	71.6%
3	46.8%	65.1%	20.3%	91.9%
4	27.5%	92.6%	6.3%	98.2%
5+	7.4%	100%	1.9%	100%
Total	100%	---	100%	---

Based on this data, specific to the service territory of PSE, it is not only reasonable, but it is necessary, to conclude that lower-income households will tend to have lower consumption.

Q. DOES OTHER FEDERAL DATA SUPPORT THIS CONCLUSION?

A. Yes. The same conclusions can be reached based on the annual Consumer Expenditures Surve (CEX) published by the U.S. Department of Labor.[65] While this CEX presents data on expenditures and not consumption, the data leads to the same conclusions which

[63] American Community Survey (2022) (5-year data), Table B25020.

[64] American Community Survey (2022) (5-year data), Table B25042.

[65] https://www.bls.gov/cex/tables/calendar-year/mean-item-share-average-standard-error.htm

the EIA/DOE information supports. The data in the Table below presents CEX data on electricity expenditures using two measures of income: (1) absolute dollars of income; and (2) deciles of income as can be seen, whether measured in absolute terms (dollars of income), or measured in relative terms (deciles of income), as income increases, per household electricity expenditures increase as well.

Table 17. Electricity Expenditures by Income (2022)
(Consumer Expenditures Survey)

Less than $15,000	$15,000 to $29,999	$30,000 to $39,999	$40,000 to $49,999	$50,000 to $69,999	$70,000 to $99,999	$100,000 to $149,999	$150,000 to $199,999	$200,000 and more
$1,147	$1,301	$1,548	$1,550	$1,636	$1,740	$1,885	$2,062	$2,337

Lowest 10 percent	Second 10 percent	Third 10 percent	Fourth 10 percent	Fifth 10 percent	Sixth 10 percent	Seventh 10 percent	Eighth 10 percent	Ninth 10 percent	Highest 10 percent
$1,141	$1,269	$1,473	$1,581	$1,632	$1,696	$1,770	$1,901	$2,023	$2,349

Q. HOW DO YOU RECONCILE THIS WITH PSE'S FINDING THAT LOW-INCOME HOUSEHOLDS USE MORE ELECTRICITY THAN RESIDENTIAL CUSTOMERS GENERALLY?

A. The Company asserts that low-income customers use more electricity than do residential customers generally. Company witness Mickelson argues that national research finds that low-income housing is less energy efficient than is residential housing generally.[66] Moreover, using data for known low-income customers, Mickelson argues that the

[66] Testimony of Christoper Mickelson, Exh. CTM-1T, at 43 – 45.

consumption of known low-income customers, disaggregated by the age of housing, is higher than for residential customers generally.[67]

While it is generally accepted that low-income housing is less energy efficient on a per square foot basis than is residential housing generally, it does not follow that low-income customers use more energy. While energy use is less efficient per square foot, low—income housing is sufficiently smaller than the housing of more wealthy households that total energy consumption, on a per household basis, is lower.

Moreover, Company witness Mickelson states that his analysis is based on a comparison to known low-income customers.[68] The question, therefore, is whether these low-income customers relied upon in the Company's analysis are representative of low-income customers generally. To the extent that the Company identifies known low-income customers through their receipt of federal fuel assistance benefits provided by the Low-Income Home Energy Assistance Program (LIHEAP), or through other similar energy assistance programs, those customers are not representative of low-income households in general. In particular, the federal LIHEAP office undertook a study of home energy usage and expenditures published in the "Low-Income Home Energy Notebook" for 2019.[69] That study for the federal LIHEAP office found that LIHEAP recipients had noticeably higher usage –both total usage and home heating usage—than did low-income households generally. The data is set forth in the Table below. The data

[67] Id., at 44 – 45.

[68] Id.,at 45.

[69] https://www.acf.hhs.gov/sites/default/files/documents/ocs/RPT_LIHEAP_HEN01HEData_FY2019.pdf

supports the same conclusions I reach above based on information specific to the PSE service territory. Low-income households have lower usage than do non-low-income households. Moreover, LIHEAP recipients have higher consumption than do low-income households generally.

Table 18. Usage per Households (electricity) (mmBtu)
(West Census Region)

	Residential Energy	Home Heating
All households	47.4	14.0
Non-low-income households	49.8	14.2
Low-income households	43.7	13.7
LIHEAP recipients	52.2	20.2

To the extent that PSE has not adjusted its inquiry to consider the higher consumption of LIHEAP recipients, its conclusions regarding the usage of low-income households generally are likely overstated. It is reasonable to conclude that just as customers who seek out LIHEAP are more likely to be high users, customers who seek out PSE's energy assistance programs are likely to use more energy than the average low-income customer as well. This is particularly true because all LIHEAP recipients are also enrolled in the bill discount rate.

Q. DO YOU HAVE FURTHER CONCERNS ABOUT AN INCREASE IN THE FIXED MONTHLY CUSTOMER CHARGE?

A. Yes. This increase in the part of the total bill that is comprised of fixed charges impedes the ability of low-income customers to control their bills through a reduction in usage.

