

**BEFORE THE WASHINGTON
UTILITIES & TRANSPORTATION COMMISSION**

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

Complainant

v.

PUGET SOUND ENERGY

Respondent

DOCKETS UE-220066, UG-220067 and UG-210918 (*Consolidated*)

**RESPONSE TESTIMONY OF SHAY BAUMAN
ON BEHALF OF THE
WASHINGTON STATE OFFICE OF THE ATTORNEY GENERAL
PUBLIC COUNSEL UNIT**

EXHIBIT SB-1T

July 28, 2022

RESPONSE TESTIMONY OF SHAY BAUMAN

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- Exhibit SB-2 Puget Sound Energy Response to Public Counsel Data Request No. 314
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- Exhibit SB-4 Puget Sound Energy Response to Public Counsel Data Request No. 318
- Exhibit SB-5 Puget Sound Energy Response to Public Counsel Data Request No. 322
- Exhibit SB-6 Puget Sound Energy Response to Public Counsel Data Request No. 323
- Exhibit SB-7 Puget Sound Energy Response to Public Counsel Data Request No. 330 with Attachment A
- Exhibit SB-8 Puget Sound Energy Response to Public Counsel Data Request Nos. 328 & 400 with Attachment A

I. INTRODUCTION AND PREVIEW

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

2 A. My name is Shay Bauman, and my business address is 800 5th Avenue Suite 2000,
3 Seattle, WA 98104.

4 **Q. By whom are you employed and in what capacity?**

5 A. I am a Regulatory Analyst for the Public Counsel Unit of the Washington State Office of
6 the Attorney General (Public Counsel). Public Counsel is a statutory party to proceedings
7 before the Washington Utilities and Transportation Commission (Commission) under
8 RCW 80.01.100, RCW 80.04.510, and RCW 81.04.500.

9 **Q. On whose behalf are you testifying?**

10 A. I am testifying on behalf of the Public Counsel Unit of the Washington State Attorney
11 General's Office.

12 **Q. Please describe your professional qualifications.**

13 A. I earned a B.S. in Economics from Southern Utah University in 2018. During this time, I
14 served as a legislative research assistant to the Chair of the Public Utilities, Energy, and
15 Technology Standing Committee in the Utah State Legislature. In 2020, I earned a
16 Master of Public Administration degree from the Daniel J. Evans School of Public Policy
17 and Governance at the University of Washington. My degree specialized in public
18 financial management. While completing my graduate studies, I served as an Internal
19 Auditor at the Department of Workforce Services at the State of Utah, where I audited
20 community action agencies and the administration of federal programs, such as
21 Weatherization Assistance and Low Income Home Energy Assistance. My final year of

1 graduate school, I worked as a student consultant developing a financial strategy for the
2 Washington Utilities and Transportation Commission.

3 Additionally, I completed the Michigan State University Institute of Public
4 Utilities Utility Rate School in September 2020 and the National Association of
5 Regulatory Utility Commissioners (NARUC) Rate School in May 2022.

6 My employment with Public Counsel began in August of 2020. Since joining the
7 Attorney General's Office, I have worked on a variety of energy, water, and
8 transportation matters, including Avista's 2020 GRC (Dockets UE-200900 and
9 UG-200901), Cascade Natural Gas 2021 GRC (Docket UG-210755), Avista's Clean
10 Energy Implementation Plan (Docket UE-210628), PSE's transfer of property (Docket
11 U-210542), PSE's Distributed Energy Resource Request for Proposals (Docket
12 UE-210878), Camano Hills Water (Docket UW-220157), and Natural Gas Line
13 Extension Calculations (Docket UG-210729), among others.

14 I have additionally worked on a number of policy dockets, including CETA low-
15 income (Docket UE-200629), Decarbonization (Docket U-210553), and Distributed
16 Energy Resource Cost Effectiveness (Docket UE-210804).

17 I represent Public Counsel in Avista's energy assistance, energy efficiency,
18 equity, and integrated resource planning advisory groups, as well as PSE's low-income
19 advisory group. Recently, I began participation on the Commission's Decarbonization
20 Technical Advisory Group as Public Counsel's representative. My participation includes
21 attending quarterly meetings in-person or by teleconference, in addition to regularly
22 interacting with stakeholders and providing feedback.

23 **Q. Have you previously testified before the Commission?**

1 A. Yes. I testified on behalf of Public Counsel in Avista Utilities' (Avista) last general rate
2 case (GRC), Consolidated Dockets UE-200900 and UG-200901, regarding its request for
3 recovery of and on its investment in advanced metering infrastructure (AMI or smart
4 meters).

5 **Q. What is the purpose of your testimony in this proceeding?**

6 A. I am testifying to address Puget Sound Energy's (PSE or Company) request for recovery
7 of the return on its AMI investment.

