UTC STAFF COMMENTS REGARDING ELECTRIC UTILITY REPORTS ON TEN-YEAR ACHIEVABLE CONSERVATION POTENTIAL AND BIENNIAL CONSERVATION TARGETS

DOCKET UE-132043 (PUGET SOUND ENERGY)

DOCKET UE-132045 (AVISTA)

DOCKET UE-132047 (PACIFICORP)

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I. BACKGROUND

On Nov. 1, 2013, Puget Sound Energy (PSE), Avista Corporation (Avista) and PacifiCorp d/b/a Pacific Power and Light Company (PacifiCorp) timely filed their respective Biennial Conservation Plans (BCPs or Plans) with the Washington Utilities and Transportation Commission (Commission), as required by the Energy Independence Act (EIA),[1] WAC 480-109-010, and prior Commission orders.

Commission staff (Staff) participated in the development of the Plans through advisory groups for all three companies, and conducted a thorough review of the Plans as filed. Staff's review focused on verifying that the companies used methodologies consistent with the Northwest Power and Conservation Council's (Council) most recent Power Plan;[2] that proposed program changes are appropriate; and that each Plan complies with the statutory requirement to "pursue all available conservation that is cost-effective, reliable and feasible."[3]

These comments summarize the target-setting process, and address specific issues that have emerged through the development of the BCPs and ongoing implementation of conservation programs. Staff will present the final recommendations and the proposed conditions for approval at the Commission's December 18, 2013, Open Meeting.

II. TARGET SETTING

The target setting process begins with the development of the Conservation Potential Assessments (CPA), which establish the savings potential in a utility's service territory over twenty-, ten- and two-year periods. Once the potential is set, the utilities may make necessary adjustments to derive their biennial conservation target. All three utilities made a significant adjustment to their two-year potentials to address savings claimed from the Northwest Energy Efficiency Alliance (NEEA). The following section discusses the CPAs and NEEA adjustments each company made in setting the 2014-2015 biennial conservation targets.

Conservation Potential Assessments

The EIA requires a utility to use a methodology consistent with the Northwest Power and Conservation Council in preparing its assessment of conservation potential.[4] The Council builds the regional conservation portfolio from the bottom-up and the methodology consists of a three-step process.

1. **Technical Potential:** The Council identifies the conservation that could be physically achieved through all known avenues regardless of cost (including the utility's own

[1] RCW 19.285.
[2] RCW 19.285.040(1)(a).
[3] RCW 19.285.040(1).
[4] The Commission's rules allow a company to base its CPA on either the company's own Integrated Resource Plan (IRP) or on the company's prorated share of the Council's regional target, based on sales volume. See WAC 480-109-010(1). Each company used its IRP.

conservation programs, regional conservation programs provided by other entities, updates to building codes and standards, federal energy efficiency standards, etc.).

2. **Achievable Potential:** The Council identifies the portion of the economic potential that can be directly obtained given the inhibiting barriers (penetration and ramping rates, which are fixed at 85 percent for retrofit measures and 65 percent for lost-opportunity measures).
3. **Economic Potential:** The Council develops a cost-effectiveness screen, also called the estimated avoided cost, and applies it to the achievable potential for each individual measure.

This is a simplified summary of the Council's methodology; it is not intended to be a linear model. In practice, the companies may use the IRP to establish the estimated avoided cost and apply it to the technical potential in a more iterative process, which is acceptable as long as the total potential used as an input to the IRP has only been reduced by the Council's definition of achievable potential.

Through the Regional Technical Forum (RTF), the Council establishes unit energy savings (UES) values – the energy savings that can be expected from the implementation of a given measure. The Commission, through the conditions it has imposed in accepting previous BCPs, has ordered the companies to use those RTF figures wherever possible, and to justify and document any deviance.[5]

Review of Conservation Potential Assessments

Staff focused the review of the conservation potential assessments on five end-use measures from each company and compared the assumptions made by each company with the 6th Power Plan and regional technical forum (RTF) supply curves. The end uses examined provided a sampling of high-level potential savings in both the residential and commercial sectors. Staff reviewed the following assumptions: unit energy savings (UES), measure life, baseline comparison, incremental cost per unit, measure unit, saturation level of the market, percentage of market technically feasible, the levelized cost and the ramp rate of the measure. It is important to note that inputs and methods are not necessarily the same, and the company can have input values that are different from the 6th Plan, and RTF, while remaining consistent with the methodology. Commission rule provides that, "A utility may, with full documentation on the rationale for any modification, alter the conservation council's methodologies to better fit the attributes and characteristics of its service territory."[6] Staff reviewed the measures through data provided in the CPA, BCP, via e-mail and through phone calls with company staff and their consultants. The comparison of the specific measures between the companies was inconclusive. Further analysis is needed during the next biennium, and Staff will propose a condition for each company to address this issue in its December 18, 2013, open meeting memorandum.

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[5] *In re Pacific Power & Light Company's 2012-2021 Ten-Year Achievable Conservation Potential and 2012-2013 Biennial Conservation Target Under RCW 19.285.040 and WAC 480-109-010* Docket UE-111880, Order 01 at ¶ 27; *Puget Sound Energy, Inc.'s 2012-2021 Ten-Year Achievable Conservation Potential and 2012-2013 Biennial Conservation Target Under RCW 19.285.040 and WAC 480-109-010* Docket UE-111881, Order 01 at ¶ 35; *Avista Corporation's 2012-2021 Ten-Year Achievable Conservation Potential and 2012-2013 Biennial Conservation Target Under RCW 19.285.040 and WAC 480-109-010* Docket UE-111882, Order 01 at ¶ 28.

