

**Exh. JTW-1T**  
**Dockets UE-190529/UG-190530 and**  
**UE-190274/UG-190275 (*consolidated*)**  
**Witness: James T. Woodward**

**BEFORE THE WASHINGTON  
UTILITIES AND TRANSPORTATION COMMISSION**

**WASHINGTON UTILITIES AND  
TRANSPORTATION COMMISSION,**

**Complainant,**

**v.lo**

**PUGET SOUND ENERGY,**

**Respondent.**

**DOCKETS UE-190529  
and UG-190530 (*consolidated*)**

**In the Matter of the Petition of**

**PUGET SOUND ENERGY**

**For an Order Authorizing Deferral  
Accounting and Ratemaking Treatment  
for Short-life UT/Technology Investment**

**DOCKETS UE-190274 and  
UG-190275 (*consolidated*)**

**CROSS-ANSWERING TESTIMONY OF**

**James T. Woodward**

**STAFF OF  
WASHINGTON UTILITIES AND  
TRANSPORTATION COMMISSION**

***On-Bill Repayment Program for Customer Investments in Energy Efficiency***

**January 15, 2020**

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Exh. JTW-2

NWEC Response to UTC Staff Data Request No. 3

CROSS-ANSWERING TESTIMONY OF JAMES T. WOODWARD  
Dockets UE-190529/UG-190530 and  
UE-190274/UG-190275 (*consolidated*)

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1 **I. INTRODUCTION**

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

A. My name is James Woodward, and my business address is 621 Woodland Square Loop SE, Lacey, Washington 98503. My business mailing address is P.O. Box 47250, Olympia, Washington 98504-7250. My business email address is [jim.woodward@utc.wa.gov](mailto:jim.woodward@utc.wa.gov).

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

A. I am employed by the Washington Utilities and Transportation Commission (Commission) as a Regulatory Analyst in the Conservation and Energy Planning Section of the Regulatory Services Division.

**Q. How long have you been employed by the Commission?**

A. I have been employed by the Commission since March 2019.

**Q. Please state your qualifications to provide testimony in this proceeding.**

A. I earned a Bachelor of Science degree in Civil Engineering from The University of Virginia in 2004. I earned both a Master of Public Administration degree and a Master of Arts degree in Energy and Earth Resources from The University of Texas at Austin in 2010. Prior to my employment with the Commission, I spent five years at the U.S. Department of Energy’s Pacific Northwest National Laboratory (PNNL). While at PNNL, I developed subject matter expertise in cost-effective energy

1 efficiency measure development at the facility level. At the Commission, I have led  
2 staff investigations concerning Energy Independence Act electric investor owned  
3 utility (IOU) renewable portfolio standard (RPS) report compliance. I have also  
4 served as a natural gas IOU point of contact for energy efficiency planning and  
5 reporting efforts. I have successfully completed the Public Utilities Reporting (PUR)  
6 Guide Principles of Public Utilities, Operations, and Management independent study  
7 (i.e., electronic distance learning) course.

8  
9 **Q. Have you testified previously before the Commission?**

10 A. No.

11  
12 **II. SCOPE AND SUMMARY OF TESTIMONY**

13  
14 **Q. What is the scope and purpose of your testimony?**

15 A. My testimony responds to Northwest Energy Coalition (NVEC) witness Wendy  
16 Gerlitz's testimony regarding proposals for Puget Sound Energy (PSE) to offer a  
17 tariffed on-bill repayment program for customers to pay for energy efficiency (EE)  
18 upgrades.

19  
20 **Q. What is NVEC's proposal with regards to PSE's energy efficiency programs?**

21 A. NVEC recommends the Commission order PSE to design and implement a tariffed  
22 on-bill repayment program to increase customer energy efficiency savings in

1 consultation with PSE's Conservation Resources Advisory Group (CRAG) and its  
2 Low Income Advisory Committee.

3

4 **Q. What is your response to NWEC's proposal?**

5 A. I do not support NWEC's recommendation that the Commission order PSE to design  
6 and implement a tariffed on-bill repayment program at this time. It is premature for  
7 the Commission to take such action until additional information is collected and  
8 analyzed demonstrating that a tariffed on-bill repayment program would yield  
9 additional cost-effective customer energy efficiency savings. NWEC fails to consider  
10 costs that could significantly impact a tariffed on-bill EE customer program.