Q. WHAT DO YOU MEAN WHEN YOU DISCUSS LOW-INCOME EFFORTS TO "REDUCE CONSUMPTION?

A. "Reducing consumption" is not merely associated with energy efficiency improvements. Low-income households, particularly vulnerable low-income households (e.g., elderly, disabled, families with children), will take actions to try to reduce their bills to more affordable levels, frequently involving substantial household deprivation or the undertaking of substantial risks. Available research documents that low-income households also seek to reduce bills by reducing consumption, through actions such as closing parts of their home; reducing heating temperatures (even if to unsafe or unhealthy levels); or substituting the use of ovens or stoves to heat limited areas of their homes rather than using their heating systems to heat the entire home. The National Energy Assistance Directors Association (NEADA) performs a periodic Congressionally-funded survey of the impacts of unaffordable home energy bills. The most recent survey, known as the National Energy Assistance (NEA) Survey, was performed in 2018 (published in December 2018).[70] Data on three actions which low-income households take to reduce their energy consumption when they do not have sufficient money to pay their utility bills is presented in the Table below.

Two observations are readily apparent from this data. First, taking dramatic actions to reduce home energy consumption is not at all uncommon within the low-income population when those customers do not have sufficient money to pay their home energy bills. From one-in-five (21%: 100 – 150% of Poverty) to one-in-three (34%: 0 – 50% of Poverty) customers close off parts of their home in almost every month, or in "some months," when they cannot afford to heat their homes. One-in-four customers

[70] Apprise, Inc., 2018 National Energy Assistance Survey, Final Report, available at RESOURCE LIBRARY – Selected Reports – Energy Survey Research and Policy Analysis – APPRISE – Applied Public Policy Research Institute for Study and Evaluation

(26%: 0 – 50% of Poverty) reduce the temperature in their homes to unsafe or unhealthy levels in almost every month or in some months. One-in-ten (or more) low-income customers use their kitchen stove or oven to heat their homes when they have insufficient money to pay their utility bills. Second, the extent to which these actions occur increases as incomes decrease in nearly every instance. Households with incomes less than 50% of the FPL more frequently take these actions in almost every month or some months than do households with income at 100% to 150% of FPL.

Table 19. Energy Reduction Actions in Response to Inability-to-Pay
by Range of Federal Poverty Level
(each attributed to "not having enough money to pay energy bill")[71]

	Closed Off Part of Home			Kept Temp at Unsafe or Unhealthy Level			Used Kitchen Stove or Oven to Heat		
	0-50%	51-100%	100-150%	0-50%	51-100%	100-150%	0-50%	51-100%	100-150%
Almost every month	10%	14%	7%	8%	3%	3%	1%	1%	1%
Some months	24%	13%	14%	18%	12%	10%	14%	11%	8%
1 – 2 months	12%	10%	11%	7%	8%	9%	22%	19%	14%
Never / No	54%	63%	67%	67%	76%	76%	63%	69%	77%
Don't know/refused	0%	0%	<1%	0%	1%	2%	0%	0%	1%

As this Table exemplifies, in their efforts to reduce bills to more affordable levels, low-income customers frequently take unsafe and unhealthy actions. It is unreasonable for PSE to make it even more difficult for low-income households to reduce their bills when those households are already forced to resort to heating their homes (or only a

[71] Apprise, Inc., 2018 National Energy Assistance Survey, Final Report, available at RESOURCE LIBRARY – Selected Reports – Energy Survey Research and Policy Analysis – APPRISE – Applied Public Policy Research Institute for Study and Evaluation

portion of their homes) using their kitchen stove or oven. It is unreasonable to make it even more difficult for low-income households to reduce their bills when they are already being forced to keep their homes at unsafe or unhealthy temperatures because they cannot afford to pay their bills.

These households who are forced into engaging in these unsafe and unhealthy activities in their struggle to keep their home energy bills affordable are impeded in their efforts by the Company's proposal to increase its fixed monthly customer charge. The PSE proposal makes a higher part of the customer's monthly bill unavoidable through reduced consumption. Those low-income customers taking such actions, in other words, will face a smaller bill reduction as a result of their action should the PSE proposed increase in the fixed monthly customer charge be approved, potentially incentivizing more dangerous usage-reduction measures.

Q. WHAT DO YOU CONCLUDE?

A. Based on the information and discussion I present above, I find that the Company's proposed increase in its residential fixed monthly customer charge will disproportionately harm low-income customers. I recommend that the proposed increases in the gas and electric customer charges be denied.

If the Commission is inclined to allow an increase in the electric customer charge, I alternatively recommend that the Commission embrace the regulatory principle of gradualism and only allow an increase of only $0.15-0.25 for the electric customer charge during the rate plan. TEP uniformly opposes an increase in the gas customer charge, which is significantly higher than PSE's electric customer charge.

VI. Conclusion

Q. DO YOU HAVE ANY GENERAL OVERVIEW COMMENTS ABOUT THE CASE PRESENTED BY PSE IN THIS PROCEEDING?

A. Yes. PSE's presentation of its evidentiary case supporting its requested rate increases in this proceeding was unduly complicated, impeding the ability of stakeholders such as TEP to review and respond. The Company's presentation represents a departure from any reasonable expectation that a rate proceeding will incorporate elements of procedural justice for resource-constrained participants. PSE filed testimony by 38 different witnesses in this proceeding. Further, the Company divided its discussion and recommendations regarding performance metrics, itself, between ten (10) different witnesses. In the 45+ years I have participated in utility regulatory proceedings, both as an attorney representing public and private intervenors and as a technical consultant for public and private intervenors, I have not once seen a utility that sought to support its requested rate relief by overburdening reviewing parties in the manner which PSE has done in this proceeding.

The impediments presented by such an evidentiary presentation impose unreasonable burdens on the financial, technical and human resources that a party representing a vulnerable population is capable of devoting to participation. If the Company cannot find ways to streamline its evidentiary presentation, the UTC should respond by providing additional time and financial resources to allow interested parties to meaningfully participate.

Q. DOES THIS COMPLETE YOUR TESTIMONY?

A. Yes, it does.