[6] WAC 480-109-010(1)(b)(i).

Puget Sound Energy

Given the limited amount of time available for review between the filing of the BCP and the deadline for providing comments, the initial filing should be substantially complete. However, PSE did not list its residential CFL program in the potential assessment, one of its largest programs, nor the ramp rates for each measure. PSE also needs to be consistent in reporting the assumptions for its end-use measures.

The inputs and assumptions of the reviewed measures are mostly derived from and closely parallel RTF and 6th Power Plan values. Where the inputs differ, PSE uses information specific to the company's service territory data, which is consistent with the Council. In Exhibit 5 of the BCP is a comprehensive list of measures with the UES, unit type, source of information, measure cost, and incentive level. This is a beneficial tool for understanding the source of the inputs in the BCP, although it does not provide an explanation when a RTF UES is not chosen.

The units for considering specific measures do not match between the BCP and the CPA. One document uses savings-per-household, and the other document, for the same end use, presents savings-per-unit. As an example, for the residential, existing, single family end-use measure "low-flow showerhead 1.5GPM", the CPA unit description is per-home and has a UES value of 620 kWh. In the BCP, the same end use is presented per-unit and has a UES value of 122 kWh. The company must provide the underlying conversions if it reports different units for the same end use in two different documents.

The CPA would have been further improved by the inclusion of a comparative table that provided the company's UES, the regional technical forum UES and an explanation that details any difference in value. This chart would directly address deviations from the RTF as required by previous order.[7] It would also have been improved by the inclusion of the ramp rates for each end use in the CPA for comparison with Council ramp rates.

Avista

Given the limited amount of time available for review between the filing of the BCP and the deadline for providing comments, the initial filing should be substantially complete. Staff was unable to verify a number of the assumptions made by the company, most importantly the source of each UES listed in the CPA and justification for deviation from RTF values.

Most measure assumptions other than UES (measure lifetime, incremental costs, baseline description, etc.) were similar to the RTF values. Furthermore, Avista's inclusion of measure ramp and saturation rates in the CPA was helpful.

However, the company's potential assessment does not list the source of each UES and in some cases that number significantly diverges from the RTF value. The company explains in the CPA that the sources are drawn from the RTF, the 6th Plan, Avista's business plan, its technical reference manual, and the consultant's own measure database. In phone conversations, the company reiterated that each UES assumption that is not the same as the RTF is based on local

[7] DocketUE-111881, Order 01 at ¶ 35.

information. However, despite requests, at this time supporting documentation has not been provided.

Avista does not explain the assumptions behind the number of units per household. The UES values in the CPA are often significantly different from the same measures in the biennial conservation plan. For example, "screw-in CFL interior lighting" for residential, existing, single family homes in Washington, the CPA lists the UES as 855.57 kWh per-household, per-year. In Appendix C of the BCP, the UES value for the same measure is 23.74 kWh per bulb. The company must provide the underlying conversions if it reports different units for the same end use in two different documents.

The CPA would have been improved by the inclusion of a comparative table that provided the company's UES, the regional technical forum UES and an explanation that details any difference in value. This chart would provide clarification for deviation from the RTF as required by previous order.[8] The residential and commercial end-use data tables would have been improved by the inclusion of a 20-year achievable potential estimate of each measure in the CPA. Avista should provide the forecasted achievable potential for each measure in the assessment.

PacifiCorp

There is a limited amount of time available for review between the filing of the BCP and the deadline for providing comments, and Staff appreciates that the initial filing was substantially complete. The inputs and assumptions used for the examined measures were largely derived from and closely parallel RTF and 6th Power Plan values. Where the inputs differed, PacifiCorp used information specific to the company's Washington service territory data and provided the necessary documentation.

Unique among the three utilities, PacifiCorp provided a comparative table that detailed each end-use measure, the chosen UES, its source, the regional technical forum UES, and an explanation for any variance between the two. This table is the most useful tool provided by any company for comparing the CPA measures to the council methodology.

The CPA would have been improved by the inclusion of the ramp rates for each end use for comparison with Council ramp rates. The BCP would have been improved by the inclusion of a comprehensive list of measures with the UES, unit type, source of information, measure cost, and incentive level to verify that the inputs used to set the targets are the same as the CPA and consistent with Council methodology.

Programs Included in Biennial Target

The review of the BCPs again raised the question of which programs need to be part of a company's biennial conservation target. This issue has been discussed during the previous target-setting exercises.

[8] Docket UE-111882, Order 01 at ¶ 28.

As a general rule, if a company has developed or plans to implement a cost-effective program and intends to use those savings to meet its biennial conservation target, the savings should be included in the biennial conservation target. There are two existing exceptions to this guideline:

1. A company may spend up to 10 percent of its budget on pilot projects with uncertain levels of savings.
2. A company should implement new technologies or opportunities that become available after the target is set. If these opportunities are larger than the 10 percent allowance for pilot projects, the company must consult with its advisory group and meet other applicable requirements prior to implementation.

The companies have jointly proposed an additional exception for NEEA savings, which is discussed further below.

