

**BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

**In the Matter of**

**EVALUATING ELECTRIC UTILITY  
RENEWABLE PORTFOLIO  
STANDARD REPORTS UNDER THE  
ENERGY INDEPENDENCE ACT,  
RCW 19.285 and WAC 480-109**

**DOCKET UE-131056 - Avista Corporation  
DOCKET UE-131063 – Pacific Power and  
Light Company d/b/a PacifiCorp  
DOCKET UE-131072 – Puget Sound  
Energy**

**STAFF COMMENTS OF  
THE WASHINGTON UTILITIES  
AND  
TRANSPORTATION COMMISSION**

**July 1, 2013**

**TABLE OF CONTENTS**

1.	EXECUTIVE SUMMARY.....	page 3
2.	INTRODUCTION .....	page 3
3.	BACKGROUND, LAW, APPLICATION .....	page 4
4.	LEGISLATIVE CHANGES IN 2013.....	page 7
5.	PUGET SOUND ENERGY – 2012 AND 2013 COMPLIANCE.....	page 7
6.	AVISTA CORPORATION - 2012 AND 2013 COMPLIANCE .....	page 9
7.	PACIFICORP – 2012 AND 2013 COMPLIANCE.....	page 10
8.	ISSUES FOR FURTHER CONSIDERATION.....	page 12
	i. Incremental Cost Calculations .....	page 12
	ii. Incremental Hydropower Calculation Methodologies.....	page 16

## 1. Executive Summary

Under the Energy Independence Act, Washington's three investor-owned electric utilities are each required to obtain three percent of the electricity they sell each year between 2012 and 2015 from qualifying renewable sources. The act also requires each utility to submit an annual report every June 1, in which the utility details its compliance with the law in the previous year and the resources or renewable energy credits that it intends to use to achieve compliance in the current year. All three investor-owned utilities – Avista, PacifiCorp, and Puget Sound Energy – filed an annual report with the Washington Utilities and Transportation Commission on or before June 1, 2013. These comments summarize the Commission Staff's response to those filings.

Staff believes that all three investor-owned utilities complied with the three percent target in 2012 and, as of January 1, 2013, had procured enough resources and renewable energy credits to meet the three percent target throughout 2013. However, Staff has identified issues with each of the companies' reports it believes need to be addressed before compliance orders can be issued. The issues are as follows:

- PSE has failed to comply with reporting requirements under WAC 480-109-040 (1)(d) by neglecting to include the resources it plans to use for 2013 compliance in its 2013 RPS Report. The Company also did not include in its report the models or methodological approach it is using to derive expected incremental hydroelectric generation from its Snoqualmie Falls and Lower Baker River facilities. Further, PSE received in 2012, and continues to receive in 2013, qualifying incremental hydro from Grant County PUD which it did not disclose in its 2012 or 2013 reports and did not apply toward 2012 compliance in its initial 2013 RPS Report;
- Avista continues to use Method 3 for estimating incremental hydroelectric generation, though Commission Staff has previously expressed concern with the method. However, measures described herein will allay Staff's concerns while allowing Avista to continue to use Method 3;
- PacifiCorp has provided a model for estimating incremental hydroelectric generation that was developed from only four years of data, falling short of the five years of data recommended by the RPS Workgroup. Staff expects the Company to use five or more years of historical data in future filings;
- All three investor-owned utilities continue to rely on poorly-modeled generation data supplied by Grant County PUD for its Wanapum facility, which utilities are claiming for application toward their RPS obligations; and
- All three investor-owned utilities continue to report incremental costs of complying with the Energy Independence Act that are derived from inconsistent methodologies and appear to be in conflict with statutory requirements.

PSE has formally requested, and Avista and PacifiCorp have verbally requested, a finding of final compliance for 2012. However, final 2012 compliance, which would entail the retirement of a specific number of RECs, can only be made once generation values for qualifying hydro facilities are properly modeled. Generation from Wanapum Dam continues to be the stumbling point toward that end. Additionally, a final 2012 compliance determination for PSE cannot be made, and the specific number

Commission Staff Comments Renewable Portfolio Standards  
Dockets UE-131056, UE-131063, UE-131072

of RECs to be retired cannot be identified, until the Company submits an updated report that accounts for the qualifying generation it has purchased from Grant County PUD.

