BEFORE THE WASHINGTON
UTILITIES AND TRANSPORTATION COMMISSION

In the Matter of Puget Sound Energy 2016-2017 Biennial Conservation Report	**DOCKET UE-152058**
In the Matter of Avista Corporation 2016-2017 Biennial Conservation Report	**DOCKET UE-152076**
In the Matter of Pacific Power and Light Company 2016-2017 Biennial Conservation Report	**DOCKET UE-152072**

COMMISSION STAFF COMMENTS REGARDING ELECTRIC UTILITY CONSERVATION ACHIEVEMENTS UNDER THE ENERGY INDEPENDENCE ACT, RCW 19.285 and WAC 480-109 (2016-2017 BIENNIAL CONSERVATION REPORTS)

JULY 19, 2018

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Executive Summary

In 2006, Washington voters approved Initiative 937, also known as the Energy Independence Act (EIA). Now codified in RCW 19.285 and Chapter 480-109 WAC, "qualifying" electric utilities — those with at least 25,000 customers in Washington — are mandated to set and meet energy conservation targets.[1] The Washington Utilities and Transportation Commission (Commission) approved the 2016-2025 achievable conservation potentials and 2016-2017 biennial conservation targets, subject to conditions, for Puget Sound Energy (PSE) in docket UE-152058, and Pacific Power and Light Company (Pacific Power) in docket UE-152072 on December 17, 2015, and for Avista Corporation (Avista) in docket UE-152076 on January 28, 2016.

On June 1, 2018, PSE, Avista, and Pacific Power timely filed their respective Biennial Conservation Reports (BCRs or Reports), regarding their 2016-2017 conservation targets with the Commission as required by law.[2] As detailed in Table 1, below, PSE and Pacific Power achieved cost-effective conservation savings beyond their target. Avista is in the process of updating its BCR.

Table 1: Summary of Reported 2016-2017 Cost-Effective Savings

	Total Conservation Goal (MWh)	Total Penalty Target (MWh)[3]	Total Reported Conservation Savings (MWh)	Savings Applied to Penalty Target (MWh)	Cost-effectiveness[4]	
					TRC[5]	UCT
PSE	605,192	565,071	633,155	587,061	1.9	2.6
Avista	82,314	76,257	*	*	*	*
Pacific Power	94,126	90,009	98,690	92,727	1.9	2.7

[1] RCW 19.285.030(19) (definition of "qualifying utility"); RCW 19.285.040(1)(b) (biennial conservation targets).
[2] RCW 19.285.070; WAC 480-109-120; initial orders in dockets UE-1520583, UE-152076, and UE-152072.
[3] See dockets UE-152058, Order 01 ¶ 4; UE-152076, Order 01 ¶ 4; UE-152072, Order 01 ¶17 and UE-152253, Order 12, ¶7, subsection (4). This target includes additional decoupling incremental conservation target commitments.
[4] WAC 480-109-100(10)(b) allows low-income conservation to be excluded from portfolio-level cost-effectiveness calculations. PSE and Avista include low-income in its calculations. Pacific Power excludes low-income from its calculations.
[5]Under the Northwest Power and Conservation Council method, a portfolio is considered cost-effective when the benefit-to-cost ratio, using the Total Resource Cost (TRC) test, is greater than one. This method includes a 10 percent conservation adder and non-energy benefits.

**Avista is in the process of updating its BCR, as discussed in the company reports and achievement section of this document.*

The total conservation goal of a utility includes all the savings they plan to achieve, whether it is subject to penalty or not. The total penalty target is a combination of the EIA penalty target and the decoupling penalty target, as shown in Table 2.

In setting the EIA penalty target for 2016-2017 each utility worked with their advisory group to identify appropriate deductions from their goal, such as for the co-created savings achieved through the Northwest Energy Efficiency Alliance (NEEA) and for pilot programs with uncertain savings.[6] In addition, each company has agreed to achieve conservation savings beyond their EIA commitment, creating the decoupling penalty target.[7] These adjustments to the companies' targets are reasonable and justified because savings types that have been held out of setting a target should not be used to meet that target.

Utilities are allowed to use conservation savings achieved in excess of the biennial target to mitigate any future shortfalls that occur in the next two biennia despite the pursuit of all available conservation.[8] Savings used to meet the additional conservation decoupling commitment with the Commission are not counted as excess. However, excess savings may be used towards meeting a decoupling penalty target shortfall in the next two biennia.

Table 2 below illustrates how the excess savings achieved in 2016-2017 is calculated.

[6] Because these comments are backward-looking, staff does not reiterate here the ongoing discussions about whether NEEA savings should be in or out of the target in the future.
[7] The EIA commitment is the EIA penalty target before excluding market transformation savings.
[8] RCW 19.285.040(c)(i)"Except as provided in (c)(ii) and (iii) of this subsection, beginning on January 1, 2014, cost-effective conservation achieved by a qualifying utility in excess of its biennial acquisition target may be used to help meet the immediately subsequent two biennial acquisition targets, such that no more than twenty percent of any biennial target may be met with excess conservation savings."