NEEA Savings

NEEA is a non-profit organization that works in collaboration with its funders and other strategic market partners to accelerate the innovation and adoption of energy-efficient products, services, and practices in the Pacific Northwest. All three utilities fund NEEA in support of regional market transformation efforts.

In previous biennia, the utilities included NEEA savings projections as part of the biennial target, and claimed NEEA savings against that target. However, during the review of the 2012 Biennial Conservation Reports, both Staff and Public Counsel noted significant inconsistencies between the companies in the calculation of NEEA savings that were being counted toward the biennial targets. As a result, the Commission ordered each company, in collaboration with the other companies, to develop a consistent approach to claiming NEEA savings and file a joint proposal for how to claim NEEA savings with the Commission by November 1, 2012. Each utility was further ordered to incorporate the modified approach into the development of the 2014-2015 BCP.

On October 31, 2012, the utilities jointly filed the required proposal for claiming NEEA savings. In essence, the companies proposed to 1) calculate NEEA savings using consistent baseline assumptions and 2) subtract projected NEEA savings from the first two years of the 10-year conservation potential when determining the biennial conservation target. Each utility would still pursue and report actual NEEA savings, but projected NEEA savings would not be part of the EIA-required biennial conservation target, and actual NEEA savings would not count toward its achievement of its target.

Staff accepts this general approach for purposes of this biennium. However, it is important to note that NEEA's savings projections include categories of savings that may not be reflected in a company's CPA and are derived from different baseline assumptions than are used in a company's CPA. Therefore, it is necessary that NEEA savings projections be adjusted to account for these factors to be commensurate with the CPAs and the biennial targets. Without these

adjustments, projected NEEA savings would appear to be a comparatively large proportion of the biennial potential and once subtracted from the biennial target (per the joint proposal) would leave an artificially low compliance target.

The companies propose two basic adjustments to NEEA's savings forecast. First, each utility's NEEA forecast will be developed using a 6th Power Plan baseline for 2014 and a proxy 7th Power Plan baseline for 2015. This is a minor deviation from the methodology in the joint proposal, but Staff believes this is appropriate and necessary. Second, each utility will adjust projected NEEA savings to reflect only those savings that are captured in a CPA.

Although the three companies approach this second adjustment in slightly different ways, each adjustment leads to a fair approximation of NEEA savings that are identifiable to the CPAs and that can be used to derive the biennial conservation targets. For this biennium only, Staff accepts the companies' implementation of the joint proposal and the methodologies used by each company to estimate NEEA savings that may be removed from the compliance target. However, this is clearly an ongoing discussion and future biennia may require adjustments or revisions to this treatment.

There are some potential drawbacks to the approach proposed by the companies. Removing NEEA savings from the compliance target could introduce an incentive for the utilities to urge NEEA to scale back its work in their service territories, so that the utility does not have "competition" for the savings. Although NEEA and the utilities generally work on different market barriers and often on different measures, this potential conflict could impact the suite of initiatives NEEA pursues. One option to reduce this conflict would be to return utility representation on NEEA's Board of Directors back to the Vice President level.[9] This would create space between the individuals responsible for delivering savings and the individuals guiding regional efficiency efforts.

III. COMPANY TARGETS AND PLANS

Puget Sound Energy

For the 2014-2023 period, PSE estimates that its 10-year achievable conservation potential is 2,730,408 MWh (311.7 aMW), as measured at the customer meter. The majority of the savings come from energy efficiency measures. PSE plans to achieve approximately 2 percent of the savings through the implementation of distribution system efficiency improvements, and about 1 percent of savings through efficiency upgrades at PSE's production facilities.

[9] Since 2012, representation on NEEA's board for investor-owned utilities switched from Vice Presidents to Directors. That is, in December 2011, Avista appointed Director of Customer Energy Management Bruce Folsom, to replace Vice President and Chief Strategy Officer Roger Woodworth. In March of 2013, PSE appointed Director of Customer Energy Management Bob Stolarski to replace Vice President of Energy Efficiency Services Cal Shirley. PacifiCorp, on the other hand, appointed Vice President of Finance and Demand-Side Management Kathryn Hymas to replace Vice President of Customer and Community Affairs Pat Egan.

The two-year portion of PSE's 10-year potential is 589,985 MWh (67.3 aMW) at the generator level. From here, PSE made a few adjustments to derive its biennial conservation target. First, PSE adjusted the savings for the impact of line losses to identify the potential at the customer meter level. PSE does not include behavioral savings in its CPA, so 6,421 MWh of projected savings from its existing Home Energy Reports initiative[10] were added to the target. Lastly, PSE subtracted 72,533 MWh of savings attributable to NEEA programs from the biennial conservation target, as discussed above. These three adjustments resulted in a 2014-2015 biennial conservation target of 485,768 MWh (55.5 aMW).

However, PSE's business plan includes funding for NEEA and a new pilot expansion of Home Energy Reports, which is expected to generate 35,330 MWh of savings. Due to the uncertainty around the new pilot, PSE did not include the Home Energy Reports expansion savings in its target, even though PSE expects to achieve those savings. Finally, as a result of PSE's decoupling mechanism in Docket UE-121697, PSE has committed to achieve 5 percent additional savings above its biennial conservation target. This means that PSE's BCP is designed to achieve 621,120 MWh (70.9 aMW) of conservation savings, even though the biennial conservation target for compliance with the EIA is 485,768 MWh (55.5 aMW).