8 **Q. Please summarize your testimony.**

9 A. I recommend the Commission continue to reject the Company's request for *return on*
10 new meters until the project is actually complete and it can present full benefits for
11 evaluation. Public Counsel Witness, Andrea Crane explains that the disallowance reduces
12 electric revenue requirement by approximately \$22.5 million in year one, \$29.7 million in
13 year two, and \$28.5 million in year three¹ and reduces gas revenue requirement by
14 approximately \$10.2 million in year one, \$14.7 million in year two, and \$13.9 million in
15 year three.² I base this recommendation on the following arguments:

- 16 • PSE has not yet completed its deployment of AMI;
- 17 • PSE presents an incomplete picture of its AMI system as a whole by not
18 presenting updated calculations of previously claimed benefits;
- 19 • As a result of incomplete deployment, many of the benefits presented rely on
20 assumptions and PSE does not properly justify its assumptions; and

¹ Andrea Crane, Exh. ACC-4.

² Crane, Exh. ACC-5.

- 1 • PSE does not present for consideration meaningful metrics to track the benefits of
2 AMI post-implementation.

3 **Q. How do you organize your testimony?**

4 A. I begin my testimony by providing a brief history of AMI before the Commission in
5 Washington. Next, I discuss why the Commission should not make a final prudency
6 determination on PSE's AMI project before the project is complete, consistent with the
7 Commission's ruling in PSE's last GRC.³ I then discuss ways in which PSE failed to
8 present benefits adequately. Finally, I highlight PSE's lack of meaningful performance
9 metrics related to AMI, and present Public Counsel's recommendations.

II. PREVIOUS AMI CONSIDERATIONS BEFORE THE COMMISSION

10 **Q. Is this the first time PSE has requested cost recovery for its AMI system?**

11 A. No. PSE initially presented its AMI business case in its last general rate case,
12 Consolidated Dockets UE-190529 and UG-190530.⁴ In this case, PSE witness Catherine
13 A. Koch provides the original business case in Exhibit CAK-7, Appendix A.⁵ The AMI
14 business case explains why PSE chose to deploy AMI, estimates both the costs and the
15 benefits of the AMI deployment, and describes the AMI implementation plan and
16 progress.

17 **Q. What was the Commission's decision on AMI in PSE's last GRC?**

18 A. The Commission's Final Order determined that PSE's operational decision to install AMI

³ *Wash. Utils. & Transp. Comm'n v. Puget Sound Energy*, Dockets UE-190529 et al., Order 08: Final Order, ¶¶ 153–156 (July 8, 2020).

⁴ Catherine A. Koch, Exh. CAK-4, *Wash. Utils. & Transp. Comm'n v. Puget Sound Energy*, Dockets UE-190529 et al. (filed June 20, 2019).

⁵ Koch, Exh. CAK-7, App. A.

1 was prudent.⁶ However, the Commission expressed concern that PSE had not yet
2 satisfactorily demonstrated the benefits of AMI, and therefore had not made a showing
3 that would justify authorizing the Company to recover a return *on* any portion of its AMI
4 investment.⁷

5 **Q. Did the Final Order provide any criteria that the Commission would use to evaluate**
6 **future AMI proposals?**

7 A. Yes. Specifically, the Order stated:

8 Going forward, the Commission will evaluate the portion of AMI
9 investment for which PSE seeks recovery in rates, but will require the
10 continued deferral of the recovery of the return on each portion of the
11 investment until the AMI project is complete. Our decision recognizes that
12 PSE will not be able to demonstrate a significant portion of AMI benefits
13 until the system is fully deployed. In light of these circumstances, we will
14 reserve a final determination of prudence on the project as a whole until the
15 AMI installation is complete and all customer benefits can be presented for
16 evaluation. The final prudence determination thus rests on PSE's ability to
17 live up to its promises of multiple customer benefits.⁸

18 The Commission also referenced six customer benefit use cases an article in Utility Dive
19 had discussed. The article analyzes a report by the American Council for an Energy
20 Efficient Economy (ACEEE) titled *Leveraging Advanced Metering Infrastructure to Save*
21 *Energy*⁹ ("ACEEE Report"). The Commission expressed its expectation that PSE analyze

⁶ *Wash. Utils. & Transp. Comm'n v. Puget Sound Energy*, Dockets UE-190529 et al., Order 08: Final Order, ¶ 153 (July 8, 2020).

⁷ *Wash. Utils. & Transp. Comm'n v. Puget Sound Energy*, Dockets UE-190529 et al., Order 08: Final Order, ¶¶ 153–155 (July 8, 2020).

⁸ *Id.* ¶ 156.

⁹ Rachel Gold, Corri Waters, & Dan York, Am. Council for an Energy-Efficient Econ. *Leveraging Advanced Metering Infrastructure to Save Energy*, at 14 (2020), available at <https://www.aceee.org/sites/default/files/publications/researchreports/u2001.pdf> (last reviewed June 27, 2022) (Report U2001).