Table 2: 2016-2017 Excess Savings Achieved (MWh)

	EIA Penalty Target (MWh) (a)	Decoupling Penalty Target (b)	Total Penalty Target (MWh) (c) = (a+b)	Savings Applied to Penalty Target (MWh) (d)	2016-2017 Excess Savings Achieved (MWh) (d-c)
PSE	537,078[9]	27,993	565,071	587,061	21,990
Avista[10]	72,626[11]	3,631	76,257	*	*
Pacific Power	87,814[12]	2,195[13]	90,009	92,727	2,718

Commission Staff's (Staff) review of the BCRs has focused on evaluating whether the companies met the reporting requirements outlined in RCW 19.285.070, WAC 480-109-040, and the conditions set forth in the Order 01 in each respective docket, as well as whether the company correctly reported its savings for the biennium.

In these comments, Staff will summarize each report, highlight key pieces of information, and identify lingering issues. Staff will also discuss some recent and anticipated changes in the rules, policies, and technologies affecting energy conservation in Washington. After reviewing amendments to the reports and the comments filed by other parties in this matter, Staff intends to present its final recommendations and proposed conditions for approval at the Commission's August 9, 2018, regular Open Meeting.

Focus Issues and Prudency

The ongoing conservation planning, reporting, and reviewing process developed for each utility's portfolio is effectively a prudency review. Throughout a biennial cycle, Staff ensures prudency related to conservation by reviewing several elements, including the proper establishment of conservation potential, whether programs are cost effective, reliable, and feasible, whether all reasonable measures were pursued, if appropriate public and stakeholder involvement was included in the process (advisory group review), and verification that programs were administered efficiently.

[9] *See* Docket UE-152058, Order 01 ¶ 4 (Dec. 17, 2015).
[10] Avista will be revising its BCR to provide this information.
[11] *See* Docket UE-152076, Order 01 ¶ 4 and ¶ 22 (Jan. 28, 2016).
[12] *See* Docket UE-152072, Order 01 ¶ 17 (Dec. 17, 2015).
[13] 2.5 percent target increase connected with decoupling per docket UE-152253, Order 12, ¶ 7, subsection (4).

Details about individual company programs will be discussed in following sections. This section provides a discussion of the areas of focus and common issues identified during Staff's review of each utility's BCR, including but not limited to:

- Unit Energy Savings Values.
- Quantified Health Benefits of Emission Reduction.
- Hard to Reach Markets.

Unit Energy Savings Values

The Commission has directed the utilities to use the unit energy savings (UES) values that the Northwest Power and Conservation Council's Regional Technical Forum (RTF) calculates for each measure, where they exist and are appropriate, unless the utility has more appropriate data that specifically reflects its service territory. However, the utilities have varied in how frequently they update their assumptions to reflect current RTF practice. For the 2016-17 biennium Pacific Power used a "locked UES" value method where they update UES values every other year; allowing the utility to use the same value when setting their target and measuring whether the target was met. PSE and Avista voluntarily use a "floating UES" method where updates to UES values occur every year. For the 2018-2019 biennium all three utilities have chosen to use the floating UES method.

Quantified Health Benefits of Emissions Reduction

The EIA requires the inclusion of quantifiable environmental costs and benefits when calculating cost-effective conservation.[14] The Commission prefers a properly balanced total resource cost test.[15] As such, when a benefit is identified as quantifiable, it should be included in a utility's calculations of cost-effective conservation.

Specifically, Staff believes that the health benefits of reduced particulate matter emissions ($PM_{2.5}$) are a quantifiable benefit of energy efficiency measures. Reduction of particulate emissions occur in two ways. Particulate emissions are reduced when a specific measure reduces reliance on a customer's use of combustion technology, e.g., wood stove heat or an oil/gas fired-furnace or boiler. In addition, because energy efficiency measures reduce load, particulate emissions are simultaneously reduced from the system of utility-scale combustion-based electric generators.

In its December 18, 2015, comments on the Northwest Power and Conservation Council's (Council) Draft Seventh Power Plan, the Commission identified the proven health benefits of reduced emissions and stated that including the financial health benefits of reduced $PM_{2.5}$ emissions is called for by the EIA.[16]

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[14] RCW 19.285.030(6). Cost-effectiveness is defined at RCW 80.52.030 and include system costs and quantifiable environmental costs and benefits.
[15] Policy Statement on the Evaluation of the Cost-Effectiveness of Natural Gas Conservation Programs, Docket UG-121207, 13 (Oct. 9, 2013).
[16] Commission comment for the Draft 7th Power Plan, Dec. 18, 2015, *available at* https://www.nwcouncil.org/energy/powerplan/7/draftplan/comments/view?id=1862.

Two years ago, in Staff's comments on the 2014-15 biennial conservation reports, Staff encouraged the utilities to work together to begin including the quantifiable benefits of reducing $PM_{2.5}$ emissions in future conservation calculations at both the measure and system levels.

During the 2016-17 biennium the utilities contracted with ABT to quantify the benefits of $PM_{2.5}$ at the measure level, specifically for one measure, ductless heat pumps. Final reports from the contractor have not yet been shared with the advisory groups. Staff looks forward to discussion on the impacts from this study on the conservation programs.

