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August 17, 2017

Via Electronic Filing and US Mail

OREGON PUBLIC UTILITY COMMISSION
ATTENTION: FILING CENTER
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RE: Docket No. UE 319–In the Matter of PORTLAND GENERAL ELECTRIC COMPANY, Request for a General Rate Revision.

Enclosed for filing is Staff Rebuttal Testimony in UE 319, together with a Certificate of Service and UE 319 Service List.

Exhibit 1601 is confidential and is provided to parties who have signed Protective Order No. 17-057.

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CERTIFICATE OF SERVICE

UE 319

I certify that I have, this day, served the foregoing document upon all parties of record in this proceeding by delivering a copy in person or by mailing a copy properly addressed with first class postage prepaid, or by electronic mail pursuant to OAR 860-001-0180, to the following parties or attorneys of parties.

Dated this 17th day of August, 2017 at Salem, Oregon

Kay Barnes

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CASE: UE 319
WITNESS: LANCE KAUFMAN

PUBLIC UTILITY COMMISSION
OF
OREGON

STAFF EXHIBIT 1600

Rebuttal Testimony

August 17, 2017

Q. Please state your name, occupation, and business address.

A. My name is Dr. Lance Kaufman. I am a Senior Economist employed in the Energy Rates, Finance and Audit Division of the Public Utility Commission of Oregon (OPUC). My business address is 201 High Street SE., Suite 100, Salem, Oregon 97301.

Q. Have you previously provided testimony in this case?

A. Yes, I have provided testimony in Staff/200 and Staff/700.

Q. What is the purpose of your testimony?

A. The purpose of this testimony is to present evidence on the cost allocation impacts of energy efficiency (EE) measures. Staff finds that over a broad range of assumptions the system benefits of EE measures are allocated to schedules that pay for the EE. This analysis informs Staff's recommendation on the proposal of the Oregon Citizens' Utility Board (CUB) to address what CUB believes to be an unfair distribution of costs and benefits of EE.

Q. Did you prepare an exhibit for this docket?

A. Yes. I prepared exhibit Staff/1601, consisting of 5 pages.

Q. How is your testimony organized?

A. My testimony is organized as follows:

ISSUE 1: COST ALLOCATION OF EE SYSTEM BENEFITS

Q. Please summarize this issue and your analysis.

A. The Oregon Citizens' Utility Board (CUB) is concerned that residential and small commercial customer classes pay disproportionately more for EE than other customer classes and do not receive a fair proportion of the system benefits of EE.[1] CUB is particularly concerned because Senate Bill 838 (2007) (SB 838) limits the amount that Portland General Electric (PGE) can collect for EE from customers whose annual load is one aMW or more. Under SB 838, PGE can collect from these large customers no more than what is authorized under SB 1149 (1999), but can and does recover amounts in excess of the public purpose charge from other customer classes.

Staff has tested CUB's hypothesis by identifying the impact of EE on both system costs and on customer-class cost allocations using PGE's current cost allocation models. Staff finds that under a broad range of assumptions, customer classes that are served by EE capture all energy and capacity cost savings associated with the EE. Furthermore, customer classes served by EE capture additional cost allocation benefits beyond just energy savings by the nature of how rate spread is developed and are thereby better off in an overall sense.

The reason this occurs is that many system costs are allocated based on each schedule's share of the system's energy and capacity. When EE is invested disproportionately in a single customer class, that customer class's

[1] CUB/100, Jenks/10 at lines 12 to 14.

share of system energy and capacity is reduced. Consequently, the customer classes that receive EE measures are allocated a smaller portion of system costs. The table below illustrates the mechanics of this.