11 As I elaborate on below, while Commission Staff (Staff) may not  
12 conceptually disagree with financing EE upgrades via tariffed on-bill programs, cost  
13 impacts should be thoroughly understood before the Commission orders PSE to  
14 design and implement such an on-bill repayment program for customers. Otherwise,  
15 the cost effectiveness assumptions of the very EE upgrades such a program is  
16 designed to deliver may not prove out.

17

18 **Q. Do you have an alternative proposal?**

19 A. Yes. I recommend the Commission order PSE to evaluate the cost effectiveness of a  
20 tariffed on-bill repayment program with select external stakeholders, including its  
21 CRAG and its Low Income Advisory Committee, and provide a brief report on the  
22 program to the Commission within three months of the effective date of the final  
23 order in this case.

1 **III. BACKGROUND / SUMMARY**

2

3 **Q. What is an on-bill repayment program?**

4 A. As NWECC indicates, “on-bill repayment programs are offerings made by a utility to  
5 their customers on an opt-in basis, to finance customer improvements related to  
6 electricity or natural gas service. The programs are intended to overcome barriers to  
7 the upfront costs of energy efficiency . . . projects by allowing customers to pay back  
8 the investments over a period of time directly on their utility bills.”<sup>1</sup>

9

10 **Q. Who is responsible for financing an on-bill repayment program?**

11 A. The responsible party depends on the program type. NWECC describes two primary  
12 types of on-bill repayment “approaches”: loans and tariffs.<sup>2</sup> Loan programs are  
13 characterized by third-party financing, through a bank or credit union.<sup>3</sup> What NWECC  
14 terms “tariffed” on-bill programs depend on the utility financing the EE project and  
15 assigning repayment to the premise meter where the upgrade occurs.<sup>4</sup> As a practical  
16 matter, any on-bill repayment program would be offered to customers via a tariff;  
17 however, this testimony uses NWECC’s terminology for consistency.

18

19 **Q. Does NWECC propose implementing a loan or tariff on-bill repayment program?**

20 A. NWECC proposes PSE implement a tariffed on-bill repayment program.<sup>5</sup>

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<sup>1</sup> Gerlitz, Exh. WMG-1T at 14:20 - 15:1.

<sup>2</sup> Gerlitz, Exh. WMG-1T at 15:13-14.

<sup>3</sup> See Gerlitz, Exh. WMG-1T at 15:14-16.

<sup>4</sup> Gerlitz, Exh. WMG-1T at 15:18 - 16:2.

<sup>5</sup> Gerlitz, Exh. WMG-1T at 16:8.

1 **Q. What is the current utility on-bill repayment program landscape?**

2 A. NWEC indicates that “approximately 110 utilities across the country, including  
3 publicly-owned utilities (i.e., municipal and rural electric cooperatives) and investor-  
4 owned utilities, offer some form of on-bill repayment program.”<sup>6</sup> This subset  
5 represents a decided minority (i.e., approximately 10 percent) of utilities reporting to  
6 the U.S. Department of Energy’s Energy Information Administration (EIA).<sup>7</sup>

7 Furthermore, utilities offering on-bill repayment programs are not equally  
8 distributed across the United States. Instead these programs are concentrated within  
9 the Southeast, Midwest, and Northeast regions, which are defined by regional  
10 transmission organizations (RTOs) and energy markets featuring locational marginal  
11 pricing. On-bill repayment program offerings are particularly scant throughout the  
12 western states, including Washington.<sup>8</sup>

13  
14 **Q. Do you know why on-bill repayment programs are not as common in  
15 Washington as they are in other regions of the country?**

16 A. No. However, there are two reasons that may explain why on-bill repayment  
17 programs designed to promote customer EE projects have failed to catch on in

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<sup>6</sup> Gerlitz, Exh. WMG-1T at 15:4-6. *See also* PACE Programs. PACENation: Building the clean energy economy. Accessed: December 27, 2019. On-line. Available: <https://pacenation.org/pace-programs/#>. PACE is a popular on-bill repayment program to support energy efficiency upgrades in homes and businesses in 20 states plus D.C. However, PACE requires enabling legislation not present in Washington.

<sup>7</sup> Annual Electric Power Industry Report, Form EIA-861 detailed data files. Energy Information Administration, U.S. Department of Energy. Accessed: December 23, 2019. On-line. Available: <https://www.eia.gov/electricity/data/eia861/>.

<sup>8</sup> Interactive Map of Utilities with On-bill Financing Programs. Environmental and Energy Study Institute (EESI). Accessed: December 23, 2019. On-line. Available: <https://www.eesi.org/obf/map>.



1 Washington to date: relatively low retail energy prices and statutory recording  
2 requirements that increase the burden associated with on-bill repayment programs.