Staff once again encourages the utilities to examine the benefits of reducing these emissions at the system level, as well as with other applicable measures.

Hard to Reach Markets

In order to ensure that all cost-effective energy efficiency is acquired, no customer segment can be ignored, even if it is hard to reach. The Council recognized this in the Seventh Power Plan and created action item MCS-1 that called for "…regional utilities to determine how to improve participation from any underserved segment."[17] Avista, Pacific Power, and PSE all began to address this issue during the 2016-2017 biennium by reviewing the programs already in place and attempting to identify potential gaps.

PSE participated in the regional working group collecting and analyzing regional data and developing a methodology for analyzing the proportional savings for specific demographic groups. Initial results indicate that the region is doing a good job reaching a wide variety of groups with energy efficiency programs. In the 2018-2019 biennium, each utility will continue to examine service territory specific information to identify particular gaps and, in consultation with the advisory committee, how to best acquire the hard-to-reach conservation.

Company Reports and Achievements

Puget Sound Energy (Docket UE-152058)

Conservation Target and Achievement

In Order 01 of UE-152058, the Commission approved a 2016-2017 biennial conservation target of 537,078 megawatt-hours (MWh) for PSE. The company reports that it exceeded this target, achieving 587,061 MWh of savings within categories that apply to the target. The company spent about $202 million, which is within two percent of the $199 million budget approved by the Commission. When including NEEA and pilot programs, the company's total conservation achievement increases to 633,155 MWh. The total portfolio cost-effectiveness is 1.9. A summary of PSE's reported savings and expenses follows:

[17] Northwest Power and Conservation Council, *7th Power Plan*, 4-10, (May 26, 2016) *available at* https://www.nwcouncil.org/reports/seventh-power-plan

Table 3: Summary of PSE's 2016-2017 Conservation Achievements[18]

	Target[19]	**Actual**	**Actual/Target Percentage**
Savings (MWh)	565,071 MWh	587,061 MWh	104%
Savings (average MW)	64.5 aMW	67.0 aMW	
Expenditures	$198,984,818	$201,939,446	101%

Utilities are allowed to use conservation savings achieved in excess of their biennial target to meet shortfalls in the next two biennium.[20] Since the company achieved savings beyond both the EIA Penalty Target and the Decoupling Penalty Target, additional excess savings will be available to meet a potential shortfall in upcoming biennia. Table 4 summarizes PSE's excess savings.

Table 4: PSE Excess Savings Accounting

	Excess available for 2016-2017 shortfall (MWh)	Excess available for 2018-2019 shortfall (MWh)	Excess available for 2020-2021 shortfall (MWh)	Excess available for 2022-2023 shortfall (MWh)
2014-2015	38,906	38,906	-	-
2016-2017	-	21,990	21,990	-
Total Available Excess	38,906	60,896	21,990	-

The following table breaks down PSE's conservation achievement by program or sector, providing a comparison of the cost-effectiveness of the programs within the various sectors.

[18] Excluding NEEA savings and savings from pilots.
[19] When not including the 5% decoupling commitment, PSE's 2016-2017 biennial target is 537,078. *Wash. Utils. & Transp. Comm'n v. Puget Sound Energy*, Docket UE-152058, Order 01, ¶ 19 (Dec. 17, 2015).
[20] RCW 19.285.040(c)(i)"Except as provided in (c)(ii) and (iii) of this subsection, beginning on January 1, 2014, cost-effective conservation achieved by a qualifying utility in excess of its biennial acquisition target may be used to help meet the immediately subsequent two biennial acquisition targets, such that no more than twenty percent of any biennial target may be met with excess conservation savings."

Table 5: PSE's 2016-2017 Conservation Achievements by Program

Program	Anticipated Savings (MWh)	Actual Savings (MWh)	Budget	Expenditures	TRC
Residential	261,686	268,616	$91,160,152	$88,986,725	2.1[21]
Commercial and Industrial	300,103	315,079	$75,632,000	$79,436,744	2.1
Distribution system	3,281	3,366	$0	$0	1.4
Low Income	3,120	3,815	$6,761,963	$7,619,632	0.9
Pilots	17,347	20,016	$977,000	$3,103,280	1.5
NEEA	22,776	26,078	$10,400,000	$8,061,209	2.3

Adaptive Management

PSE has demonstrated a commitment to continually improve its energy efficiency program operations. In addition to the extensive narrative provided in the 2016 and the 2017 Annual Reports, the company included summary tables in the BCR highlighting numerous examples of adaptive management. A sample of these examples include significant lighting program updates such as removing CFLs, expanding the types of LEDs available, and lowering incentive levels; partnering with the Cascade Water Alliance to split the incentive on water-saving measures in both utilities' service territories; partnering with NEST to create an instant rebate campaign for web-enabled thermostats; redesigning programs that utilized advanced power strips due to low persistence; and diversifying the types of industrial facilities served through the Industrial System Optimization Program. PSE actively engages with their conservation advisory group and solicits advice on adaptive management appropriately.