	[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]
	Allocation Without EE				Allocation With EE			
	Load	Allocation Factor	System Cost w/o EE	System Cost with EE	Load	Allocation Factor	System Cost w/o EE	System Cost with EE
Small Custmers	400	40%	$ 24,000	$ 21,600	300	33%	$ 20,000	$ 18,000
Large Customers	600	60%	36,000	$ 32,400	600	67%	40,000	36,000
Total	1000		60,000	54,000	900		60,000	54,000

The table above demonstrates that if the impact on allocation factors is not considered, EE measures for small customers could appear to benefit large customers (see column D of the table). However, after the impact of allocations is taken into account, large customers receive no benefit from small customer EE.

This analysis has three important implications related to CUB's SB 838 proposal:

1. There is not currently an equity discrepancy that would justify shifting costs from less than one average MW customers to greater than one average MW customers.
2. If the cost savings associated with EE were substantially larger than current estimates, it is possible for large customers to receive a portion of the system benefit generated by SB 838 EE measures. In this scenario there may be a legitimate equity concern that would support some remedial action.
3. If less than one average MW customers fund EE measures for larger than one average MW customers, less than one average

MW customers will not receive the associated system benefits that they have paid for through EE investments in larger than one average MW customers.

Q. Please summarize your findings and recommendation regarding CUB's EE proposal.

A. Staff agrees with CUB that SB 838 funds are not used to provide EE measures for large customers. However, Staff analysis shows that the customer class receiving EE measures captures the full system benefit of EE measures. These two findings indicate large customers do not receive the system benefits of SB 838-funded EE, and that CUB's proposal is not needed at this time.

Staff acknowledges that it is possible that some remedial action may be needed in future years if large customers begin receiving direct benefits of EE measures funded by small customers. The testimony in Staff/1700 identifies one potential mechanism to accomplish CUB's goal of equitable rate treatment, in the event that large customers receive direct benefits from EE funded by small customers.

Q. Please describe CUB's concern and proposal in more detail.

A. Residential and small commercial customers pay for relatively more legislatively funded EE than other customer classes.[2] This is due to SB 838's restrictions on collecting EE funds from large customers.[3] CUB asserts that if EE is cost effective then it should result in system benefits and believes that

[2] CUB/100, Jenks/10 at lines 12 through 14.
[3] CUB/100, Jenks/4 lines 7 through 12.

the customers who pay for EE should receive all of the system benefits of EE.[4] CUB does not believe this is occurring now and proposes an adjustment that redistributes system benefits.[5] However, CUB's proposal does not account for the current cost allocation impacts of EE.

Q. How are the system benefits of EE currently allocated?

A. In general, the long-standing Commission-adopted approach for rate spread and rate design results in the allocation of the system benefits of EE to the customer class that receives the EE. This is demonstrated by comparing how revenue requirement is currently spread to customer classes with how a hypothetical revenue requirement would have been spread if load were served with a generation resource rather than an EE resource. A precise evaluation of the allocation of system benefits is hampered by the need to make certain assumptions about the hourly EE savings and about the system costs if the energy were served through generation. However, under a broad range of assumptions regarding both system benefits and EE shape, the customer class receiving EE also captures the system benefits of the EE.

Q. Please provide a high level summary of how Staff determined the allocation impact of EE system benefits.

A. Staff evaluates the cost allocation impacts of EE by comparing the revenue requirement allocated to each schedule with and without load served by EE. The scenario where load is served by EE is represented by the filed case in

[4] CUB/100, Jenks/10 at lines18 and 19.
[5] CUB/100, Jenks/12 lines 12 to 21.

UE 319. The scenario where load is not served by EE involves increasing the revenue requirement by the avoided cost of a specific amount of EE and increasing customer load and demand by the same amount of EE. If the revenue requirement for schedules not served by EE decreases when EE is present, than there is a valid basis to claim that customer classes receiving EE are not capturing the system benefits of EE.