1 benefits according to the six use cases in the future.¹⁰

2 **Q. Have any other Washington investor owned utilities sought cost recovery of and on**
3 **AMI investment since PSE's last GRC?**

4 A. Yes. Avista presented its AMI business case in its last GRC, Consolidated Dockets UE-
5 200900 and UG-200901.

6 **Q. Did the Commission grant Avista's request for cost recovery, both of and on its**
7 **investment?**

8 A. Yes.

9 **Q. How does that case differ from this one?**

10 A. As the Commission correctly noted in the Final Order of Avista's GRC, each case should
11 be considered on its own merit.¹¹ Notably, however, unlike Avista, PSE has not
12 completed its deployment of smart meters, one of the sole requirements the Commission
13 lists as necessary for consideration.¹² As I will discuss later in testimony, this results in
14 PSE presenting some benefits it bases on unjustifiable assumptions. I asked PSE to
15 explain those assumptions in data requests, but often did not get a clear answer. This,
16 combined with other concerns I discuss below, suggests PSE's system simply is not ready
17 for proper evaluation at this time.

¹⁰ *Wash. Utils. & Transp. Comm'n v. Puget Sound Energy*, Dockets UE-190529 et al., Order 08: Final Order, ¶ 157 (July 8, 2020).

¹¹ *Wash. Utils. & Transp. Comm'n v. Avista Corp.*, Dockets UE-200900 & UG-200901 (*Consol.*). Order 08: Final Order, ¶ 220 (Sept. 27, 2021).

¹² *See Wash. Utils. & Transp. Comm'n v. Puget Sound Energy*, Dockets UE-190529 et al., Order 08: Final Order, ¶ 156 (July 8, 2020).

III. PSE'S AMI DEPLOYMENT IS NEITHER COMPLETE, NOR SUBSTANTIALLY COMPLETE

1 **Q. Is PSE's AMI deployment substantially complete?**

2 A. No. At the time of filing testimony, PSE had installed 59 percent of electric meters and
3 47 percent of gas modules.¹³ PSE expects to complete deployment in 2023. PSE witness
4 Koch argues in testimony that the Commission should include the return on investment in
5 the multiyear rate plan (MYRP), as PSE's investment will be complete during the rate
6 plan.

7 **Q. Do you agree that the Commission should grant PSE its return on investment**
8 **despite the project not being complete, when it will be complete during the MYRP?**

9 A. No. First, multiple factors could affect timely installation. By PSE's own account, it has
10 experienced many deployment challenges, including complications caused by the
11 COVID-19 pandemic, installation resource shortages, and supply chain delays.¹⁴ These
12 challenges were not predictable. Second, the Commission noted specifically that it would
13 reserve a final prudence determination for the project as a whole until the AMI
14 installation is complete, when PSE can present all customer benefits for evaluation.¹⁵ The
15 project is not complete, and PSE did not present benefits properly for evaluation. The
16 Commission should delay a final prudence determination until a future rate case when
17 PSE has completed deployment and all customer benefits can be presented for evaluation.
18 Effectively, nothing since its last GRC has changed with regard to PSE's AMI business
19 case, as I will discuss.

¹³ Koch, Exh. CAK-7 at 14.

¹⁴ *Id.* at 15.

¹⁵ *Wash. Utils. & Transp. Comm'n v. Puget Sound Energy*, Dockets UE-190529 et al., Order 08: Final Order, ¶ 156 (July 8, 2020).

1 **Q. Please address any other reasons PSE provided for the Commission to authorize a**
2 **return on AMI investment, despite the project being incomplete.**

3 A. PSE claims that the Commission should allow a return on its AMI investment because
4 AMI meters are used and useful for those customers that have AMI meters or modules
5 installed. The Company claims further that the AMI system is already providing benefits
6 to all PSE customers, not just those that have meters installed.¹⁶ While these claims may
7 be true, neither is relevant, since the Commission already has deemed prudent the
8 operational decision to install AMI, and already has granted the Company recovery of its
9 return *of* its investment.

10 The benefits being provided currently do not account for all the benefits PSE
11 claims it *will* provide using AMI. The issue is whether PSE can make a proper showing
12 that it will maximize those benefits, one sufficient to justify a return *on* the investment.
13 The Commission recognized that this is difficult to do properly before installation is
14 complete.¹⁷

15 PSE also urges stakeholders to put PSE's AMI program in perspective, arguing
16 that the Commission deemed Avista's AMI investment substantially complete, that both
17 companies started their enrollment at the same time, and that PSE has installed more than
18 twice the number of meters and modules as did Avista.¹⁸ The comparison PSE draws is
19 inapposite. Avista's systems serve approximately 263,000 electric customers and 174,000
20 natural gas customers, while PSE's systems serve approximately 1.2 million electric

¹⁶ Koch, Exh. CAK-7 at 16.

¹⁷ *Wash. Utils. & Transp. Comm'n v. Puget Sound Energy*, Dockets UE-190529 et al., Order 08: Final Order, ¶ 156 (July 8, 2020).