Distribution Efficiency

The EIA includes a mandate to obtain all cost-effective conservation resulting from increases in the efficiency of distribution. WAC 480-109-100(b)(v) specifically identifies distribution efficiency as a type of conservation that must be included in the utilities portfolio. Distribution measures include on-site substation upgrades, such as lighting, voltage optimization (or conservation voltage reduction), and phase balancing. Distribution efficiency is unique because it is funded through general rates, not the conservation rider, and collaboration with PSE's energy

[21] PSE includes low-income programs in its Residential Program reporting.

efficiency program and other departments is necessary for implementation.[22] The definition of conservation in the EIA explicitly includes the distribution system and the statute does not presuppose or limit the source of funding conservation.[23]

PSE's "Evaluation of the Energy Savings Impacts of PSE's Conservation Voltage Reduction Program" (CVR report), dated December 15, 2017, was included in the company's annual conservation report. Although the report showed energy savings on 14 feeders connected to three of its 352 substations, this program has not clearly demonstrated compliance with the specific requirements to pursue all cost-effective conservation called for in the EIA.[24]

The first paragraph of the introduction section of the CVR report recognizes the measured benefits where the three 2016 CVR substations experienced energy savings from lower distribution voltages.

> "*The results of energy savings are within expected values of one to three percent total energy reduction, two to four percent reduction in kW demand, and four to ten percent reduction in kilovolt amperes-reactive (kvar) demand. Computer model simulations showed that by performing selected system improvements, between 10 and 40 percent of the total energy savings occurs on the utility side of the meter*."[25]

The last sentence above refers to the utility side of the savings. The remaining 60 to 90 percent of the total savings are experienced by the average customer through a reduced bill as the revenue meter runs slower at lower voltages. So, the larger benefits accrue to the customer rather than to the utility.

The next paragraph in the introduction section is the most troubling and appears to be in direct conflict with the EIA. It states that:

> "*PSE CVR projects are implemented at selected electric substations. These projects are completed without the assistance of conservation funding, and thus the projects are completed on the timeline of the transmission and distribution (T&D) department of PSE. The energy management engineers are engaged in a reactive manner and determine energy savings for completed projects*."[26]

This statement can only be justified by a limited, selective reading of the EIA. In multiple instances the CVR report alludes to a specific phrase from the intent section of the EIA in characterizing why the company is executing their CVR program. The EIA intent section, RCW 19.285.010, that is alluded to includes the general thematic phrase that utilities are to "undertake cost-effective energy conservation." This phrase is used in the CVR report to the exclusion of any of the other more specific legal obligations and other language in the EIA regarding energy conservation.

Important for consideration, but coincidentally absent from the company's CVR report, RCW 19.285.040 unequivocally creates obligations that "[e]ach qualifying utility shall pursue all

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[22] Docket UE-132043, Order 01, 6 (Dec. 19, 2013); Docket UE-132043, Order 02, 4 (Apr. 29, 2014).
[23] RCW 19.285.030(6) states that: "Conservation" means any reduction in electric power consumption resulting from increases in the efficiency of energy use, production, or distribution.
[24] Substation count as reported in PSE's 2017 Final Integrated Resource Plan, page 8-5.
[25] Docket UE-152058, Puget Sound Energy 2017 Annual Report of Energy Conservation Accomplishments, Evaluation of the Energy Savings Impacts of PSE's Conservation Voltage Reduction Program, 1043 (Apr. 2, 2018).
[26] Docket UE-152058, Puget Sound Energy 2017 Annual Report of Energy Conservation Accomplishments, Evaluation of the Energy Savings Impacts of PSE's Conservation Voltage Reduction Program, 1043 (Apr. 2, 2018).

available conservation that is cost-effective, reliable and feasible." This requirement to "pursue all conservation" is in direct conflict with PSE's approach to implementation based on "*CVR projects are implemented at selected electric substations*." PSE appears to be allowing internal constraints such as usual (non-conservation related) distribution project ranking and internal sources of funding that do not include conservation rider revenues to usurp the requirements of the EIA. When CVR is determined to be cost-effective on its own from a TRC perspective, it must be undertaken regardless of the schedules of other distribution projects.

As cited above, the PSE report says that "*projects are completed on the timeline of the transmission and distribution (T&D) department of PSE. The energy management engineers are engaged in a reactive manner and determine energy savings for completed projects."* While Staff recognizes that piggybacking on the timeline of the T&D department lowers the incremental costs per project, PSE appears to lack of proactive approach to identifying and performing cost-effective CVR on circuits not already scheduled for other T&D projects. This has resulted in performing CVR on a handful of circuits at each of only three substations. Considering that PSE has 352 substations which, presumptively, are part of the historic practice *"to set the voltage on the higher end of the range,"* at the 2016 rate of CVR it will take more than 100 years to implement CRV system wide, assuming no new substations are required in the next century. This is an unacceptable rate of CVR implementation and inconsistent with EIA requirements cited above to pursue all cost-effective conservation.