Q. Please walk through a base case example of how the system benefits of EE impact cost allocations.

A. In the base case example I compare cost allocations when Schedule 7 residential customers are served by 1,000,000 MWh of EE with a scenario in which the same load is served by generation. I make the following assumptions:[6]

- EE MWh are spread across months proportionately to actual Schedule 7 load.
- EE is flat within each month. This means that EE savings are identical within each hour of the month.
- The avoided cost of EE is equal to the marginal energy and capacity costs filed by PGE in this docket.[7]

I apply these assumptions to PGE's rate-spread and rate-design model. This model is used to divide PGE's total revenue requirement among different rate schedules based on the Commission's long-standing approach to cost

[6] The significance of these assumptions is explained in a following Q&A.
[7] As provided in PGE/1300 Workpaper "MCEnergy.xlsx".

allocation. Staff uses the model to compare a hypothetical scenario without EE to the actual results filed by PGE in the current rate case. The hypothetical scenario involves adding load and adding costs to serve that load. The result of doing this in the cost allocation manual is that total costs are higher, and the percent of costs allocated to each schedule changes. Under the base case assumptions Schedule 7 fully captures the benefit of EE savings. The total annual avoided cost is calculated as $48.4 million in system benefits.[8] However, the EE reduces Schedule 7 revenue requirement in total by $61.0 million.[9] This shows that the allocation impacts of the EE reduce Schedule 7 revenue requirement sufficiently to capture all of the EE system benefit and allow Schedule 7 to capture additional benefit through $12.6 million reduced allocation of non-production costs.

Q. What is the additional $12.6 million reduction in non-production costs and why does this result occur?

A. The additional $12.6 million reduction is an ancillary benefit of EE. It does not represent a system savings. It is a reallocation of costs from customers with EE to customers without EE. The result occurs because reduced energy use also reduces cost allocations for common and joint costs, transmission costs, and any other costs that are allocated on the basis of energy use; that is, costs beyond just generation costs. Customer classes with lower loads are allocated lower amounts of these costs.[10]

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[8] Staff/1600, Kaufman/1.
[9] Staff/1600, Kaufman/1.
[10] Staff/1600, Kaufman/4 and 5.

Q. Please explain the significance of the assumptions that you made.

A. The first two assumptions identify the impact of EE on load. This allows the calculation of the EE contribution to coincident peak load. The contribution to coincident peak determines the amount of capacity costs avoided by EE and the allocation impacts of EE. If EE is assumed to contribute more to the coincident peak, then the avoided cost of EE will increase and the allocation impacts of EE will increase.

The third assumption identifies the system benefits of EE and is used to calculate the hypothetical revenue requirement if the load avoided by EE is served by generation resources.

Q. How do your results change if the avoided capacity cost of EE is lower?

A. One possible reason the avoided cost of EE may be lower than in the base case is that the system did not need to procure additional capacity resources to meet load. To test the impacts of EE in this scenario, Staff tested a variant of the base case with the incremental avoided capacity cost of EE set to zero. This assumption reduces the total avoided cost of 1,000,000 MWh from $48.4 million to $32.3 million. The result is that Schedule 7 cost allocations with EE are $52.3 million lower than without EE.[11] Again, the resulting outcome has the entire system benefit of EE allocated to Schedule 7. However, the non-production allocation impacts increase from a $12.6 million

[11] Staff/1600, Kaufman/1.

benefit to a $20 million benefit for Schedule 7.[12] Placing no value on avoided capacity cost would be consistent with a scenario where PGE is not capacity deficient even with the EE load on the system.