¹⁸ *Id.* at 17.

1 customers and 860,000 natural gas customers. Because PSE has a much larger system
2 than Avista, it obviously will take more time and effort to install its complete AMI
3 system.

4 Indeed, unlike Avista's AMI deployment presented in its last GRC, PSE's
5 deployment simply is not substantially complete at the time of filing. At the time of the
6 Avista GRC, that company had installed all but 0.1 percent of its electric meters and 21
7 percent of its gas meters.¹⁹

8 PSE presents benefits of AMI based on complete deployment. Accordingly, the
9 minimum standard should be complete or substantially complete deployment. Because of
10 its substantially incomplete deployment, PSE must base its benefit estimates largely on
11 assumptions, and often uses unclear justification for those assumptions, as I discuss in the
12 next section.

IV. PSE FAILED TO PROPERLY SHOW BENEFITS OF THE SYSTEM AS A WHOLE

13 **Q. Please briefly explain the Tier system PSE uses to present its AMI benefits.**

14 A. PSE retained the Brattle Group (Brattle) to prepare and present an AMI report,²⁰ which
15 estimates three tiers of benefit use cases. Tier 1 captures the six customer-facing use
16 cases the Commission highlighted.²¹ Tier 2 use cases represent four other benefits PSE
17 prioritized and on which it claims to have made progress.²² For most Tier 1 and Tier 2
18 use cases, PSE presented a low, base, and high case to account for variation. Finally, Tier

¹⁹ *Wash. Utils. & Transp. Comm'n v. Avista Corp.*, Dockets UE-200900 & UG-200901 (*Consol.*). Order 08: Final Order, ¶ 222 (Sept. 27, 2021).

²⁰ Sanem I. Sergici, Exh. SIS-3 (AMI Report).

²¹ *Id.* at 11.

²² *Id.*

1 3 contains an additional 22 use cases PSE identifies but does not quantify, either because
 2 of a lack of well-established data at this time, or because the Company is in the very early
 3 stages of exploring the use case.²³

4 **Q. Please explain the Tier 1 and Tier 2 benefits the AMI report quantifies.**

5 A. PSE quantifies benefits in Tiers 1 and 2. As mentioned, Tier 1 addresses those in the
 6 ACEEE report. While the ACEEE report highlights six use cases, Brattle consolidated
 7 some of these use cases into one category. I highlight the consolidation and quantified
 8 benefits of Tier 1 use cases in Table 1 below.

Table 1: Puget Sound Energy’s Quantified Tier 1 Benefits

Benefit	Reclassification (if applicable)	Claimed Benefit Amount (\$millions)
Time of Use (TOU) Rates	Time Varying Rates (TVR)	Low: \$18 Base: \$111 High: \$154
Behavior Based Programs		Low: \$5 Base: \$25 High: \$71
Real-time informational feedback for customers	Behavior based programs	Included in behavior based programs
Data Disaggregation	Behavior based programs	Included in behavior based programs
Grid Interactive Efficient Buildings (GEB)	Load flexibility programs	Low: \$72 Base: \$105 High: \$174
Conservation Voltage Reduction (CVR)	CVR or volt/VAR Optimization (VOO)	\$436*
Total Claimed Tier 1 Benefits		Low: \$121 Base: \$267 High: \$424

10 * PSE quantified CVR in its original business case, and does not separately have a low, base, and high
 11 estimate. PSE’s original business case is located in Koch, Exh. CAK-7 Appendix A.

²³ *Id.*

1 Tier 2 benefits represent four other use cases that PSE has prioritized and on which it
 2 purports to have made progress. Table 2 below highlights the quantification of Tier 2
 3 benefits.

Table 2: Puget Sound Energy’s Quantified Tier 2 Benefits

Benefit	Claimed Benefit Amount (\$millions)
Solar PV Metering	Low: \$18 Base: \$18 High: \$18
Smart Street Lighting	Low: \$12 Base: \$27 High: \$39
Remote Connect and Disconnect	Low: \$191 Base: \$192 High: \$193
Outage Management Programs	Low: \$72 Base: \$121 High: \$243
Total Claimed Tier 2 Benefits	Low: \$294 Base: \$358 High: \$494

5 The total claimed benefits for Tier 1 and Tier 2 in the base case is \$625 million. PSE adds
 6 these benefits to those it presented in its original business case to claim a total of \$1,293
 7 million.

8 **Q. Is it concerning that benefits PSE presents in this Docket are incremental to those in**
 9 **its original business case?**

10 A. Yes, it is. It seems the calculations for both benefits and costs PSE provides leave
 11 stakeholders with an incomplete picture. PSE provided costs and benefits in this Docket
 12 as incremental to those exact calculations in its original business case. PSE did not re-
 13 examine those calculations to provide a complete picture of its system. This is
 14 concerning, because the Commission itself stated in its Final Order that PSE could not

1 demonstrate the benefits for billing functions and voltage management adequately at the
2 time,²⁴ effectively concluding that those numbers from the original business case are not
3 reliable.