## **2. Introduction**

The Energy Independence Act (EIA), RCW 19.285, was voted into law in 2006 and requires utilities to acquire renewable energy resources. Pursuant to RCW 19.285.070 and WAC 480-109-040, the three regulated electric utilities submitted Renewable Portfolio Standard Reports (RPS Reports) to the Washington Utilities and Transportation Commission (Commission), detailing each company's progress in meeting the renewable portfolio standard (RPS) targets established in RCW 19.285.040. As required by law,<sup>1</sup> the RPS reports were filed on or by June 1, 2013, by Avista Corporation (Avista) in Docket UE-131056; by Pacific Power and Light Company dba PacifiCorp (PacifiCorp) in Docket UE-131063; and by Puget Sound Energy (PSE) in Docket UE-131072. The EIA requires electric utilities with more than 25,000 Washington customers to obtain 15 percent of their electricity from new renewable resources by 2020, with gradually increasing intermediate targets. The first compliance year was 2012, when utilities must have met three percent of estimated load with eligible renewable energy resources (RCW 19.285.040). The companies are required to submit annual reports on or by June 1 of each year.<sup>2</sup>

The 2013 RPS reports describe acquisition of Renewable Energy Credits (RECs) or eligible renewable resources in the form of wind, incremental hydroelectric efficiency improvements, and apprenticeship multiplier credits. All three companies reported success in meeting the three percent renewable energy targets as of Jan. 1, 2012, and Jan. 1, 2013. The reports also detail the specific resources that the companies intend to claim for compliance in 2012 and 2013.

Staff's comments will provide:

- A background of the RPS statute and overview of the filings. (Section 3)
- A summary of the legislative changes to the Energy Independence Act in 2012 and 2013. (Section 4)
- A summary and analysis of each company's report. (Sections 5-7)
- An analysis of staff's concerns with some aspects of the utilities' reporting methodologies. (Section 8)

## **3. Background, Law and Application**

Policymakers have sought to increase the diversity of energy sources, reduce air pollution, and sustain harvestable fish populations while maintaining a reliable and affordable electricity supply. Among the programs that have been enacted are Renewable Portfolio Standards, which require retail sellers of

---

<sup>1</sup> Appendix A summarizes the legal requirements for the companies' reports.

<sup>2</sup> Appendix B provides a timeline for annual compliance reporting and Commission action.

Commission Staff Comments Renewable Portfolio Standards  
Dockets UE-131056, UE-131063, UE-131072

electric power to obtain a certain percentage of their power from renewable resources such as wind, solar, or geothermal resources.

Although a federal RPS has not been enacted, 29 states have enacted Renewable Portfolio Standards, including Washington State.<sup>3</sup> Washington voters approved the Energy Independence Act in the 2006 general election, which established a Renewable Portfolio Standard that requires electric utilities with more than 25,000 customers in the state of Washington to do the following:

Use eligible renewable resources or acquire equivalent renewable energy credits, or a combination of both, to meet the following annual targets:

- (i) At least three percent of its load by January 1, 2012, and each year thereafter through December 31, 2015;
- (ii) At least nine percent of its load by January 1, 2016, and each year thereafter through December 31, 2019; and
- (iii) At least fifteen percent of its load by January 1, 2020, and each year thereafter.<sup>4</sup>

Utilities may acquire nine types of eligible renewable resources to be in compliance with the law, including wind, solar, and geothermal energy.<sup>5</sup> A renewable resource is “eligible” if the generation facility started operating after March 31, 1999, in the Pacific Northwest south of Canada.<sup>6</sup> Certain types of facilities may qualify for multiplier credits.<sup>7</sup> With the exception of incremental hydroelectric efficiency improvements, fresh water hydroelectricity is not considered an eligible renewable resource.<sup>8</sup> Under the legislative change enacted in SB 5400 in 2013,<sup>9</sup> electricity generated outside the Pacific Northwest is eligible under limited circumstances (see Section 3). Utilities may also acquire renewable energy certificates (RECs), which are tradable certificates of proof of generation from one megawatt-hour of an eligible renewable resource.<sup>10</sup> These credits can be bought and sold in the marketplace<sup>11</sup> and may be used for RPS compliance in the year it is produced, the prior year, or the following year.<sup>12</sup>

The statute provides utilities with four means of RPS compliance. A utility may:

---

<sup>3</sup> North Carolina State University maintains an online Database of State Incentives for Renewables and Efficiency (DSIRE), <http://www.dsireusa.org/>.