Table 1. PSE Conservation Savings and Budgets

	2012-2013 Biennial Target	2014-2023 10-year potential	2014-2015 Biennial Target	2014-2015 Portfolio Total
Savings	666,000 MWh (76.0 aMW)	2,730,408 MWh (311.7 aMW)	485,768 MWh (55.5 aMW)	621,120 MWh (70.9 aMW)
Budget	$193,429,000	-	-	$188,784,100

PSE plans to spend $188,784,100 to achieve the total portfolio savings of 621,120 MWh, which includes NEEA savings, the Home Energy Reports expansion pilot and the decoupling commitment savings. As filed, PSE's total portfolio achieves a Total Resource Cost (TRC) ratio of 1.63 and a Utility Cost Test (UCT) ratio of 2.25, indicating that the portfolio is cost-effective.

In response to changing market conditions and regulatory requirements, PSE made several programmatic adjustments in its business plan for the 2014-2015 biennium. As mentioned above, PSE's business plan intends to achieve 105 percent of the 2014-2015 biennial conservation target due to the requirements of its decoupling mechanism. Also due to the decoupling mechanism, PSE has increased funding for low-income weatherization by $500,000 compared to the previous biennium. The Home Energy Reports expansion pilot will add roughly 100,000 customers to three different treatment groups: electric-only customers; non-urban customers; and customers with relatively high usage. PSE is also introducing a business energy report pilot for small- and medium-sized businesses, similar to Home Energy Reports. To ease customer navigation of its suite of incentives, PSE plans to combine its Single Family New Construction and Multifamily Construction teams into a single group, and to streamline the business lighting application process. PSE further proposes to test a new remote energy audit tool for its business customers, as a more efficient way to identify retrofit and operational improvements. Although the impacts

[10] Further discussion of the Opower Home Energy Reports initiative is included in the "Opower Savings" section of these comments.

of the economic recession and low natural gas prices continue to challenge the cost-effectiveness of efficiency measures, PSE has adjusted its program offerings to maintain a cost-effective portfolio.

PSE's collaborative approach to developing the business plan with its Conservation Resources Advisory Group (CRAG) is appreciated. However, there are three issues of concern within the BCP.

1. Residential Lighting – PSE estimates that over 40 percent of its residential savings will come from lighting measures. However, PSE also acknowledges that UES values for CFLs "continue their downward trend as the measure approaches a saturation point."[11] Similarly, PSE's Plan recognizes that the UES values for residential LED lamps are also lower, reflecting more CFLs in the baseline. Given these trends, Staff is concerned that PSE might not be able to deliver the savings from the single largest resource in its portfolio. PSE should provide at least quarterly updates at CRAG meetings on the acquisition of savings from the residential lighting initiatives.

2. Third-Party Biennial Review – In previous biennia, the Commission has required PSE to conduct a one-time third-party biennial review of its portfolio savings. PSE expressed to the CRAG an interest in eliminating this requirement, due to the expense and the fact that PSE has increased its internal verification capacity. Staff and other CRAG members were uncomfortable removing this requirement, because it provides an impartial assessment of PSE's processes and achievements. As a compromise, Staff proposed that a third-party review for the 2014-2015 biennium could be scaled back to spend less effort reviewing areas that are performing up to industry standards, and to avoid overlap with the efforts of PSE's internal Verification Team. PSE expressed its interest in this compromise but was reluctant to define a budget for this review in the BCP. Redesigning the scope for the review may make estimating the cost difficult at this time. PSE indicated that, after upcoming negotiation with the CRAG, it will be willing to include the cost of the third-party biennial review into its 2015 Annual Conservation Plan (ACP) budget. Staff is amenable to this approach, and is working with the company to ensure that the proposed conditions appropriately reflect this compromise.

3. Conservation Voltage Reduction (CVR) funding – PSE proposes to recover $321,800 for its conservation voltage reduction program through the conservation rider in the 2014-2015 biennium. These expenditures would cover the phase-balancing labor that is necessary to support voltage reduction. PSE also intends to spend $800,000 on capital improvements, such as replacing transformers, which would be recovered through general rates. The program is designed to achieve 6,200 MWh of savings during the biennium at a total cost of $1,121,800. Staff opposes PSE's plan to recover CVR funds through the conservation rider. The Commission previously determined in its order approving PacifiCorp's 2012-2013 Biennial Target that,

[11] Docket UE-132043, PSE 2014-2015 Biennial Conservation Plan, page 49.

> "Recovery of costs associated with Distribution and Production Efficiency initiatives are not funded through the [System Benefits Charge] because these programs are not customer conservation initiatives; these are company infrastructure conservation programs. As such, these costs are recovered in the general rate making process over time and may be requested through a general rate case, a deferred accounting petition or other allowed mechanism."[12]

As with other operation and maintenance (O&M) expenses, the company has existing mechanisms to recover the costs for the phase-balancing work. The Commission order quoted above does not distinguish between capital and O&M costs, but simply prohibits recovery of distribution efficiency costs through a conservation rider. Generation, transmission and distribution efficiency efforts directly affect the operation of PSE's system, and should be recovered through general rates to account for any offsetting factors. Staff will recommend that the $321,800 for CVR be removed from PSE's 2014-2015 biennial budget. PSE retains the responsibility for pursuing CVR savings as part of its obligation to "pursue all conservation that is cost-effective, reliable and feasible."[13]

Avista

Avista used its 2014-2023 CPA, performed within the 2013 Electric IRP,[14] as the basis for its 10-year achievable conservation potential and biennial target. For the 2014-2023 period, Avista estimates that its 10-year achievable conservation potential is 404,736 MWh (46 aMW).[15] The two-year portion of Avista's 10-year potential is 67,137 MWh (7.7 aMW). This does not include savings from distribution and generation efficiency.