4 Public Counsel asked PSE through discovery whether the Company had gathered
5 any further data regarding the costs and benefits in the original business case, and if so,
6 why PSE did not modify those calculations. PSE responded that the purpose of the AMI
7 report was to support PSE’s demonstration of customer-facing benefits beyond those
8 provided (indemonstrably, as noted above) in the original business case, and that because
9 the *costs* were in a “reasonable range,” no material modification was necessary. I provide
10 a copy of PSE’s Response to Public Counsel Data Request No. 314 as Exhibit SB-2.
11 Notably, the Company’s response makes no mention of benefits, which PSE is required
12 to prove adequately in this case.

13 Public Counsel additionally asked PSE to explain whether its retained expert
14 Brattle had examined the costs and benefits of the original business case, to provide the
15 extent of Brattle’s analysis, and whether Brattle supported those calculations. PSE
16 responded that Brattle “reviewed the general benefit-cost framework,” and claimed that
17 because the Commission had found its operational decision to install AMI was prudent, it
18 did not need to conduct a full review and analysis. I provide a copy of PSE’s Response to
19 Public Counsel Data Request No. 313 as Exhibit SB-3.

20 Public Counsel finds this response inadequate. PSE knew the calculations it
21 provided in the original business case were insufficient from the Commission order, but

²⁴ *Wash. Utils. & Transp. Comm’n v. Puget Sound Energy*, Dockets UE-190529 et al., Order 08: Final Order, ¶ 155 (July 8, 2020).

1 did not recalculate them to present benefits more accurately. The Commission stated in
2 its Final Order that it “expect[s] PSE to take great strides to ensure that both the
3 Company and its customers receive maximum value from its AMI system, and we expect
4 PSE will be able to demonstrate that value to the Commission.”²⁵ PSE has not done so.
5 PSE’s incomplete deployment, coupled with the fact that it did not reexamine benefits
6 from its previous business case, leaves PSE unable to prove it is adequately maximizing
7 benefits. This in turn leaves stakeholders and the Commission with an incomplete picture
8 of the whole system. This conclusion can be reached without critiquing additional
9 calculations in this Docket, and the assumptions made therein. PSE’s deployment
10 remains incomplete, and the numbers presented in the previous business case remain
11 exactly the same. PSE did not provide stakeholders and the Commission enough evidence
12 to differentiate its AMI case in this Docket to the previous one.

13 **Q. Do you have any concerns with the use case benefits calculated in this Docket?**

14 A. I do. Likely because its system is not yet complete, PSE seems to have calculated many
15 of the benefits and costs based on assumptions, rather than on data gathered from
16 program provision. While making assumptions may be necessary to estimate the
17 performance of a system that is not yet complete, it is important that any assumptions
18 have clear reasoning behind them. The Company must present data, research, or some
19 other source to justify any assumptions it makes. However, PSE presents many
20 calculations where that simply is not the case.

21 **Q. Please provide examples of unclear assumptions PSE uses in its calculations.**

²⁵ *Id.* ¶ 157.

1 A. One of PSE’s AMI enabled behavior based programs is a “high usage alert” to help
2 customers save energy and money when they are likely to use more energy than usual. To
3 calculate the benefit of these alerts, PSE had to identify not only the engagement with the
4 alert, but also how many customers would actually change behavior based on the alert.
5 PSE estimated that 52 percent of customers would open the alert. Of the customers
6 opening the alert, PSE estimated that one-third would take action in the low case, one-
7 half in the base case, and two-thirds in the high case.

8 PSE estimates its base, low, and high case for this use case on how many
9 customers *will change their behavior*. Public Counsel asked how PSE estimated each of
10 its low, base, and high cases. PSE responded only that Dr. Sergici relied on “expert
11 judgment” to develop the estimates. Expert judgment must have a basis. PSE provided no
12 basis. I provide a copy of PSE’s Response to Public Counsel Data Request No. 318 as
13 Exhibit SB-4.

14 Another PSE behavior-based program is “enhanced online usage presentment,”
15 which effectively provides customers with more customized energy management tips
16 based on consumption. PSE assumed 75 percent of customers would be eligible, based on
17 its current Home Energy Report program. PSE estimates that of those eligible, one
18 percent, five percent, and 10 percent will adjust their energy usage by one-and-a-half
19 percent, two percent, and three percent, for the low, base, and high cases respectively.²⁶

20 Public Counsel asked PSE for the basis of its assumptions. PSE’s response
21 highlighted that the Company initially estimated participation rates of 20 percent, 40

²⁶ Sergici, Exh. SIS-3, App. B.