<sup>4</sup> RCW 19.285.040(2)(a)

<sup>5</sup> RCW 19.285.030(20).

<sup>6</sup> RCW 19.285.030(11).

<sup>7</sup> RCW 19.285.040(2)(b); RCW 19.285.040(2)(h). Resources may qualify for multiplier credits if a facility counts as distributed generation or uses approved apprenticeship programs.

<sup>8</sup> See RCW 19.285.030(11). The Oregon RPS statute treats hydroelectric energy differently. See ORS 469A.020; ORS 469A.025(4), (5) (available at <http://www.leg.state.or.us/ors/469a.html>).

<sup>9</sup> Chapter 61, Laws of 2013.

<sup>10</sup> See *In re Puget Sound Energy, Inc.*, Docket UE-070725, Final Order Granting in Part, & Denying in Part, Amended Petition; Determining Appropriate Accounting and Use of Net Proceeds from the Sales of Renewable Energy Credits & Carbon Financial Instruments ¶¶ 13-17 (Wash. Utils. & Transp. Comm’n May 20, 2010).

<sup>11</sup> The Washington Department of Commerce has selected the Western Renewable Energy Generation Information System (WREGIS) as the renewable energy credit tracking system under RCW 19.285.030(19). WAC 194-37-040(31); WAC 194-37-210. The website is <http://www.wregis.org/>.

<sup>12</sup> See RCW 19.285.040(2)(e).

Commission Staff Comments Renewable Portfolio Standards  
Dockets UE-131056, UE-131063, UE-131072

- Meet the targets by using eligible renewable resources, acquiring renewable energy credits, or some combination of those two.<sup>13</sup>
- Invest at least four percent of its total annual retail revenue requirement on some combination of eligible renewable resources and renewable energy credits.<sup>14</sup>
- Make certain showings about its load, electricity purchases, and investments in eligible renewable resources and renewable energy credits.<sup>15</sup>
- Show that events beyond the utility's reasonable control prevented it from meeting the target.<sup>16</sup>

Since 2012, investor-owned utilities have reported to the Commission, and all utilities subject to the EIA have reported to the Washington Department of Commerce, on their progress in meeting the statutory renewable energy targets.<sup>17</sup> The Commission has authority to determine whether investor-owned utilities meet the RPS established in RCW 19.285.<sup>18</sup> The State Auditor has authority to audit compliance by utilities that are not investor-owned.<sup>19</sup> A utility that fails to meet the targets must pay a penalty for each megawatt-hour of shortfall.<sup>20</sup>

RCW 19.285.080 authorizes the Commission to “adopt rules to ensure the proper implementation and enforcement of this chapter as it applies to investor-owned utilities.”<sup>21</sup> In 2007, the Commission adopted a set of rules to implement the law, which are now Chapter 480-109 of the Washington Administrative Code.<sup>22</sup> The Washington Department of Commerce has adopted rules to guide compliance by utilities that are not investor-owned.<sup>23</sup>

In the orders associated with the companies' 2012 RPS filings, the Commission agreed with Commission Staff and others that a two-step process is appropriate for evaluating compliance.<sup>24</sup> To comply with the two-step process a utility will 1) provide its plan for meeting its obligation for the target year, which shall include demonstration that it had in hand, as of January 1 of the target year, rights to eligible renewable resources or RECs that are likely to produce the required output for the year; and 2) file for final compliance no later than June 1 of the second year after the target year, describing the eligible renewable resources and RECs the utility actually used for compliance during the target year. The delayed nature of step 2 is due to the fact that (a) actual generation can only be determined after the

---

<sup>13</sup> RCW 19.285.040(2)(a).

<sup>14</sup> RCW 19.285.050(1).

<sup>15</sup> RCW 19.285.040(2)(d).

<sup>16</sup> RCW 19.285.040(2)(i).