Because of the selective reading of the EIA, Staff is concerned that PSE has constructed an artificial shield against pursuing all cost-effective conservation on its distribution system. The source of funding for distribution efficiency, general rates instead of the conservation rider, is an illegitimate reason for failing to fully implement energy conservation under the EIA. Staff expects that PSE will, in conjunction with the advisory group, look closely at improving the implementation of this program. This should include a closer examination of the distribution efficiency target and achievement, and a plan to bring the quality of program reporting in-line with other conservation programs. The recommendation to improve the quality of distribution efficiency reporting extends to production efficiency and to both Avista and Pacific Power.

Third Party Verification

PSE contracted with SBW Consulting, Inc. (SBW) to review the company's conservation programs and verify its claimed savings in the Biennial Electric Conservation Achievement Review. Generally, SBW's assessment of the programs that claim savings towards PSE's penalty target found that the company has employed solid practices in tracking and measuring the achievements of its conservation programs.

SBW found that the company accurately reflected PSE-listed savings, selected and used sound UES values, and appropriately responded to recommendations from the previous consultant review.[27] It is Staff's opinion that both SBW and the company performed professionally, and competently worked through issues and problems that developed during the course of the biennium. Staff encourages PSE to undertake the future improvements in savings estimation identified by SBW, especially to account for HVAC interaction factors for LEDs in certain direct install programs and to conduct research to develop a standard baseline for indoor agriculture new construction projects.

[27] PSE 2016-2017 BECAR Final Report page ES-4.

Reporting Requirements

Staff has not identified any instance where PSE failed to meet the reporting requirements laid out in Order 01 of Docket UE-152058, RCW 19.285.070, and WAC 480-109-120(4).

Avista (Docket UE-152076)

Conservation Target and Achievement

In Order 01 of Docket UE-152076, the Commission approved a 2016-2017 biennial conservation target of 72,626 MWh for Avista.[28] The total EIA commitment includes the NEEA projection of 78,846 MWh, including the 5 percent decoupling commitment of 3,631 MWh, results in a total conservation commitment of 82,477 MWh.

During staff's review, it became clear that Avista needed to revise its BCR in all respects. The company provided initial corrections via email, which are likely to be updated, and said that it exceeded its target, achieving 139,450 MWh verified gross savings, achieving 182 percent of their entire penalty target. According to its email, Avista spent about $25 million over the biennium to achieve these savings, which is nearly a thirty percent increase of the approximately $20 million budget the Commission approved. Also according to its email, under the Total Resource Cost (TRC) cost-effectiveness test, the electric efficiency benefits exceeded the costs by a ratio of 2.2 on a portfolio-level.[29] The following table provides a summary of Avista's reported savings and expenses:

Table 6: Summary of Avista's 2016-2017 Conservation Achievements[30]

	Target[31]	**Actual**	**Actual/ Target Percentage**
Savings (MWh)	76,257	139,450[32]	182%
Savings (average MW)	8.3	16.1	
Expenditures	$19,866,000	$25,289,469[33]	132%

**Avista identifies its target as 76,257 MWh (Appendix A, BCR at Page 3). By subtracting its decoupling commitment, Avista calculates its conservation target as 72,626, in-line with Order 01 in Docket UE-152076.*

[28] Docket UE-152076, Order 01, ¶ 22 (Jan. 28, 2016).
[29] *2016-2017 Avista Biennial Conservation Report* at 3.
[30] Excludes savings and expenses related to fuel conversion programs and NEEA.
[31] When not including the 5% decoupling commitment, of 3,631 MWh, Avista's 2016-17 biennial target is 72,626.
[32] This number may be updated when Avista refiles its BCR.
[33] Excludes expenses related to fuel conversion programs and NEEA. This number was provided via email. It is still being reviewed by the company and may be updated in a replacement filing.

Fuel Conversion Projects do not belong in an EIA Report

Since the first order issued under the EIA, Avista has been expected to hold its fuel conversion program separate from its conservation program.[34] Most recently, the Commission's general rate case order for Avista directed the company to begin the process of moving fuel conversion projects from its electric conservation rider to its natural gas conservation rider.[35]

In order to complete even these limited comments, Staff was required to back the fuel conversion data out of the report. Given the difficulty untangling the fuel conversion projects from the report, Staff imagines other parties may have experienced similar difficulties. Further, on June 11, 2018, Staff performed an audit of select 2017 energy efficiency expenditures. After further investigation, Staff discovered four (4) projects under the site-specific program were incorrectly categorized as EIA-eligible savings projects when they were clearly site-specific fuel conversion projects, as shown in Table 7.[36]

Table 7: Fuel Conversion Projects reported under EIA

Project	Measure Type	KWH	Incentive Electric	Project Description
A	SS Appliances[37]	14,256	$ 2,851	Electric to Gas high efficiency water heater
B	SS HVAC Combined	16,102	$ 3,220	Replace existing elec heat in 3 apartments w/ NG
C	SS Industrial Process	1,650,720	$ 115,550	New gas kettle replacing electric
D	SS Industrial Process	363,675	$ 72,735	Batch washer fuel conversion with insulated tank
		2,044,753	**$ 194,356**	

Fuel conversion project savings should be held *outside* the company's EIA target and excess savings calculations, consistent with Commission practice in previous biennia. As such, we recommend removing approximately 2,000 MWh in savings from the EIA-eligible 2016-2017 savings total and adjusting excess savings available for future biennial periods.