1 percent, and 60 percent for the low, base, and high cases respectively, based on current
2 website logins. However, since Brattle wanted to analyze only customers who would log
3 in and actively engage, it adjusted those rates to one percent, five percent, and 10 percent.
4 However, PSE's response provides no justification that supports even those estimates. I
5 provide PSE's Response to Public Counsel Data Request No. 322 as Exhibit SB-5.

6 PSE also assumes a one percent escalation rate in customer participation with
7 online usage presentment, occurring each year throughout the useful life of the meters.
8 Public Counsel asked for its basis for a one percent escalation rate estimate, to which PSE
9 responded that it was a conservative estimate the Brattle Group made. I provide a copy of
10 PSE's Response to Public Counsel Data Request No. 323 as Exhibit SB-6. This response
11 provides no evidence to support PSE's assertion that Brattle's is a conservative estimate.
12 Additionally, it would logically make sense that increases in engagement would decrease
13 over time, yet the calculations PSE provided seem not to account for this.²⁷

14 PSE must support the assumptions made in its analysis; otherwise, the
15 assumptions are not justified. Given PSE's lack of customer-facing performance metrics
16 related to AMI that I discuss in the next section, Public Counsel is concerned that PSE
17 reasonably cannot be expected to perform to the level of its own unsupported
18 assumptions. This underperformance would negatively impact the benefits customers
19 could see from AMI, which are necessary to justify a return *on* the investment.

20 **Q. Are there examples of other utilities providing the level of data and assumption**
21 **justification Public Counsel expects?**

²⁷ Sergici Workpaper, WP-SIS-BEHAVIOR, Participation Rate tab.

1 A. Yes. In fact, PSE itself relied on one such example in calculating its per-customer
2 outreach costs for time varying rates (TVR). Dr. Sergici’s TVR work paper notes that the
3 per-customer recruitment cost is based on conEdison’s (conEd) business case.²⁸ When
4 asked why PSE did not estimate this cost based on its own service territory and business
5 case (conEd’s TVR offerings were notably different from PSE’s), PSE responded that
6 since it has not conducted a recent TVR pilot, it is reasonable for the Company to rely on
7 experiences from other utilities. It is important to note that conEd also did not appear to
8 have a pilot at the time of its estimates. There is additionally a large difference between
9 conED and PSE customer populations and energy use. PSE serves approximately 1.2
10 million electric and 900,000 natural gas customers,²⁹ many of whom do not have central
11 air conditioning systems. However, conED serves approximately 3.3 million electric and
12 1.1 million gas customers³⁰ in a service territory that relies heavily on central air
13 conditioning. As a result, PSE customers do not have as much discretionary load as
14 conEd, and its customer recruitment cost could vary widely from that of conEd.

15 While Public Counsel did not review the entire conEd document, and cannot
16 attest that it is entirely correct, we want to highlight the level of detail conEd used to
17 justify its assumptions, calculations, and claims in its business case. In chapter five, for
18 example, conEd provides detailed analyses of business structure assumptions for
19 implementation and operations, basis of estimates used in the cost-benefit analyses, and

²⁸ Sergici Workpaper, WP-SIS-TVR, Costs tab.

²⁹ Puget Sound Energy, *About Us*, <https://www.pse.com/en/about-us> (last visited July 25, 2022).

³⁰ ConEdison, Inc., *Our Businesses*, <https://www.conedison.com/en/about-us/our-businesses> (last visited July 25, 2022).

1 assumptions and rationale used in sensitivity analyses.³¹ I provide a copy of PSE’s
2 Response to Public Counsel Data Request No. 330, which includes the conEd business
3 case, as Exhibit SB-7. This is the level of detail Public Counsel expects a utility to
4 present to justify its investment of hundreds of millions of dollars.

V. PSE DOES NOT PROPOSE CUSTOMER FACING PERFORMANCE METRICS

5 Q. How does this rate case differ from PSE’s previous rate case?

6 A. RCW 80.28.425(1) states that, “[b]eginning January 1, 2022, every general rate case
7 filing of a gas or electrical company must include a proposal for a multiyear rate plan as
8 provided in this chapter.” RCW 80.28.425(7) further states that, “[t]he Commission must,
9 in approving a multiyear rate plan, determine a set of performance measures that will be
10 used to assess a gas or electrical company operating under a multiyear rate plan.” This is
11 PSE’s first GRC since Washington codified MYRP and performance-based regulation
12 (PBR).

13 Q. Does Public Counsel provide testimony regarding PBR?

14 A. Yes. Public Counsel Witness Andrea Crane testifies on behalf of Public Counsel
15 regarding PBR. As Crane testifies, the Commission is conducting an ongoing policy
16 docket addressing PBR.³²

17 Q. Please describe Public Counsel’s thoughts on the role of tracking metrics in PBR.

18 A. In Public Counsel’s comments in the generic policy proceeding, we reiterate the
19 important role of tracking metrics in enhancing transparency and supporting effective,

³¹ Bauman, Exh. SB-7, Attach. A, Chapter 5.