<sup>17</sup> RCW 19.285.070.

<sup>18</sup> RCW 19.285.060(6).

<sup>19</sup> RCW 19.285.060(7).

<sup>20</sup> RCW 19.285.060(1). The initial penalty was \$50 per megawatt-hour in 2007, but is adjusted each year for inflation.

<sup>21</sup> RCW 19.285.080(1).

<sup>22</sup> The Commission adopted its rules in Docket UE-061895, General Order R-546. The rule adoption order is published in issue 08-1 of the Washington State Register as WSR 07-24-012.

<sup>23</sup> WAC Chapter 194-37.

<sup>24</sup> See, for example, Docket UE-120802, *Puget Sound Energy*, Order 01 at ¶31 (September 13, 2012).

Commission Staff Comments Renewable Portfolio Standards  
Dockets UE-131056, UE-131063, UE-131072

fact, and (b) RECs from the year immediately following the target year may be used for compliance in the target year.

Staff interprets the language of the 2012 orders, along with the language of the reporting requirements under RCW 19.285.070 and WAC 480-109-040, to require each utility's annual report to include the following three general elements:

1. Its progress in the preceding year,<sup>25</sup> reflecting actual qualifying generation;
2. A demonstration that it had in hand, as of January 1 of the target year<sup>26</sup> (2013 in the present report), rights to eligible renewable resources or RECs that are likely to produce the required output for the year<sup>27</sup>; and
3. A description of the steps the utility is taking to meet the renewable resource requirements for the current year.<sup>28</sup> The description should indicate the utility's plan for which resources will be used for compliance in the current year.

Additionally, given that a final compliance determination will commence in the second year after each target year, a utility shall indicate in its report whether it is requesting a final compliance determination before that time.

#### **4. Legislative Changes in 2013**

The Washington State Legislature passed four laws in 2012 and 2013 that have made or will make changes to the Renewable Portfolio Standard:

- **Substitute Senate Bill 5400**, which allows utilities with retail operations in Washington to count the power or the RECs generated by a qualifying renewable facility in another state where the utility has retail operations toward Washington RPS targets, provided that the utility owns the resource or has a long-term purchasing agreement in place. Effective July 28, 2013.<sup>29</sup>
- **House Bill 1154**, which precludes power purchased from on-site methane collection and destruction mechanisms, such as digesters or landfill gas collection systems, as an eligible renewable resource. Effective July 28, 2013.<sup>30</sup>
- **Senate Bill 5297**, which allows utilities seeking an alternative form of compliance to count certain coal transition power purchases. Effective July 28, 2013.<sup>31</sup>

---

<sup>25</sup> RCW 19.285.070 (1)

<sup>26</sup> WAC 480-109-040 (1) (b)

<sup>27</sup> See UE-120802, *Puget Sound Energy*, Order 01 at ¶31 (September 13, 2012); UE-120813, *Pacific Power and Light Company*, Order 01 at ¶38 (September 13, 2012).

<sup>28</sup> WAC 480-109-040 (1) (d)

<sup>29</sup> Chapter 61, Laws of 2013.

<sup>30</sup> Chapter 99, Laws of 2013.

<sup>31</sup> Chapter 158, Laws of 2013.

Commission Staff Comments Renewable Portfolio Standards  
Dockets UE-131056, UE-131063, UE-131072

- **Senate Bill 5575**, which allows biomass energy to be claimed as an eligible renewable resource beginning in 2016, under certain circumstances. Effective June 7, 2012.<sup>32</sup>

Staff does not anticipate that these changes will alter any of the utilities' compliance strategies for 2012 or 2013. By Staff's calculations, all three utilities have sufficient resources in their existing wind and incremental hydro facilities located in the Pacific Northwest to meet the three percent target through 2015. In 2016 however, the target increases to nine percent and biomass facilities become eligible. It is possible at that time that the legislative changes made in Senate bills 5400 and 5575 will affect the utilities' compliance strategies. Staff does not anticipate the other two bills affecting the three investor-owned utilities at this time.