To derive the biennial target, Avista adjusted the two-year potential to account for distribution and generation efficiency opportunities as well as to account for end-use efficiency savings to be acquired by NEEA. After adding 2,061 MWh and 163 MWh from distribution and generation efficiency, respectively, and removing 11,130 MWh to account for NEEA acquisition, the 2014-2015 biennial conservation target is 58,231 MWh.

This target does not include fuel conversions or savings potential associated with behavior-based programs. The company also does not identify acquirable potential related to thermal efficiency, though it states its intention to pursue opportunities in this area and claim acquisition toward its compliance target.[16]

Table 2. Avista Conservation Savings and Budgets

	2012-2013	2014-2023	2014-2015	2014-2015

[12] Docket UE-111880, Order 01, condition 11(d).
[13] RCW 19.285.040(1).
[14] Avista's 2013 IRP is filed with the Commission under Docket UE-121421.
[15] This potential differs from the potential reported in Avista's BCP (394,200 MWh) due to an error in the calculation of 2023 cumulative pumping savings within the CPA. This error was acknowledged in the Company's response to informal Staff data request 01. The correct 10-year potential is 404,736 MWh.
[16] Avista, 2014-2015 Biennial Conservation Plan, page 5.

	Biennial Target	10-year potential	Biennial Target	Portfolio Total
Savings	108,589 MWh (12.4 aMW)	404,736 MWh (46.2 aMW)	58,231 MWh (6.6 aMW)	67,137 MWh (7.7 aMW)
Budget	$27,086,578[17]	-	-	$21,537,271

The 2014-2015 total portfolio savings represent a 38 percent reduction as compared to the previous biennium. The primary cause of this reduction is a substantial fall in natural gas costs which has, in turn, led to a decrease in electric avoided costs. As electric avoided costs are used in the economic screening of efficiency measures within the CPA, lower avoided costs cause a decrease in the quantity of conservation identified as cost-effective. The biennium-over-biennium decrease in achievable potential is not surprising.

Avista budgets $10,565,980[18] in 2014 to achieve the total portfolio savings of 31,816 MWh for the first year of the biennium.[19] Avista's 2014 budget is roughly 72 percent of the 2013 budget ($14,712,717), reflecting the lower acquisition potential relative to the previous biennium. As proposed, the company offers a cost-effective portfolio that is projected to exceed the annual share of its biennial target. Avista's projected 2014 end-use acquisition represents 54 percent[20] of the biennial potential and its total portfolio is designed to achieve a TRC ratio of 1.09 and a UCT ratio of 2.28.

No major programmatic revisions other than those already approved by the Commission[21] were identified in the 2014 business plan.

As with PSE, there are three issues within Avista's BCP requiring discussion:

1. Home Energy Reports – In Avista's 2013 CPA, behavioral measures did not pass the cost-effectiveness screen so they were not included as part of the economic potential. Subsequent to the completion of the CPA, costs declined such that now Avista can offer a cost-effective behavior-based program. Avista's proposed target, however, does not include the expected 5,164 MWh of savings from its Home Energy Reports program. It is important to maintain a reasonable level of consistency between target-setting and the application of acquired savings toward that target. As discussed above, savings that a company intends to acquire should only be applied toward a target if a reasonable estimate of those savings was reflected in the target in the first place.

   As the behavior-based savings are not reflected in Avista's current target, it would not be appropriate to for Avista to claim those savings in its Biennial Conservation Report against the compliance target the Commission establishes in this docket. If

[17] Based on 2012 and 2013 DSM Business Plan budgets of $12,373,861 and $14,712,717, respectively.
[18] Avista 2014 DSM Business Plan, page 64.
[19] Avista 2014 DSM Business Plan, page 51. This total includes savings associated with fuel efficiency programs. After removing fuel efficiency programs, the total qualifying savings projection is 31,194 MWh. Avista files annual business plans, so the details for 2015 are not fully included in Avista's BCP.
[20] This percentage does not include fuel efficiency programs. The 57 percent that Avista reports on page 52 of its 2014 DSM Business Plan includes savings from fuel efficiency programs which cannot be claimed against the biennial target.
[21] Docket UE-131217, effective August 15, 2013.

Avista intends to apply Home Energy Reports savings toward the forthcoming biennial target, the target should be adjusted accordingly before approval. Given that Avista has been running its Home Energy Reports program for less than a year, considerable uncertainty still remains around expected program impact, which may be as much as 16 percent of its total 2014 savings acquisition. Therefore, it is most appropriate to exclude savings from the Home Energy Reports program from both the 2014-2015 compliance target and the application of acquired savings toward that target. Avista retains the responsibility for pursuing behavior-based savings as part of its obligation to "pursue all conservation that is cost-effective, reliable and feasible."[22]

2. UES Summary Table – As discussed in the above section on CPAs, Staff could not readily determine the source of each UES that was used for the CPA, the justification for deviation from RTF values, or the unit conversion assumptions (e.g. savings-per-unit versus savings-per-household). As Avista is requesting to "lock" the UES values for the biennium, it seems reasonable that the UES values that are being locked are clearly identified and defined at the outset.