³² *In re: Wash. Utils. & Transp. Comm’n. Proceeding to Develop a Pol’y Statement Addressing Alternatives to Traditional Cost of Serv. Ratemaking*, Docket U-210590 (pending virtual workshop).

1 efficient utility regulation. Tracking metrics provide a valuable, low-cost, and low-risk
2 way to monitor and guide utility performance by identifying areas of performance
3 important to meeting energy policy goals, and by allowing for regular discussion and
4 feedback regarding utility performance. Because tracking metrics have no financial
5 penalties or rewards attached, they present low risk both to utilities and ratepayers.

6 **Q. Has the Commission indicated an interest in AMI performance metrics?**

7 A. Yes. In authorizing Avista's AMI pro-forma adjustment, the Commission further ordered
8 Avista to do the following:

- 9 • Develop and report further analyses of the use cases: TOU rates, real-time
10 energy use feedback for customers, behavior-based programs, data
11 disaggregation, grid-interactive efficient buildings, CVR or volt/VAR
12 optimization, *and other additional use cases Avista identifies*;
- 13 • Craft and report plans for achieving benefits through application of each of
14 the use cases, above; and
- 15 • Develop and propose AMI performance-based regulation metrics and
16 measurements that the Commission might apply, and specifically such
17 metrics and measurements relevant for each of the use cases, above.³³

18 **Q. Did PSE develop and propose AMI PBR metrics and measurements the**
19 **Commission might apply, specifically metrics and measurements relevant for each**
20 **of the ACEEE report use cases?**

21 A. PSE proposes only one AMI metric related to the six use cases the Commission
22 prioritized: reduced energy consumption from voltage reduction.³⁴ PSE additionally
23 proposes two other metrics: remote switch success and bill read success (gas and
24 electric). Effectively, the metrics PSE proposes do not address benefits outside of PSE's

³³ *Wash. Utils. & Transp. Comm'n v. Avista Corp.*, Dockets UE-200900 & UG-200901 (*Consol.*). Order 08: Final Order, ¶ 228 (Sept. 27, 2021) (footnote omitted).

³⁴ Direct Testimony of Mark N. Lowry, Exh. MNL-1T at 46:27–33.

1 original business case. Moreover, the metrics measure only whether AMI is performing
2 its most basic functionality, not whether it is fully leveraging the system to provide the
3 full range of benefits AMI can provide.

4 This is disappointing, because PSE had an opportunity to present performance
5 metrics to prove the customer-facing benefits it claims the system will produce. Yet it did
6 not. Notably, none of the three metrics relates to customer-empowering benefits. This is
7 inadequate, as it will not demonstrate maximum benefits to customers. The Commission
8 should not grant PSE a return on its AMI investment unless and until the Company
9 presents for consideration a robust set of metrics that represent the ACEEE report use
10 cases the Commission prioritized and other use cases the Company quantifies, and
11 ensures it maximizes customer-facing benefits.

12 **Q. Did PSE not provide a metric related to TVR?**

13 A. The metrics proposed by PSE address TVR only through the broader category of demand
14 response (DR). Eligible DR programs include direct load control, interruptible load,
15 and/or pricing programs designed to shift load from peak periods and reduce system peak
16 demand, which includes TVR. The proposed DR metric is expected megawatt reduction
17 in the Company's need for planning reserves for the winter coincident peak demand.³⁵
18 Public Counsel is not opposed to this proposed metric, but because it does not measure
19 the effectiveness and customer acceptance of TVR specifically it should not count as a
20 metric that addresses the six use cases.

³⁵ *Id.* at 28.

1 **Q. Has Public Counsel previously recommended any required reporting metrics**
 2 **related to AMI?**

3 A. Yes. Before the passage of Senate Bill 5295, I recommended AMI reporting requirements
 4 in Avista’s last GRC.³⁶ Table 3 below outlines my previous recommendation:

Table 3: Previously Recommended AMI Metrics

Program	Measures
Conservation Voltage Reduction	Average voltage at which energy is delivered through a circuit
O&M Savings	Year-end headcounts in 1) meter reading; 2) meter services
Unbilled Revenue, Theft	1) Count of meters identified with bad phase; 2) Average days from identification to meter replacement; 3) kWh billed on bad phases
Customer Energy Efficiency	1) Head count use of budget alerts; 2) download count of energy data, in both CSV and green button format
Time Varying Rates Pilots	1) Count of customer participating; 2) Load reductions during called events; 3) Counts of participating customer complaints
SAIFI	1) Failing transformers identified in advance; 2) SAIFI improvement from transformers replaced prospectively.
SAIDI	1) SAIDI improved by faster outage reporting; 2) SAIDI improved by faster outage

³⁶ Direct Testimony of Shay Bauman, Exh. SB-1T at 36 (Table 3), *Wash. Utils. & Transp. Comm’n v. Avista Corp.*, Dockets UE-200900 & UG-200901 (*Consol.*) (filed Apr. 21, 2021).