### **5. Puget Sound Energy – 2012 and 2013 Compliance**

PSE's average annual load for its Washington State customers for 2010-2011 was 21,198,607 megawatt-hours (MWh). The Company's 2012 Renewable energy target was 635,958 MWh. PSE's actual 2012 load was 21,138,168 MWh, resulting in a 2011-2012 average of 21,317,121 MWh and a 2013 RPS target of 639,514 MWh.

	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
<b>Washington Retail Load (MWh)</b>	20,901,139	21,496,074	21,138,168	
<b>Target Load (MWh)</b>			21,198,607	21,317,121
<b>RCW 19.285 Requirement</b>	0%	0%	3%	3%
<b>Requirement (MWh)</b>	0	0	635,958	639,514
<b>Docket</b>			UE-120802	UE-131072

In its 2013 report, PSE is claiming 1,985,183 MWh of eligible generation, RECs and apprenticeship credits for 2012, representing an excess of 1,349,225 MWh over the 2012 target of 635,958 MWh.

To meet its 2012 target of 635,958 MWh, PSE reports that it will retire upon Commission order the RECs and associated apprenticeship credits from Wild Horse Phase II, Lower Snake River-Dodge Junction, and Lower Snake River-Phalen Gulch. However, given that some portion of these RECs will not need to be retired for 2012 compliance after the generation from Wanapum Dam is accounted for,

<sup>32</sup> Chapter 22, Laws of Washington.



Commission Staff Comments Renewable Portfolio Standards  
Dockets UE-131056, UE-131063, UE-131072

the number of RECs the Company claims it has set aside for retirement for 2012 compliance is incorrect as currently reported. This is discussed further below.

The Company has also indicated that the excess RECs are being rolled forward to 2013, although it is highly likely that some portion of those RECs will be sold. Further, after accounting for the Wanapum generation, additional RECs will likely be available to be sold or rolled forward to 2013. Nevertheless, PSE's report demonstrates that the Company has not only met the 3% target for 2012, but exceeded it by a wide margin and will likely continue to do so for the next several years.

Although PSE appears to have met or exceeded its target for 2012, and has demonstrated that it has sufficient resources on hand to have complied with the January 1, 2013, compliance requirement, the Company did not meet two reporting requirements under RCW 19.285.070 and WAC 480-109-040.

First, although PSE did not report any incremental hydro generation in 2012, Commission Staff has obtained documents indicating that the Company received qualifying hydropower through a contract with Grant County PUD. Though PSE has resources at its disposal to meet its 2012 target solely with wind-based RECs, Staff feels it would be imprudent to do so. While the non-power attributes of wind generation can be converted to RECs and used in 2013 or sold on the market, Washington law prohibits the conversion into RECs of the non-power attributes associated with incremental hydro generation. Were the Commission to grant PSE's request to fulfill its 2012 target solely through wind RECs, the incremental hydro generation the Company receives from Grant County PUD would go unapplied toward RPS satisfaction and the utility would unnecessarily retire RECs that could be sold or applied toward compliance for another year. Since those wind RECs have a monetary value, if the Company were to retire more RECs than is necessary to comply with Washington law it would be, in effect, foregoing revenues associated with the sale those RECs and increasing cost to ratepayers. PSE's request for final 2012 compliance should be denied until the Company submits a revised report that accounts for the qualifying hydro generation it acquired from Grant County PUD, and corrects the number of RECs it has set aside for 2012 compliance.

*Through discovery, and during the drafting of these comments, Staff was provided detail on PSE's share of incremental generation at Grant County PUD's Wanapum facility. PSE has expressed its intention to apply the incremental hydro generation provided toward meeting the Company's 2012 and 2013 RPS targets. However, as described in Section 8 of these comments, Staff remains concerned with Grant County PUD's methodology for determining incremental generation from Wanupum Dam, and believes final compliance for all three utilities should be delayed until the issue is resolved.*

Second, the Company has failed to provide its plan for meeting the target for the current year, 2013, as it is required to do per WAC 480-109-040 (d). Although the Company indicates it will be applying qualifying generation from two upgraded facilities, Snoqualmie Falls and Lower Baker River, toward its 2013 RPS obligation, it does not provide expected generation for either of these facilities nor does it provide a model or the methodological approach used to calculate the incremental portion of the generation from these facilities. Additionally, PSE continues to acquire qualifying hydropower from Grant County PUD yet does not include this generation in its plan for meeting the three percent obligation throughout 2013. Staff believes that absent the projected generation from Grant County PUD's Wanapum facility, and absent modeled incremental generation from Snoqualmie Falls and

Commission Staff Comments Renewable Portfolio Standards  
Dockets UE-131056, UE-131063, UE-131072

Lower Baker River, the Company has not complied with its reporting requirements under Commission rules. The Commission will also need more information about the upgrades to Snoqualmie Falls and Lower Baker River to determine whether the facilities qualify in the State of Washington as renewable resources.