An alternative test that takes into account lower avoided capacity costs is to assume that EE contribution is flat across all hours of the year. This reduces the capacity contribution of 1,000,000 MWh from 150 MW to 112 MW. This test differs from eliminating the cost of capacity because it also modifies the allocation of embedded costs through different monthly peak profiles. The reduced capacity contribution lowers the avoided cost from $48.4 million to $44.1 million.[13] All system benefits are captured by Schedule 7, and non-production allocation benefit increases from $12.6 million to $13.2 million.[14]

Q. How do your results change if the avoided cost of EE is higher than in the base case?

A. If the avoided cost of EE is higher, the system benefit associated with EE would also be higher. One way to model higher avoided costs is to assume that EE contributes a greater amount to the system peak. Staff modified the assumed load shape of EE resources to contribute to the top 12 hours within each day for January, July, August, and December. This increases system benefits to $124 million.[15] However, due to the substantial impact that capacity reductions have on cost allocations, Schedule 7 continued to capture all

[12] Staff/1600, Kaufman/1.
[13] Staff/1600, Kaufman/1.
[14] Staff/1600, Kaufman/1.
[15] Staff/1600, Kaufman/1.

system benefits, as well as an additional $20 million in non-production benefits.[16]

An alternative approach to testing higher avoided costs is to assume that capacity resources are more expensive. If capacity costs are modeled at 265 percent of the level in PGE's opening testimony, all system benefits would be captured by Schedule 7, with no additional non-production allocation benefit. Under the assumed EE load shape, this level of capacity cost represents the switching point, where CUB's argument may begin to hold. If capacity costs are greater than 265 percent of what is currently deemed reasonable, large customers may be receiving system benefits associated with small customer EE. However, it seems unlikely that the avoided cost of capacity is this high.

Q. Your base case scenario assumed all EE measures are installed within a single schedule. What is the impact if you assign the EE to another schedule, or spread the EE across multiple schedules?

A. In general, the results are similar if EE is assigned to another schedule or across multiple EE schedules.

Q. Please summarize the results of the sensitivities applied to the base case analysis.

A. Staff tested a broad range of assumed EE load shapes and avoided costs. The only scenario that results in residential customers not capturing the full benefit of EE is a scenario in which the cost of new capacity is very high, nearly

[16] Staff/1600, Kaufman/1.

three times the current expectations. This means that CUB's concern that large customers capture system benefits associated with SB 838 funding is not valid as long as SB 838 measures are not installed for large customers.

Q. Has your model considered incremental benefits associated with EE?

A. Staff has not explicitly modeled system savings associated with avoided Renewable Portfolio Standard (RPS) compliance costs, miscellaneous transmission and distribution savings, or other incremental benefits associated with EE. However, the sensitivity analysis used to test higher capacity costs demonstrates that the primary result holds in the face of additional system benefits. Staff welcomes other parties to validate the Staff model and propose enhancements.

Q. How should this analysis inform the Commission's decision on the SB 838 issues that CUB raises?

A. The analysis supports a finding that there is not an equity issue associated with large customers not contributing to SB 838 EE measures as long as large customers do not receive energy services from SB 838 EE measures funded by customers less than 1aMW. Therefore, remedial action is not necessary at this time. If avoided capacity and energy values are much higher than currently modeled, large customers may realize a system benefit due to the efficiency investments of other rate classes. Staff proposed an approach to redistribute this benefit in Exhibit 1700. If Energy Trust were to fund large customer EE beyond what is funded today through SB 1149 using SB 838 funds, there may be a need to address equity issues as those customers who fund SB 838 would not realize those system benefits.

Q. Does this conclude your testimony?

A. Yes.

CASE: UE 319
WITNESS: LANCE KAUFMAN

PUBLIC UTILITY COMMISSION
OF
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STAFF EXHIBIT 1601

Exhibits in Support
Of Rebuttal Testimony

<u>NON-CONFIDENTIAL</u>
August 17, 2017

Staff Exhibit 1601 is confidential and

Is subject to Protective Order No.17-057.

CASE: UE 319
WITNESS: MAX ST. BROWN

PUBLIC UTILITY COMMISSION
OF
OREGON

STAFF EXHIBIT 1700

Rebuttal Testimony

August 17, 2017

Q. Please state your name, occupation, and business address.

A. My name is Max St. Brown. I am a Senior Utility Economist employed in the Energy Rates, Finance and Audit Division of the Public Utility Commission of Oregon (OPUC). My business address is 201 High Street SE., Suite 100, Salem, Oregon 97301.