Program	Measures
	diagnosis; 3) SAIDI improved through nested outage detection.

1 **Q. Is this a complete list of metrics the Commission should consider?**

2 A. No. Metrics adopted to assess PSE's program should be robust, and should fully address
3 the use cases from the ACEEE report, and preferably other quantified use cases as well.
4 This includes addressing PSE's behavior-based programs, load flexibility programs, and
5 TVR metrics specific to PSE's pilots. The Commission also should consider metrics to
6 verify performance on some assumptions PSE relies on in its benefit calculations. This
7 could include customer survey, focus group, or statistical results verifying the
8 effectiveness of online usage presentment and high usage alerts.

9 **Q. Why is it important to present robust metrics for consideration?**

10 A. As I mention above, PSE has yet to implement AMI fully across its service territory.
11 Lessons learned from utilities around the country warn of not capturing the full value.
12 RCW 80.28.425(7) provides Washington a unique opportunity to ensure the utilities in
13 this state do better than those around the country that failed to capture customer facing
14 benefits. A report by the U.S. Department of Energy's Advanced Grid Research division,
15 *AMI in Review: Informing the Conversation*, compiles information from an analysis of
16 more than 100 AMI public findings and draws on conversations with nearly 125
17 individuals from almost 50 entities across the country, including utilities, regulators, and
18 consumer advocates.³⁷ According to the report, doubts persist about the cost and value of

³⁷ U.S. Dep't. of Energy Advanced Grid Rsch., Off. Of Elec., *AMI in Review: Informing the Conversation*, at ii (July 8, 2020), https://smartgrid.gov/files/documents/AMI_Report_7_8_20_final_compressed.pdf.

1 AMI to customers, and AMI's forward-looking benefits *depend on how it is deployed and*
2 *implemented*.³⁸ Further, the report's analysis shows that quantified benefits were
3 dominated overwhelmingly by operational benefits that in many respects are not directly
4 visible to the customer, and that value is being left on the table.³⁹ The commissions
5 interviewed emphasized the importance of achieving benefits for customers sooner rather
6 than later, and that a positive cost-benefit analysis may not be enough.

7 Data shows that PSE must take active steps to maximize benefits. To provide
8 another example, when Public Counsel asked for the basis of the estimated ramp rates for
9 electric vehicle TVR, PSE responded that Brattle found, based on a joint study with
10 Smart Electric Power Alliance, that nearly half of the 20 surveyed utilities reached
11 enrollment levels of at least 25 percent. This same report, however, emphasizes the need
12 for appropriate marketing of the program. Those without proper marketing reached only
13 seven percent enrollment, on average.⁴⁰ As the studies above show, actual benefit capture
14 depends heavily on effective program implementation. Tracking metrics in key areas
15 incentivize PSE to effectively implement programs and maximize program benefits.

16 **Q. Does Public Counsel believe the Commission should adopt AMI related**
17 **performance incentive mechanisms (PIMs) along with tracking metrics?**

18 A. Not at this time. Public Counsel recommends against adopting new PIMs until after the
19 completion of the Policy Docket U-210590. As I mention above, tracking metrics are
20 low-cost and low-risk methods to increase transparency and incentivize performance.

³⁸ *Id.* at 19.

³⁹ *Id.* at 14.

⁴⁰ Bauman, Exh. SB-8 at 30 (Page 26 of Attach. A to PSE Response to Public Counsel Data Request No. 400).

VI. RECOMMENDATION

1 **Q. Please summarize Public Counsel's recommendation.**

2 A. Public Counsel recommends the Commission continue to reserve a final prudency
3 determination for PSE's AMI system as a whole until a future rate case, when the AMI
4 project will be actually complete and the Company can present all benefits accurately for
5 evaluation. My testimony has made the following points:

- 6 • PSE's AMI deployment is not complete, nor substantially complete;
- 7 • PSE failed to properly show benefits of the system as a whole; and
- 8 • PSE did not propose customer-facing performance metrics.

9 All these points show that PSE's AMI system is still in its early stages and we
10 must take action to verify the promised customer benefits. Without our doing so,
11 customers may never see the full value of AMI, and will almost entirely bear the risk of
12 slowed or unfulfilled benefits.

13 **Q. How do your analyses and recommendations consider equity, as that term is used in**
14 **the multiyear rate plan statute in RCW 80.28.425(1)?**

15 A. Allowing into rates a return on an investment for which PSE has inadequately
16 demonstrated benefits will result in rates that are unfair, unjust, and unreasonable. These
17 rates negatively affect all customers, but are inherently inequitable in that they impose a
18 heavier burden on Highly Impacted Communities and Vulnerable Populations. Without
19 the ability to analyze benefits properly through the business case or meaningful metrics,
20 Highly Impacted Communities and Vulnerable Populations will bear disproportionate
21 risk from slow or unfulfilled benefits.

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

2 A. Yes.