*Through discovery, and during the drafting of these comments, PSE provided Staff with a detailed description of the methods and model used to derive its estimate of generation from Snoqualmie Falls and Lower Baker River. Staff does not yet have an opinion on the Company's modeling effort as it has not had adequate time to review the materials provided. However, Staff feels that this information should be considered a required component of the Company's annual RPS filings, and should be incorporated into the revised 2013 RPS Report the Company will need to submit to the Commission to account for 2012 and 2013 generation at Wanapum Dam.*

#### **6. Avista Corporation – 2012 and 2013 Compliance**

Avista's average retail load for 2010-2011 was 5,534,889 MWh, which resulted in a 2012 renewable target of 166,047 MWh. Actual delivered load in 2012 was 5,513,396 MWh, resulting in 2011-2012 average of 5,557,999 MWh and a 2013 RPS target of 166,740 MWh.

	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
<b>Washington Retail Load (MWh)</b>	5,467,176	5,602,601	5,513,396	
<b>Target Load (MWh)</b>			5,534,889	5,557,999
<b>RCW 19.285 Requirement</b>	0%	0%	3%	3%
<b>Requirement (MWh)</b>	0	0	166,047	166,740
<b>Docket</b>			UE-120791	UE-131056

Staff believes the materials submitted with Avista's 2013 RPS Report comply with reporting requirements under RCW 19.285.070 and WAC 480-109-040. In its report, Avista has included 1) its progress and actual qualifying generation for 2012, 2) a description of the resources or RECs the Company had on hand to meet the January 1, 2013, compliance requirement, and 3) a plan for how the utility intends to fulfill its obligation for the remainder of 2013. The Company will still need to request a formal finding of 2012 compliance at a later date, but no later than June 1, 2014.

Avista generated a total 252,655 MWh of eligible renewable resources in 2012. Of the total, 75.7% came from qualified hydroelectric upgrades and 24.3 percent came from the Palouse Wind Power Project. Avista is able to meet 100 percent of its RPS target for 2012 with qualified hydroelectric

Commission Staff Comments Renewable Portfolio Standards  
Dockets UE-131056, UE-131063, UE-131072

upgrades so the 61,450 MWh of RECs generated in 2012 from Palouse wind facility are eligible to be sold or rolled over to 2013. The Company's 2013 qualifying resource portfolio does not include any new facilities that would require a Commission finding of eligibility.

In Section 8 of these comments, Staff outlines some specific concerns it has with the method Avista is employing to generate an estimate of incremental hydro generation. However, Staff's concerns can be allayed if the Company commits to taking the steps outlined in the same section.

### **7. PacifiCorp – 2012 and 2013 Compliance**

PacifiCorp reported an average annual load for its Washington State customers for 2010-2011 of 3,995,247 MWh. The Company's 2012 Renewable energy target is 119,857 MWh. Actual delivered load in 2012 was 4,041,898, resulting in a 2011-2012 average of 4,023,881 MWh and a 2013 RPS target of 120,716 MWh.

	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
<b>Washington Retail Load (MWh)</b>	3,984,631	4,005,863	4,041,898	
<b>Target Load (MWh)</b>			3,995,427	4,023,881
<b>RCW 19.285 Requirement</b>	0%	0%	3%	3%
<b>Requirement (MWh)</b>	0	0	119,857	120,716
<b>Docket</b>			UE-120813	UE-131063

Staff believes the materials submitted with PacifiCorp's 2013 RPS Report comply with reporting requirements under RCW 19.285.070 and WAC 480-109-040. In its report, PacifiCorp has included 1) its progress and actual qualifying generation for 2012, 2) a description of the resources or RECs the Company had on hand to meet the January 1, 2013, compliance requirement, and 3) a plan for how the utility intends to fulfill its obligation for the remainder of 2013. The Company will still need to request a formal finding of 2012 compliance at a later date, but no later than June 1, 2014.