Q. Have you previously provided testimony in this case?

A. Yes, please see Staff Exhibit 1300.

Q. What is the purpose of your testimony?

A. I respond to the Oregon Citizen Utility Board's (CUB) "Energy Efficiency Subsidy" issue.

Q. Please summarize Staff's findings?

A. Staff finds that, to date, CUB's proposed SB 838 Energy Efficiency (EE) adjustment is unwarranted. If circumstances change in the future, Staff supports the spirit of CUB's model, but proposes a modification to compute the SB 838 EE adjustment on an embedded-cost-differential basis rather than a marginal-cost-differential basis. At a future date, this methodology could result in a transfer payment from customers larger than 1 aMW to customers smaller than 1 aMW in excess of $2 million. Staff recommends no transfer payment in the 2018 test year.

Q. How is your testimony organized?

A. My testimony is organized as follows:

ISSUE 1, RESPONSE TO CUB ISSUE "ENERGY EFFICIENCY SUBSIDY"

Q. Please summarize CUB's argument that industrial customers are benefiting from energy efficiency that they are not paying for.

A. CUB's concern stems from the requirement in SB 838 (2007) that Portland General Electric (PGE) cannot collect any amounts for EE in excess of that collected under the Public Purpose Charge from customers whose load is more than 1 aMW. CUB is concerned that customers over 1 aMW are receiving a benefit from EE paid for by SB 838 funds even though they do not contribute. CUB argues that EE is a lower cost resource than electricity generation and that the savings of EE versus electricity generation are currently allocated to all customer classes rather than just the customer classes that pay for the EE. Specifically, CUB argues that residential and small commercial customers fund proportionally more for EE due to the provision in SB 838 that EE funding from customers above 1 aMW are capped, but do not receive the same proportionate share of the benefits.

Q. What is CUB's proposed remedy?

A. CUB proposes two alternatives:

1. Include EE in PGE's marginal cost study; or
2. Credit customers for the energy they are avoiding purchasing in 2018 (minus the cost of the corresponding EE).[1]

Q. Why is this topic important?

[1] CUB/100, Jenks/12.

A. The cap on EE funds that PGE can collect from its largest customers comes with a cap on the EE that can be provided to these customers. EE provided to large industrial customers can be the most cost-effective. This means that the cap in SB 838 can result in PGE not being able to obtain the most cost effective EE. Staff agrees with CUB that a limit on cost-effective EE is particularly concerning in light of the EE mandates in Oregon's 2016 Senate Bill 1547.[2] More than just the participants in EE programs should be interested in EE because it can reduce the need for new generation investments, avoid transmission and distribution system costs, and lower system emissions.

Q. Please summarize Staff's response to CUB's issue?

A. Staff makes three points:

1. First, CUB's analysis ignores the fact that reducing load through EE alters PGE's marginal cost of service study by reallocating a greater share of system costs to schedules that are not reducing load through EE. In Staff Exhibit 1600, Staff witness Lance Kaufman demonstrates that under a wide range of scenarios, this reallocation effect ensures that customers smaller than 1 aMW capture a benefit from SB 838 EE at least as large as the system benefit.
2. Second, if the system benefits of EE were greatly increased, then customers larger than 1 aMW could indeed see spillover benefits from other Schedule's SB 838 EE. This scenario is unlikely, because it would

[2] CUB/100, Jenks/7.

require the costs of energy and capacity to be much higher than all identified estimates. Nonetheless, if it were determined that customers larger than 1 aMW did indeed see a spillover benefit from SB 838 EE, then Staff supports using CUB's second proposed alternative of spreading credits based on value with the caveat that an embedded-cost-basis is used instead of a marginal-cost-basis.