   Staff asked that Avista produce a table of the UES being locked prior to recommending approval of the proposed target. The table should include, at a minimum, the UES value used for the CPA as well as the source of the value being used (e.g. RTF, adjusted RTF, technical reference manual, etc.). Once the UES values are identified and defined, Avista's target can likely be approved. As of the drafting of these comments, the company has not provided this UES table. In order for Staff to incorporate this table into the Staff memorandum outlining its recommendations, it will need to be completed and provided to Staff by December 10, 2013.

3. Use of the net-TRC – Avista manages its electric DSM portfolio to maximize the net TRC test performance. That is, for planning purposes Avista applies a net-to-gross adjustment to a subset of the measures it offers. In discussions within Avista's Advisory Group, a concern was raised that this might be inconsistent with Council methodology given that the Council's regional approach does not attempt to quantify savings achieved by customers outside of a utility service territory or by those customers who would have completed efficiency improvements in the absence of a utility program. Therefore, the Council does not explicitly apply a net-to-gross ratio. However, although the Counsel does not quantify these spillover and free rider effects, it does adjust its market baseline to account for current practice which likely addresses some portion of these effects. For this reason, Avista only applies a net-to-gross adjustment to measures that do not rely upon an RTF adjusted baseline.

   To the extent that Avista's net-to-gross adjustment aligns with the Council's adjusted market baseline, the adjustment is appropriate, but for planning purposes only. As long as spillover and free riders can be reasonably quantified within Avista's service territory, it is appropriate to optimize a conservation portfolio using that information.

[22] RCW 19.285.040(1).

However, Avista's net-to-gross adjustment may not align neatly with the Council's adjusted market baseline, nor is broad consensus that spillover and free riders have been reasonably quantified for measures within Avista's service territory. Avista may continue planning on a net-TRC basis, but this conversation should be taken up again by the Advisory Group in the coming year and with the input from one or more members of the Council. Avista should continue to report acquisition cost effectiveness using a gross TRC test.

PacifiCorp

PacifiCorp's 2013 Integrated Resource Plan (IRP) identified an initial 10-year conservation potential of 313,880 MWh (35.8 aMW) in its Washington territory.[23] In preparing the 2014-2023 conservation forecast, the company made a number of adjustments that fall into three general categories: revised UES values based on RTF updates or company program evaluations, the Home Energy Reports program (which was not included in the CPA), and conservation opportunities in production facilities that were assessed in another study. On net, these adjustments increased the 10-year conservation forecast to 391,777 MWh (44.7 aMW).[24]

Virtually all of the conservation PacifiCorp identified was in the energy efficiency category. No potential was identified in distribution efficiency, where the most common approach to achieving efficiency gains is conservation voltage reduction (reducing the flow of electricity on distribution lines, thereby reducing friction and line losses). PacifiCorp, however, already operates its distribution system at a relatively low voltage. The company conducted two pilot projects on Washington circuits in the current biennium to evaluate the potential for additional voltage reduction, but found that incremental efficiency gains were difficult to achieve and not cost-effective.[25]

PacifiCorp identified a small amount, up to 590 MWh, of production efficiency potential. The potential gains are at jointly owned facilities, so the Company will need to obtain agreement from its counterparty at each facility before moving forward. For that reason, PacifiCorp has assigned a range of 0-590 MWh for its production efficiency potential.[26] The company has applied that range to both its 10-year potential and two-year conservation target, resulting in a potential of 391,187 – 391,777 MWh and a target of 74,703 – 74,719 MWh.

WAC 480-109-010(2)(c) allows utilities to use ranges in their targets, not their 10-year potential. In practice, however, if the Commission approves PacifiCorp's proposed conservation target of 74,703 – 74,719 MWh, the company will only need to achieve the low end of the range to be in compliance; the high end is irrelevant. The rationale behind PacifiCorp's use of a range in its target seems reasonable, given that the company's ability to achieve the production efficiency gains depends on a third party.

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[23] Docket UE-131047, PacifiCorp Biennial Conservation Plan, pg. 12.
[24] Docket UE-131047, PacifiCorp Biennial Conservation Plan, pgs. 17-26.
[25] Docket UE-131047, PacifiCorp Biennial Conservation Plan, pg. 23.
[26] For a more thorough discussion of the location and size of the potential production efficiency gains and the relevant ownership structures, see Docket UE-131047, PacifiCorp Biennial Conservation Plan, pgs. 24-25.

There are two issues at stake: ensuring that PacifiCorp is not unduly held accountable for the actions of third parties and ensuring that the company remains properly incentivized to pursue all viable conservation. PacifiCorp's full 10-year potential is 391,777 MWh. Staff could accept the low end of the two-year target, 74,703 MWh. This recognizes production efficiency as a long-term conservation opportunity and encourages the company to pursue it, but does not bind the company to achieve these particular savings within the next biennium.