PacifiCorp reported that it met the 2012 target through a combination of incremental hydro obtained at Company facilities and through purchase agreements, RECs generated from Company-owned wind facilities in the Pacific Northwest, and RECs purchased from third parties. The Company's reported 2013 qualifying resource portfolio includes one resource not previously used for Washington compliance – the Wolverine Creek wind facility near Idaho Falls, Idaho. The facility has been in operation since 2005 and PacifiCorp purchases 100 percent of its output. Staff believes the generation at

Wolverine Creek is an eligible resource as it is a wind facility located in the Pacific Northwest and was placed into service after March 31, 1999.

In Section 8 of these comments, Staff identifies two potential issues with the model PacifiCorp uses to determine its incremental hydro generation. However, these issues appear to be minor, and can be addressed through measures also identified in Section 8.

## **8. Issues for Further Consideration**

### **Incremental Cost Calculations**

WAC 480-109-040 requires each regulated electric utility's annual RPS compliance report to include "the incremental cost of eligible renewable energy resources and renewable energy credits." RCW 19.285.050(1)(b) defines how this cost should be calculated:

The incremental cost of an eligible renewable resource is calculated as the difference between the levelized delivered cost of the eligible renewable resource, regardless of ownership, compared to the levelized delivered cost of an equivalent amount of reasonably available substitute resources that do not qualify as eligible renewable resources, where the resources being compared have the same contract length or facility life.

Staff has two concerns with the incremental cost calculations presented by the utilities in this year's filings. First, each utility used wholesale electricity market prices as its substitute resource, which does not fulfill the intent of the statute, as discussed below. Second, each utility used a different methodology in calculating the incremental cost, which precludes a valid assessment of the overall added expense to Washington ratepayers of complying with the Renewable Portfolio Standard (RPS).

Reliance on electricity markets does not seem to comply with the language of the statute, which calls for a substitute resource of "the same contract length or facility life." While entering into power purchase agreements or investing in additional generation facilities would comply with that language, spot market purchases possess neither the time nor physical dimensions required by statute and, therefore, do not meet the statutory definition of a substitute resource. Without an adequate basis for comparison, it is difficult to accurately assess the incremental cost of RPS compliance as the statute requires.

Furthermore, the statute indicates that the incremental cost calculation should be based on how utilities would meet their long-term load requirements if renewable projects were not being considered.<sup>33</sup> It seems unlikely that utilities would address those long-term needs by relying solely on potentially volatile markets, which would expose the utility (and ratepayers) to a high degree of risk. Rather, it is more likely that a utility would seek stability in addressing that long-term need by entering into a power purchase agreement, operating existing facilities at higher output, building/acquiring additional capacity, etc.

---

<sup>33</sup> RCW 19.285.050

Commission Staff Comments Renewable Portfolio Standards  
Dockets UE-131056, UE-131063, UE-131072

Staff's second concern is the lack of a uniform methodology among the three utilities. As no specific methodology has been set forth by the Commission or Commerce, this lack of a uniform methodology is not surprising. However, a uniform methodology would allow an across-the-board comparison of incremental costs that, under the current approach, cannot be done. Such a comparison would serve lawmakers by providing accurate cost-of-compliance data as they evaluate the state's RPS policy and similar policies in the future, while serving the Commission and the utilities by identifying the most cost-effective approaches to RPS compliance.

While all three regulated utilities used Mid-Columbia wholesale electricity prices as their substitute resource, differences in interpretations and cost assumptions resulted in widely differing figures. On a per-megawatt hour basis, the utilities reported the cost of RPS compliance in 2012 as \$15.73 (PacifiCorp),<sup>34</sup> \$20.35 (Avista),<sup>35</sup> and \$43.76 (PSE).<sup>36</sup> As a share of revenue requirement (a calculation also required by statute), the utilities reported that RPS compliance accounted for 0.61% (PacifiCorp), 0.80% (Avista) and 1.36% (PSE) of their approved 2012 revenue requirement.