3. Third, if at a future date SB 838 funds are used for EE projects for customers larger than 1 aMW yet those customers continue to not contribute to SB 838 funds, then CUB's second proposed alternative would spread credits based on value as a mechanism to reflect that customers smaller than 1 aMW have paid for EE investments in larger than 1 aMW customers and are entitled to the associated system benefits. While we recognize that this could be equitably appropriate, Staff is not sure if this approach would comport with the restrictions in SB 838 related to larger than 1 aMW customers funding additional EE or receiving additional benefits.

Q. Related to CUB's first alternative to include EE in PGE's marginal cost study, is Staff aware of any other utility that has done this?

A. No, Staff performed a brief internet search for utilities in other states that explicitly incorporate EE into their rate spread and did not find any.

Q. Does Staff agree with CUB that including EE in PGE's marginal cost study is a viable strategy to address the concern raised in CUB's testimony?

A. Staff does not think so. CUB's UE 283 proposal, which it reiterates in UE 319, does "not strictly speaking, include EE as a resource in the marginal cost of energy."[3] Accordingly, Staff's analysis focuses on CUB's second proposed alternative of spreading credits based on value. As described below, Staff modifies CUB's proposed marginal-cost differential adjustment into an embedded cost differential type adjustment, which has been utilized for other purposes in past Oregon PUC filings.

Q. At this time, is either of CUB's proposed alternatives necessary?

A. No, because customers under 1 aMW already receive a benefit larger than the revenue requirement delta between SB 838 EE and all other resources. Thus, as described in Staff witness Lance Kaufman's Exhibit 1600 testimony, CUB is trying to fix a problem that doesn't exist.

Q. If further analysis showed that customers smaller than 1 aMW are not receiving the full system benefit of SB 838 EE, does Staff agree with CUB's second alternative to credit customers with the value of the EE they purchase?

A. Yes, the embedded cost differential adopted for PacifiCorp's multi-state allocations in Docket UM 1050 provides a historical precedent for spreading credits based on value. Staff believes that CUB's proposal, with some modifications, would be a fair method to recognize the purchase of EE as a lower cost resource.

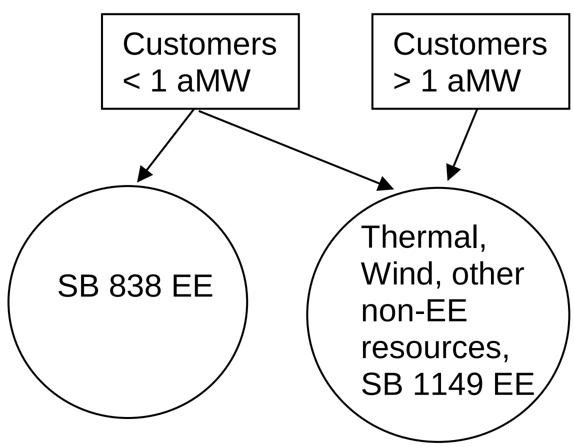
[3] Lines 14-15 of ICNU/400, Al-Jabir/10 in the UE 283 General Rate Case.

Q. What modifications to CUB's proposal to credit customers with the value of the EE they purchase does Staff propose?

A. In CUB's marginal cost computation, customers are avoiding the costs of a hypothetical new supply side resource, but in reality, existing resources comprise revenue requirement. Thus, an embedded cost differential is a better measure to spread costs incurred, and Staff uses that approach.

Q. How does Staff's embedded cost differential work?

A. Similar to CUB's computation, each customer class pays for its actual resources used, including EE. The diagram below provides an overview:



As in the diagram above, because customers below 1 aMW contribute to both sources of EE funding, SB 1149 and SB 838, it is fair for those customers to receive an equivalently larger share of the benefits (lower associated revenue requirement) of EE.

Q. How are the cost savings of EE and embedded cost differential computed?

A. In Staff's embedded cost differential computation, the revenue requirement of EE is compared to an approximation of the hypothetical revenue requirement were that EE to not exist. The delta is the cost savings, which are distributed in a revenue-neutral manner between rate schedules.