Under this method, PacifiCorp's achievable potential for the 2014-2015 biennium is 89,016 MWh. After removing NEEA's projected savings, the company's conservation target is 74,703 MWh (8.5 aMW).[27] In its 2014-2015 DSM Business Plan, PacifiCorp projects that it will exceed its biennial conservation target by about 5.5 percent, achieving total conservation of 78,861 MWh (9.0 aMW).[28]

Table 3. PacifiCorp Conservation Savings and Budgets

	2012-2013 Biennial Target	2014-2023 10-year potential	2014-2015 Biennial Target	2014-2015 Portfolio Total
Savings	77,964 MWh (8.9 aMW)	391,187 – 391,777 MWh (44.6 aMW)	74,703 – 74,719 MWh (8.5 aMW)	93,193 MWh (10.6 aMW)
Budget	$19,005,571	-	-	$20,724,657

At the total portfolio level, which includes NEEA savings, PacifiCorp projects that it will achieve 93,193 MWh of savings over the biennium, at a cost of $20,724,657. Cost-effectiveness tests performed by a third party found that PacifiCorp's planned portfolio, when applying the Council's 10 percent conservation adder, achieves a TRC of 1.70 and a UTC of 2.42.[29]

PacifiCorp's business plan contains a number of program changes to help achieve the target. The most significant of these is the company's request to streamline its two commercial and industrial energy efficiency tariffs into one.[30] In addition to streamlining administration and reducing confusion, the proposed tariff includes a number of new and increased measures designed to remove barriers and allow more participation. PacifiCorp is quadrupling its customer incentive for heat pump water heaters, from $150 to $600, to increase customer participation. The company will also add a $1,000 bonus incentive for customers that install a list of five designated measures. The rest of the program changes are based on new information from the RTF, Energy Star program and company program evaluations, and are minor in detail. These changes appear reasonable.

[27] For more information on how the PacifiCorp treated NEEA savings in setting its target, see Docket UE-131047, PacifiCorp Biennial Conservation Plan pgs. 27-31.
[28] Docket UE-131047, PacifiCorp Biennial Conservation Plan, Appendix 7 (PacifiCorp Demand-side Management 2014-2015 Business Plan – Washington), pg. 4.
[29] Docket UE-131047, PacifiCorp Biennial Conservation Plan, Appendix 7 (PacifiCorp Demand-side Management 2014-2015 Business Plan – Washington), pg. A1-3.
[30] PacifiCorp filed this tariff in Docket UE-132083 on Nov. 12, 2013.

PacifiCorp's efforts to engage its advisory group in the planning process and the thoroughness of the BCP as filed are appreciated. However, PacifiCorp's Plan does not take advantage of the Commission's stipulation that allows for up to 10 percent of the conservation budget to be spent on "programs whose savings impact has not yet been measured … (including) educational, behavior change, and pilot projects."[31] This stipulation is meant to encourage utility investment in cutting-edge technologies and programs that could further move the energy efficiency market. However, in the upcoming biennium, PacifiCorp only plans to spend 0.6 percent of its budget on such programs.[32] The company should be more proactive in looking for innovative conservation opportunities.

IV. COMMON ISSUES IN PROGRAM IMPLEMENTATION

There are two additional issues related to program implementation requiring attention across the utilities: treatment of savings from behavioral programs run by Opower; and application of unit energy savings (UES) values during the biennium.

Opower savings

During the 2012-2013 biennium, Avista and PacifiCorp joined PSE in offering Home Energy Reports to certain customers through third-party contractor Opower. Avista and PacifiCorp are engaged in pilot projects for the service; PSE began its pilot in 2008 and has since incorporated Home Energy Reports into its conservation target for the current biennium.

Home Energy Reports is a behavioral program, consisting of a detailed billing statement that shows how the customer's usage is trending over time and how it compares to other customers in the surrounding area. The goal of this program is to provide a social incentive for high-usage customers to become more efficient.[33] The reports also provide simple, energy-saving tips to further encourage conservation and participation in utility rebate programs.

Home Energy Reports can be a highly cost-effective source of savings. In the upcoming biennium, for example, PacifiCorp projects that its Home Energy Reports conservation savings will cost 2.6 cents per kWh,[34] while PSE projects a cost of about 5 cents per kWh. [35,36]

Although all three companies are using the same contractor, each company uses a different methodology for determining the savings that can be attributed to the Home Energy Reports.

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[31] Docket UE-111880, Order 01 at paragraph 28, condition 7(d).
[32] See PacifiCorp's Biennial Conservation Plan, pg. 50.
[33] See Moore, Michal C., "The Role of Energy Efficiency in Electric Power Systems: Lessons from Experiments in the US."
[34] See PacifiCorp's 2014-2015 DSM Business Plan, pg. 4. PacifiCorp projects 10,885 MWh of savings from home energy reports, at a budget cost of $288,000.
[35] See spreadsheet titled "2-Year View: PSE Conservation Rider Savings Goals and Budgets, 2014-2015," located in Vol. 2, Exhibit 1 of the company's filing. PSE projects 6,420 MWh of savings from home energy reports, at a budgeted cost of $320,300.
[36] These per-kWh costs should not be compared to one another, as they are the result of different assumptions and methodologies employed by PacifiCorp and PSE. They are included here only for illustrative purposes and should not be directly compared. Avista has not provided similar per-kWh information.

There should be some consistency in how the companies measure and report the savings from their Home Energy Reports programs. However, there is no preferred methodology at this time, because resolution of the following three issues requires additional data and program experience:

- **Persistence:** How long the savings achieved through behavior modification last. If customers stop receiving the reports, to what degree will they relapse into previous, inefficient behavior? How much of a customer's conservation savings in a given year are a result of that year's Home Energy Reports, and how much of those savings were driven by reports received in a previous year? The persistence question affects the amount of savings that a utility will claim from the program each year.