In Staff's ongoing discussion with the company and its independent third-party evaluator, Nexant, two of Avista's largest site-specific nonresidential fuel conversion projects in Table 7 were part of Nexant's evaluation, including sampling and analysis. However, Nexant did not recommend recategorization or otherwise call attention to these four (4) site-specific projects.[38]

The company agreed with Staff's conclusions and recommendations regarding the reported "savings" from these four (4) projects and committed to removing these "savings" from its

[34] *In the Matter of Avista Corporation's Ten-Year Achievable Conservation Potential And Biennial Conservation Target Under RCW 19.285.040 and WAC 480 109 010*, Docket UE-100176, Order 01, ¶ 53 (May 13, 2010).
[35] *Wash. Utils. & Transp. Comm'n v. Avista Corporation*, Dockets UE-170485 and UG-170486, cons, Order 07, ¶ 285 (Apr. 26, 2018).
[36] *Washington 2017 DSM Annual Conservation Report & Cost-Effectiveness Analysis*, 103 (Jun. 1, 2018).
[37] SS means Site-specific.
[38] *Washington 2017 DSM Annual Conservation Report & Cost-Effectiveness Analysis*, 26, 42, Chapter 6 – Conclusions and Recommendations (Jun. 1, 2018).

conservation actual results. Avista continues to work with Nexant to correctly categorize these projects and recalculate its cost-effectiveness and savings subtotals by sector. The company plans to refile its BCR report, correcting all discrepancies. To the extent possible Staff has used updated data provided by the company throughout this document.

For the next biennium, Avista identified CADMUS as its new third-party energy conservation savings achievement evaluator. Avista is working with CADMUS to properly track nonresidential fuel conversion savings going forward.

Fuel Conversion Budget Variance is Excessive

While the fuel conversion program is not electric conservation, Staff takes this opportunity to update the Commission on the comparison of the fuel conversion program budget to actual spending. Avista unreasonably exceeded its budgeted expenditures for the company's residential fuel conversion program. Planned expenditures for the program were only $719,400. But program expenditures exceeded budget by $2,644,115, totaling $3,363,515, nearly 5 times the initial residential budget. Fuel conversion program savings are not EIA-eligible and are held outside the company's EIA target and excess savings calculations, so the company's overspending on this program does not contribute to its compliance with the EIA, nor is it subject to the requirement to pursue all cost-effective conservation.

Third Party Verification

Energy savings reported by Avista were evaluated by Nexant through a combination of document audits, customer surveys, engineering analysis and onsite measurement and verification (M&V) on a sample of participating projects. As is usual, Nexant found some measures that underperformed relative to expectations and others that over-performed, and, on balance, Nexant found that the performance of Avista's portfolio was generally consistent with expected savings.

Nexant calculated Avista's overall conservation portfolio realization rate at 89 percent, thereby reducing Avista's 2016-2017 savings from 156,982 to 140,275 MWh. With the addition of generation and distribution savings, Avista reported total Washington electric savings of 141,331 MWh. As discussed earlier in Staff's comments, Avista is in the process of correcting its electric savings totals in-line with EIA requirements. The company intends to refile its BCR and will report a new electric savings total number.

Excess Savings

Utilities are allowed to use conservation savings achieved in excess of their biennial target ("excess savings") to meet shortfalls in the next two biennia. Since Avista achieved savings far beyond both the EIA Penalty Target and the Decoupling Penalty Target, additional excess savings will be available to meet a potential shortfall in upcoming biennia. Avista will be refiling its BCR with an update to the following table.

Table 8: Avista Excess Savings Accounting

	Excess available for 2016-2017 shortfall (MWh)	Excess available for 2018-2019 shortfall (MWh)	Excess available for 2020-2021 shortfall (MWh)	Excess available for 2022-2023 shortfall (MWh)
2014-2015	2,489[39]	*	-	-
2016-2017	-	*	*	-
Total Available Excess[40]	2,489	*	*	-

**Avista will be refiling its BCR with an update to this table.*

Savings and Budget Variance

Avista's 2017 operations exceeded budgeted electric energy efficiency expenditures by $8.3 million, or 162%.

This expenditure variance is mainly attributed to the tremendous uptake in Avista's nonresidential TLED lighting program, which had an initial estimated incentive expenditure level of $847,592 and an actual expenditure level of $5,514,376.[41] After applying Nexant's nonresidential program realization rate of 80 percent for prescriptive lighting measures, Avista achieved 62,721 MWh cost-effective savings for 2016-2017.

The following table breaks down Avista's conservation achievement by program or sector, providing a comparison of cost-effectiveness between the various elements of the program.