The embedded cost differential is computed by the following formula:

ECD = (cost of SB 838 EE ÷ mWh - cost of all other sources of power ÷ mWh) * SB 838 EE mWh

Q. Can you give an example of Staff's model?

A. Yes, below is a hypothetical example of how Staff's model allows procurement of all cost-effective EE.

Q. How does Staff compute the MWh available from EE during the test year?

A. For simplicity, Staff used CUB's assumption that EE savings are accumulated for ten years.[4] Staff recommends updating the model using the Energy Trust of Oregon's (ETO) actual weighted average measure life data because some projects have shorter or longer lives. For example, an HVAC economizer has a five-year life and an energy-efficient showerhead has a 15-year life. However, Staff believes that ten years is a reasonable approximation for purposes of this testimony.

Q. For illustrative purposes, please compute the 2018 test year amounts of EE included in rates?

A. As described above, customers smaller than 1 aMW are receiving the benefit from SB 838, so Staff's model should not be applied unless further analysis

[4] See CUB's response to ICNU DR 7.

proves otherwise. Nonetheless, for illustrative purposes, in the counterfactual scenario where customers smaller than 1 aMW are not capturing the full benefit of EE funded by SB 838, then Staff's model would provide an additional credit to the customers providing the funding. To develop the following example, the first step is to identify the SB 838 EE amounts being included in rates for the test year. The Staff estimate uses a ten-year average as a representative amount. To obtain this average Staff divides the average revenue requirement of SB 838 EE over 10 years up to 2018 by the cumulative quantity of SB 838 EE provided in CUB/100, Jenks/12. This provides an embedded cost of EE of $32.92 per MWh, which is somewhat higher than the levelized cost of EE used in CUB's computations of $26.10 per MWh.

Q. How does Staff approximate the hypothetical revenue requirement of the Company's generation power cost from non-EE sources?

A. The embedded cost differential in this case is the cost of SB 838 EE being included in the test year rates paid by customers smaller than 1 aMW as compared to all other sources of power. There are two components in Staff's calculation of the costs of all other sources of power. The first component is fuel cost, for which Staff uses the embedded generation net variable power cost. The second component is the fixed cost of plant that is avoided through EE. To compute this, Staff uses the embedded fixed generation cost decremented by 44 percent, recognizing that EE does not reduce peak capacity on a one-to-one basis.

The 44 percent decrement is computed assuming that half of fixed generation costs are incurred for energy and half are incurred for capacity. Of the costs incurred for capacity, Staff assumes that only 12 percent of those costs are avoided with EE. Thus:

$$1 - (0.50 + 0.50 * 0.12) = 44\%$$

Staff's 12 percent assumption is a guess, which Staff recommends should be updated when the ETO provides a more accurate figure from its ongoing study.[5]

Q. How are savings spread?

A. Each schedule is credited with the generation that is offset by EE. Schedules that contribute to EE funding, are allocated the delta between EE cost and embedded generation.

Q. Are there any shortcomings of this approach?

A. Yes, Staff's schedules-based approach does not specifically account for customers above 1 aMW. This is a moot point for Schedules 89 and 90 where all customers exceed 1 aMW, but it creates potential complications for Schedule 85 where only some customers have loads exceeding 1 aMW. Staff is open to considering alternative approaches that address this Schedule 85 issue proposed by CUB or other parties.

Q. What are Staff's hypothetical results?

[5] See page 28 of ETO's 2016 Annual Report which states, "[ETO] coordinated with utilities to quantify demand reduction benefits of energy efficiency."

A. The following table illustrates that using the assumptions described above for EE in 2018, if SB 838 EE system benefits were counterfactually not fully captured in net by customers smaller than 1 aMW, Staff's model would indicate that approximately $2 million should be transferred from customers larger than 1 aMW to customers smaller than 1 aMW to ensure that the customers whose annual load is more than 1 aMW are not receiving the direct benefits of SB 838 funding.