- **Measure life:** How often a company needs to "re-purchase" the savings from its customers. This is closely related to the persistence rate. If persistence is very low, then most or all of the conservation that the Home Energy Reports create in a given year will be attributable to program expenditures in that year. If persistence is higher, then the conservation achieved in a given year will be attributable to program expenditures over multiple years. The measure life question has implications for evaluating the cost-effectiveness of the Home Energy Reports.

- **Program overlap:** If a Home Energy Report inspires a customer to become more efficient by taking advantage of a utility-sponsored program to upgrade one of their appliances, how does the utility ensure that the savings are only counted once? The program overlap issue has portfolio-wide implications in assuring that each utility's reported conservation is accurate.

Developing a consistent treatment of Opower savings will require additional time and information. It may be appropriate at a later date to work with the companies to develop a consistent methodology, as was done with NEEA savings in the current biennium. During the 2014-2015 biennium, Staff intends to review program evaluations from the companies and discuss with the conservation advisory groups options for promoting consistent treatment in future biennia.

The following summaries describe each company's methodology for calculating Opower savings:

- **Avista:** Uses a two-year measure life, with an assumed persistence rate of 100 percent between consecutive years. Avista's Home Energy Reports program will be evaluated on a two-year cycle, with the expenditures in year one of the biennium creating all of the conservation in year one and roughly 62 percent of the conservation in year two.[37] The remaining 38 percent of year two conservation will be incremental to year one persistence, attributable to year two expenditures, and itself persistent into year three. To account for program overlap, Avista plans to discount its reported savings from Home Energy Reports by 2 percent.[38]

[37] Docket UE-132045, Avista 2014 DSM Business Plan, pg 42.
[38] Avista provided this figure in response to a Staff data request. The company tentatively settled on 2 percent after consulting with Opower; Avista plans to update this figure based on the pilot program findings.

- **PacifiCorp:** Uses a one-year measure life, with an assumed persistence rate of 0 percent. That means that the company's Home Energy Reports program will be evaluated on a one-year cycle, with each year's expenditures creating all of the conservation for that year. To account for program overlap, PacifiCorp discounts its reported conservation from Home Energy Reports by 7 percent.[39]

- **PSE:** Uses a two-year measure life, with an assumed persistence rate of 100 percent within the biennium and 0 percent between biennia. That means that the company's Home Energy Reports program will be evaluated on a two-year cycle, with the expenditures in year one of the biennium driving all conservation in year one and the same amount of conservation in year two. Any incremental gains in year two will be attributable to year two expenditures. All measurement resets with the next biennium. To account for program overlap, PSE subtracts savings attributed to other incentive programs, which resulted in a discount of about 2 percent to 2012 Home Energy Reports savings.[40]

In addition to obtaining continued program data, companies must use the data they gather. PSE's initial Home Energy Reports pilot suspended the reports for a quarter of households in the program after two years, and is tracking the persistence of savings within those households. This is a valuable study, yet PSE's methodology for measuring its Home Energy Reports savings does not seem to reflect the persistence levels found by the study. Staff is committed to working with the companies to devise a reasonable and consistent approach, and the success of this effort depends on the companies acting on the information they gather.

Locked Unit Energy Savings (UES) values

UES values refer to the expected savings an energy efficiency widget will achieve as compared to the market baseline. UES values tend to decrease over time as market baselines are pushed progressively higher. As a result, UES updates can occur after the target has been established but before biennial acquisition is reported.

During the development of these BCPs, a question arose as to whether these updated UES values should be incorporated into the calculation of savings a company reports at the end of the biennium. The problem associated with such a requirement is that by incorporating updated UES values into the calculation of savings that a company applies toward its target, there would be a mismatch between the assumptions used for target setting and the assumptions used for reporting achievement toward that target. Intra-biennial UES updates could contribute to a higher risk of a company not meeting its target, specifically if that updated UES is used for calculating savings toward the biennial target.

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[39] PacifiCorp arrived at the 7 percent figure after consulting with Opower program evaluations done by other utilities (including PSE and Sacramento Municipal Utility District), which found that program overlap ranged from 3-5 percent. The company picked the high end of the range and added an additional 2 percent to maintain a conservative projection. PacifiCorp will update this figure based on the evaluation of its pilot program.

[40] PSE established this figure through a survey of its Home Energy Reports customers to find out the specific ways that customers were conserving energy.

This risk is due to at least some factors exogenous to the company. However, there is no information on whether this risk is substantial. Therefore, in the June 1, 2016, Biennial Conservation Reports, the companies proposing to use locked UES values should report two sets of savings: one using fixed UES and the other using updated UES. In addition, for the 2014-2015 biennium only, the Commission could allow the companies to apply savings toward the target that are calculated using the same UES assumptions that were used during target setting.

Regardless of whether updated UES will be used for reporting progress toward the target, it is important to use the most accurate, up-to-date information possible when developing an annual business plan. To accomplish this goal, annual UES updates must be performed and incorporated into the annual business plans.

V. CONCLUSION

Staff will present its final recommendations at the December 18, 2013, Open Meeting, after stakeholder comments have been received and reviewed.