[39] Docket UE-132045, Order 03, ¶ 21 (Sept. 22, 2016).
[40] WAC 480-109-100(3)(c)(i) Conservation achieved in excess of a target may be used to meet a shortfall of up to twenty percent. Avista has likely achieved excess beyond what they will be able to apply in the subsequent biennium.
[41] The tubular LED or TLED is a type of LED light source designed to replace fluorescent lamps.

Table 9: Avista's's 2016-2017 Conservation Achievements by Program[42]

Program	Anticipated Savings (MWh)	Actual Savings (MWh)	Budget	Expenditures	TRC
Residential (not including Low Income)	35,445	59,154	$5,209,666[43]	$6,730,152[44]	*
Low Income	1,037	397	$1,883,006[45]	$998,373[46]	*
Commercial and Industrial	45,831	78,691	$9,027,886	$18,246,655[47]	*
Distribution[48]	2,082	660	-	-	-
Generation Facilities	151	384	-	-	-
Pilots	-	-	-	-	-
NEEA	6,220	7,271	$2,800,000	$2,724,191	-

**Avista is in the process of updating its TRC cost-effectiveness ratio as part of its refiled BCR.*

Adaptive Management

For the next BCR, Staff requests more description of steps taken to adaptively manage programs and recommends Avista describe *the process* of how the company plans to adaptively management on the program-level, providing specific examples. The company's current summary of adaptive management in its BCR does not provide an overview of *how* the company worked with its advisory group to respond to the changing market conditions and adjust incentives related to its nonresidential TLED lamp prescriptive offerings.[49] Staff looks forward to working more closely with the company and Conservation Advisory Group, specifically regarding its incentive adjustment processes across all sectors.

[42] Costs exclude general portfolio expenses, EM&V, and non-NEEA regional costs.
[43] Budget including fuel conversions is $7,759,706, which is held outside EIA target and savings totals.
[44] Expenditures including fuel conversions is $11,939,171, which is held outside EIA target and savings totals. Avista will provide updated administration cost numbers with its revised BCR filing.
[45] Budget including fuel conversions is $3,435,218, which is held outside EIA target and savings totals.
[46] Expenditures including fuel conversions is $1,793,678, which is held outside EIA target and savings totals. Avista will provide updated administration cost numbers with its revised BCR filing.
[47] Expenditures including fuel conversion incentives is $20,486,472, which is held outside EIA target and savings totals. Avista will provide updated administration cost numbers with its revised BCR filing.
[48] Funding for distribution and generation efficiency measures is through Avista's general rate cases, per condition (9)(c) in Attachment A of Order 01 in Docket UE-152076.
[49] 2016-2017 Avista Biennial Conservation Report, 5 (June 1, 2018).

Hard-to-Reach Markets and New Pilot

A highlight for this biennium is Avista's participation in the Small-Medium Business Program, which targets hard-to-reach small business customers. Avista extended its initial 2015 contract with SBW Consulting (SBW) through 2017, continuing its focus on hard-to-reach markets. In addition, Avista also hired SBW to perform the company's new Multifamily Direct Install Pilot Program. This pilot was specifically designed to target a hard-to-reach segment of rental customers living in complexes of four (4) or more units. Staff is pleased that Avista plans to target this demographic, which has been underserved in Avista's region.

Reporting Requirements

Avista will be refiling its BCR to meet the reporting requirements outlined in Order 01 of docket UE-152076, RCW 19.285.070, and WAC 480-109-120(4).

Pacific Power & Light Company (Docket UE-152072)

Conservation Target and Achievement

In Order 01 of Docket UE-152072, the Commission approved a 2016-2017 biennial conservation target of 87,814 megawatt-hours (MWh) for Pacific Power.[50] In its 2017 Annual Conservation Plan, Pacific Power adjusted this goal to 90,009, an adjustment ordered by the Commission as part of its approval of Pacific Power's decoupling proposal.[51] The company reports that it exceeded this target, achieving 92,727 MWh. The company spent about $21.6 million, which is about nine percent less than the $23.6 million budget the Commission approved. When including NEEA savings and portfolio-level costs, the values increase to total conservation savings of 99,108,671 MWh and expenditures of $25,445,334. The total portfolio, including portfolio-level costs, NEEA costs and NEEA savings, achieved a TRC of 1.9 and a UCT of 2.5. A summary of Pacific Power's reported savings and expenses is presented in Table 9, below.

Table 10: Summary of Pacific Power's 2016-2017 Conservation Achievements [52]

	Target	**Actual**	**Actual/Target Percentage**
Savings (MWh)	90,009	92,727	103%
Savings (average MW)[53]	11.8	12.1	
Expenditures	$23,623,883	$21,558,362	91%

[50] Docket UE-152072, Order 01, ¶ 15 (Dec. 17, 2015).
[51] The company's target is increased by 2.5 percent through the company's decoupling mechanism. Docket UE-152253, Order 12, ¶ 7, subsection (4) (Sept. 1, 2016).
[52] Excluding NEEA savings and expenditures. Savings figures are from the generator.
[53] Calculated by Staff based on 0.0001310 MW/MWh, Pacific Power's reported coincident conversion factor. Docket UE-152072, 2017 Annual Report on Conservation, 17 (June 1, 2018).