3  
4 **Q. How might low Washington retail energy prices limit the popularity of on-bill  
5 repayment programs?**

6 A. Average prices of electricity paid by customers across end-use sectors have a floor  
7 around \$0.10 per kWh in most of the eastern regions where on-bill repayment  
8 programs are more popular, ranging as high as \$0.17 per kWh in New England. In  
9 contrast, prices in Washington state average around \$0.08 per kWh, approximately  
10 19 percent lower than the lowest prices in the east.<sup>9</sup> The relatively low retail  
11 electricity prices that utility customers pay in Washington may limit EE cost  
12 effectiveness. The cost effectiveness of EE projects is driven by the monetary  
13 savings associated with avoided energy consumption. In Washington, where retail  
14 electricity prices are low relative to other regions of the country, avoided costs are  
15 correspondingly low. Lower avoided costs translate into lower EE benefits.

16  
17 **Q. What statutory recording requirements are applicable to on-bill repayment  
18 programs in Washington?**

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<sup>9</sup> Table 5.6.A. Average Price of Electricity to Ultimate customers by End-Use Sector (October 2019). Energy Information Administration, U.S. Department of Energy. Accessed: December 23, 2019. On-line. Available: [https://www.eia.gov/electricity/monthly/epm\\_table\\_grapher.php?t=epmt\\_5\\_6\\_a](https://www.eia.gov/electricity/monthly/epm_table_grapher.php?t=epmt_5_6_a).

1 A. Washington statute RCW 80.28.065 requires notice to successive property owners  
2 regarding payment for energy conservation measures via a tariff schedule.<sup>10</sup> My  
3 understanding of the purpose of this statute is to put future property holders on notice  
4 of the debt obligation associated with EE upgrades to the property in question. As  
5 further discussed below, such transactional recording costs may not be trivial  
6 depending on the size of the tariffed on-bill customer EE program offered by the  
7 utility. Accordingly, the burden of recording these transactions may present a barrier  
8 to implementing on-bill repayment programs in Washington.

9

10 **IV. TRANSACTION COST CONSIDERATIONS**

11

12 **Q. Does NWEAC discuss any program costs in its testimony?**

13 A. Yes. NWEAC describes three primary components of cost that typically are included  
14 in a tariffed on-bill program designed to pay for customer EE upgrades: “cost to  
15 install the upgrades and any fees, the cost of capital, and the duration of cost  
16 recovery.”<sup>11</sup> While these costs are relevant, they would not exclusively inform  
17 tariffed on-bill program costs.

18

19 **Q. Are there additional relevant administrative program costs that should be**  
20 **addressed before requiring such an on-bill repayment program?**

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<sup>10</sup> RCW 80.28.065. Pursuant to subsection (2), “[t]he electrical or gas company shall record a notice of a payment obligation, containing a legal description, resulting from an agreement under this section with the county auditor or recording officer.”

<sup>11</sup> Gerlitz, Exh. WMG-1T at 17:17-18.

1 A. Yes. NWEC ignores the following cost considerations that would inform overall  
2 costs associated with a tariffed on-bill EE customer program:

- 3 • Administrative costs due to the transactional recording of the EE upgrade(s)  
4 mandated by RCW 80.28.065.
- 5 • Site-specific cost benefit analyses (CBA) requirements.
- 6 • Enterprise program delivery costs.

7

8 **Q. Has NWEC considered how administrative and other program costs may**  
9 **impact an on-bill repayment program?**

10 A. No. NWEC does not discuss additional types of costs or their associated impacts in  
11 its testimony. In response to Staff discovery concerning costs, NWEC acknowledges  
12 that it does not have answers to how the utility would recover administrative and  
13 other program costs, or what would constitute such costs.<sup>12</sup> Greater understanding of  
14 these costs is needed before the Commission should order PSE to undertake such an  
15 on-bill customer repayment program.

16

17 **Q. Could costs associated with recording the payment obligation under RCW**  
18 **80.28.065 be significant?**

19 A. Yes. NWEC does not mention these costs, though they may be substantial. If a high  
20 efficiency domestic water heater is installed, the transactional recording may only  
21 apply to the particular piece of equipment. If the customer defaults on payment, the

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<sup>12</sup> Exh. JTW-2 (NWEC Response to UTC Staff Data Request No. 3).

1 utility could collect the water heater from the premises. However, more  
2 comprehensive EE upgrades may intrinsically link the recording with the property in  
3 question. When dealing with envelope improvements (e.g., adding insulation), it  
4 would not be cost effective to remove said insulation from the structure in the event  
5 of default.