Schedule	**Net Rev. Req.Effect of Conservation Credit**
Sch 7	-$1,173,806.71
Sch 15	-$16,809.91
Sch 32	-$276,141.71
Sch 38	-$26,263.92
Sch 47	-$4,156.20
Sch 49	-$3,240.09
Sch 83	$15,500.96
Sch 85-S	$99,953.98
Sch 89-S	$428,827.89
Sch 90-P	$1,072,176.39
Sch 91/95	-$115,209.61
Sch 92	-$831.07

In the table above, customers larger than 1 aMW are not paying for SB 838 EE, rather, the delta between EE and traditional resources is being allocated to the schedules that fund SB 838 EE. This adjustment is a correction to align benefits with costs. As CUB describes, the Schedules that are currently contributing the most to SB 838 EE see a slight rate decrease under this proposal. Again, this adjustment should only by applied at some future date if customers smaller than 1 aMW were not in net capturing the full system benefit of SB 838 EE.

Q. Could this model be used if SB 838 funding were to be used on EE projects for customers larger than 1 aMW?

A. In that scenario, customers smaller than 1 aMW would be purchasing a different mix of resources than PGE's other customers. Thus, it would be appropriate for smaller customers to pay for the actual resources they use, including lower cost SB 838 EE. However, the transfer payment scheme advocated by Staff may not be consistent with SB 838's statutory prohibition on EE funding from customers larger than 1 aMW.

Q. At this time, is Staff advocating any changes to rate spread?

A. No, as described above, customers smaller than 1 aMW receive the direct benefit from their EE funding, thus CUB's proposed adjustment is unwarranted. If, at a future date customers larger than 1 aMW receive a direct benefit from SB 838 funding, then using CUB's model with modifications to compute costs on an embedded-cost basis rather than on a marginal-cost basis – i.e. Staff's model described above, is a reasonable approach. Other reasonable approaches likely exist, and Staff is open to considering other models if and when customers smaller than 1 aMW cease to capture the full benefits in net of SB 838 EE.

Q. Does this conclude your testimony?

A. Yes.

CASE: UE 319
WITNESS: MARIANNE GARDNER

PUBLIC UTILITY COMMISSION
OF
OREGON

STAFF EXHIBIT 1800

Rebuttal Testimony

August 17, 2017

Q. Please state your name, occupation, and business address.

A. My name is Marianne Gardner. I am a Senior Requirement Analyst employed in the Energy Rates, Finance and Audit Division of the Public Utility Commission of Oregon (OPUC). My business address is 201 High Street SE., Suite 100, Salem, Oregon 97301.

Q. Have you previously provided testimony in this case?

A. Yes, please see Staff Exhibit 400.

Q. What is the purpose of your testimony?

A. To report that Staff and other parties to the docket have reached an agreement in principle resolving all but one of the issues raised in the non-NVPC portion of Portland General Electric Company (PGE)'s general rate case.[1] The one remaining issue is whether the Commission should adopt one Oregon Citizens' Utility Board's proposals to remedy what CUB perceives as an unfair allocation of energy efficiency costs and benefits between customers with loads that exceed 1 aMW and those will loads under 1 aMW.[2]

Staff witnesses Max St. Brown and Lance Kaufman present testimony on the CUB proposal in Staff Exhibit Nos. 1600 and 1700. Because Staff has reached an agreement in principle regarding all other issues in this case, Staff presents no testimony in addition to this testimony and the testimony in Staff Exhibit Nos. 1600 and 1700.

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[1] As previously reported, parties have also reached an agreement in principle regarding the NVPC issues raised in PGE's general rate case. (*See* June 26, 2017 PGE Motion to Suspend Net Variable Power Costs Procedural Schedule).

[2] CUB/100, Jenks/2-13.

Q. Does this conclude your testimony?

A. Yes.