Utilities are allowed to use conservation savings achieved in excess of their biennial target to meet shortfalls in the next two biennia. Because Pacific Power achieved savings beyond both the 2016-2017 EIA Penalty Target and the 2017 Decoupling Penalty Target, the excess savings of 2,718 MWh will be available to meet any potential shortfalls in the next two biennia. Table 10 summarizes Pacific Power's excess savings.

Table 11: Pacific Power Excess Savings Accounting

	Excess available for 2016-2017 shortfall (MWh)	Excess available for 2018-2019 shortfall (MWh)	Excess available for 2020-2021 shortfall (MWh)	Excess available for 2022-2023 shortfall (MWh)
2014-2015[54]	24,178	24,178	-	-
2016-2017	-	2,718	2,718	-
Total Available Excess	24,178	26,896	2,718	

As demonstrated in the following table, Pacific Power's performance at the program or sector level kept close to the planned level of both budget and savings. The major exception to this is in the agricultural sector, where the company achieved 10 percent of forecasted savings and incurred expenses totaling 10 percent of budget. While this sector underperformed in the 2016-2017 biennium, it significantly outpaced expected savings and expenditures in the 2014-2015 biennium.

[54] Docket UE-132047, Order 03, ¶ 17 (Aug. 15, 2016).

Table 12: Pacific Power's 2016-2017 Conservation Achievements by Program

Program	Forecasted Savings (MWh)	Actual Savings (MWh)	Budget	Expenditures	TRC [55]
Residential (not including Low Income)	28,418,658	$6,707,037	30,281,084	$5,786,684	2.04
Commercial	15,495,008	$3,485,017	1,519,820	$337,350	2.01
Industrial	31,564,281	$6,548,322	33,701,446	$7,428,829	
Agricultural	18,113,569	$3,320,316	26,597,882	$4,436,704	
Production system	-	-	-	-	-
Low Income	534,181	$1,780,000	626,448	$1,876,584	0.75
Pilots	-	-	-	-	-
NEEA	5,245,393	$1,821,452	5,963,189	$1,713,208	1.01

Adaptive Management

Staff commends Pacific Power for continuously looking for ways to improve their programs, and for making changes as needed. The company provides some examples of adaptive management in their annual reports. An illustrative example is CLEAResult's efforts to improve smart thermostat adoption - the contractor noticed that adoption seemed low, found that redemptions were low relative to sales, and developed materials to highlight easy participation through an online application. These improvements correlated to a 30 percent increase in incentive uptake compared to the prior year.

Third Party Verification

As with the previous biennium, Pacific Power contracted with SBW to review the company's 2016-2017 conservation programs and verify its claimed savings. As before, SBW found that Pacific Power has employed solid practices in tracking and measuring the achievements of its conservation programs, and that its verification procedures are in line with industry best practices. SBW found that Pacific Power's DSM Central tracking and reporting system allows

[55] Program level cost-effectiveness values for the 2016-2017 biennium provided via email by Don Jones on July 16, 2018. These values include the 10 percent conservation adder and quantifiable non-energy benefits.

Pacific Power to track savings to the project and measure level, and provides effective data quality control.

On-site inspections and reviews of project documentation also revealed no large concerns. There were two small miscategorizations of efficiency projects, but none of the irregularities altered savings claims. SBW "concluded that the correct savings were claimed for all sampled projects."[56]

Reporting Requirements

Pacific Power included a "2016-2017 Plan Condition Requirements and Compliance" checklist in Appendix 1 of their BCR detailing their compliance with Order 01, Attachment A and WAC 480-109. Staff believes that Pacific Power has met all reporting requirements for this biennium.

While, in Staff's view, all reporting requirements were met, it is worth noting a somewhat concerning trend. The company submitted revisions to its 2016 annual report to correct some small errors. In submitting its 2018-2019 Biennial Conservation Plan, the company elected to submit a substitute plan to correct a number of relatively small issues.[57] Most recently, the company submitted some small revisions to its 2016-2017 Biennial Conservation Report. While Staff identifies this pattern as an area for improvement in future filings, Staff also commends the company for its attention to detail – even if that attention is applied after a filing is submitted – and heartily encourages the company's institutional preference for filing revised, corrected information rather than leaving inaccurate information on the record.

Summary

Staff will review stakeholder comments and provide a recommendation as to whether the Commission should:

1. Find that PSE, Avista, and Pacific Power complied with the conditions of their respective orders (Order 01 in Docket UE-152058, Order 01 in Docket UE-152076, and Order 01 in Docket UE-152072),
2. Find that PSE, Avista, and Pacific Power complied with the reporting requirements of WAC 480-109-120 and RCW 19.285.070 in their biennial conservation reports, and
3. Issue an order finding that the companies met their biennial conservation targets at the August 9, 2018, regular open meeting.

[56] Docket UE-152072, Pacific Power 2016-2017 Biennial Conservation Report, Appendix 2, "Washington Savings Verification and Reporting Process 2016-2017 Review: Final Report," 15 (June 1, 2018).
[57] *See* Docket UE-171092.