6  
7 **Q. Did NWECC consider costs associated with site-specific cost-benefit analysis**  
8 **requirements?**

9 A. No. NWECC testifies that “any customer-side upgrade that results in a positive cost-  
10 benefit analysis [CBA] could be considered” for such a tariffed on-bill customer EE  
11 program.<sup>13</sup> NWECC goes on to say, “typically, [such] programs require that upgrades  
12 must . . . be eligible based on a location specific, on-site cost effectiveness  
13 analysis.”<sup>14</sup> Costs associated with such on-site activities, generally involving utility  
14 personnel and third-party consultants, are not trivial and should be comprehensively  
15 documented and understood. NWECC does not elaborate on these types of costs in its  
16 response testimony.

17  
18 **Q. Did NWECC consider enterprise-level program delivery costs?**

19 A. No. A final omission regarding relevant cost types attributable to a tariffed on-bill  
20 EE program PSE could offer its customers concerns program delivery requirements.  
21 Information technology (e.g., exchange platform development and maintenance) and

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<sup>13</sup> Gerlitz, Exh. WMG-1T at 17:4-5.

<sup>14</sup> Gerlitz, Exh. WMG-1T at 17:9-11.

1 select marketing costs necessary to design and implement such a program need to be  
2 considered in the overall program CBA. This oversight further indicates that  
3 NWEC’s representation of the extent of tariff on-bill program costs—that is, the  
4 “cost to install the upgrades and any fees, the cost of capital, and the duration of cost  
5 recovery”—is deficiently narrow.<sup>15</sup>

6  
7 **Q. Is NWEC’s claim that an on-bill repayment offering could help PSE achieve  
8 additional cost effective conservation based on sufficient evidence?**

9 A. No. Neither NWEC’s testimony nor its supporting exhibits demonstrate additional  
10 cost effective conservation. I have already described how NWEC has overlooked  
11 relevant administrative program costs that could be significant. Additionally, NWEC  
12 draws conclusions from sources that do not appear to be authorities on EE project  
13 cost effectiveness. When asked if such an on-bill repayment offering could help PSE  
14 achieve additional cost-effective conservation, NWEC refers to a response from  
15 Craft3<sup>®</sup> to a Request for Information (RFI) PSE issued related to on-bill financing in  
16 2017. Closer review of the RFI response confirms Craft3<sup>®</sup> is a utility partnerships  
17 company, not a conservation engineering services firm. Therefore, I do not believe  
18 Craft3’s<sup>®</sup> business purview allows the company to make credible cost effectiveness  
19 claims. “[W]hile Craft3<sup>®</sup> can share [collaboration] best practices,” the specific  
20 “utility with its stakeholders” determine “eligible measures.”<sup>16</sup> Craft3<sup>®</sup> does not  
21 appear to be an authority on eligible measures and associated engineering costs,

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<sup>15</sup> Gerlitz, Exh. WMG-1T at 17:17-18.

<sup>16</sup> Gerlitz, Exh. WMG-04 at Section 3.b. (PSE Response to NWEC Data Request No. 014\_Attach A; Financing RFI’s, PSE RFI Craft 3 Response 053017).

1 which are important cost categories that should be satisfactorily understood before  
2 relevant EE projects can be deemed cost effective. Therefore, I do not believe that  
3 NWECC, given its reliance on the Craft3® response to PSE’s RFI, has demonstrated  
4 “that an on-bill repayment offering could help PSE achieve additional cost-effective  
5 conservation.”<sup>17</sup>

6  
7 **Q. What do you conclude?**

8 A. Staff may not conceptually disagree with financing EE upgrades via tariffed on-bill  
9 programs, but the cost impacts must be thoroughly understood before the  
10 Commission considers ordering PSE to design and implement an on-bill repayment  
11 program for customers. As I have established, NWECC has failed to identify the  
12 impacts of administrative and other program costs associated with on-bill repayment  
13 programs. While these additional cost types may not ultimately defeat the cost  
14 effectiveness of EE upgrades associated with a tariffed on-bill customer program, I  
15 maintain that, until such costs have been adequately explored, an on-bill customer  
16 repayment program would be premature. Therefore I recommend that the  
17 Commission order PSE to evaluate the cost effectiveness of a tariffed on-bill  
18 repayment program with select external stakeholders, as I elaborate on above, and  
19 report back to the Commission.

20  
21 **Q. Does this conclude your testimony?**

22 A. Yes.

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<sup>17</sup> Gerlitz, Exh. WMG-1T at 14:9-10.