Table 1 summarizes the different assumptions each utility made, which help explain the broad range of reported incremental costs:

**Table 1: Incremental cost calculation methodologies**

Company	Cost Assumption	Substitute Resource	Ancillary Services Included?	REC Sales Included?	Excess generation included?
Avista	Capital Revenue Requirement	Mid-Columbia wholesale market	Unclear	Yes	N/A
PacifiCorp	None (hydro), Levelized NPV(wind)	Mid-Columbia wholesale market	Some	N/A	N/A
PSE	Levelized NPV	Mid-Columbia wholesale market	Yes	No	Yes

<sup>34</sup> See UE-131063. Figure obtained by dividing PacifiCorp's reported total incremental cost for RPS compliance in 2012 (\$1,885,417 per pg. 13) by the RPS target for 2012 (119,857 MWh per pg. 3).

<sup>35</sup> See Avista's filing (UE-131056), Appendix B.

<sup>36</sup> See UE-120802, Figure obtained by dividing PSE's projected cost of 2012 compliance in its 2012 report (\$27,830,000 per pg. 6) by the RPS target for 2012 (635, 958 per pg. 4 of the 2013 filing, UE-131072). **Note:** PSE did not provide a final 2012 incremental cost calculation in its 2013 filing. All calculations reflect the costs PSE reported in 2012.

Commission Staff Comments Renewable Portfolio Standards  
Dockets UE-131056, UE-131063, UE-131072

PacifiCorp, which reported the lowest incremental cost, assumed an incremental cost of \$0 for the upgrades to its hydro facilities that allow it to claim incremental hydro generation. In its filing, the Company reasoned that the facilities had to be improved to comply with Federal Energy Regulation Commission (FERC) licensing requirements, and that it would have made the efficiency upgrades regardless of the RPS requirement, because the marginal cost associated with acquiring the additional capacity was the lowest-cost alternative.

Avista, however, used the Commission's approved capital revenue requirement as its initial cost assumption for each of its upgraded hydro facilities. The Company then calculated how much cost it avoided by generating its own electricity with the upgraded facilities, rather than buying it on the market, and credited that amount against the capital revenue requirement. Only one of Avista's nine upgraded, Company-owned facilities reflected a net savings after this methodology was applied; the other eight showed a net expense for the upgrades. Those net expenses explain why Avista reported a higher incremental cost of compliance than PacifiCorp, which assumed no incremental cost for its hydro upgrades.

Staff continues to evaluate which approach is correct – PacifiCorp's assertion that efficiency upgrades have no incremental cost because they were done in conjunction with FERC-required upgrades, or Avista's assertion that the cost of associated the upgrades is an incremental cost that can be charged to RPS compliance. PSE's filing also indicated that the Company is assuming an incremental cost for the efficiency upgrades installed during its FERC-mandated upgrades at Snoqualmie and Lower Baker. Staff is willing to accept both approaches at present, but intends to work with the utilities and interested parties during the coming year to form a recommendation on which approach is more appropriate.

PSE also differed in how it calculated its incremental cost. Where Avista used the revenue requirement as the cost assumption for each project, PSE used the net present value of each project, levelized over the project's expected life. Like the other two utilities, PSE used Mid-Columbia wholesale prices as its substitute resource, but included additional ancillary services (peaker capacity to back up the purchases and transmission expenses) that the other utilities did not ostensibly include.

Staff believes that of the three approaches, PSE's was closest to the statute, which specifically orders the incremental cost to be based on the "levelized delivered cost(s)" of both the renewable and non-renewable substitute. PacifiCorp's incremental cost analysis also contained components that Staff believes aligns with the statute, such as the inclusion of transmission as an ancillary cost for its wind facilities. PacifiCorp, however, seems to have omitted a capacity component in its analysis.

Staff has identified two reasons for PSE reporting a substantially higher cost of compliance than the other two utilities. First is that PSE included the incremental costs for all of its renewable facilities, despite the fact that more than two-thirds of the RECs it generated in 2012 were rolled forward to 2013 or sold. Staff believes that a more accurate representation of the cost of complying with the RPS standard would reflect only the costs associated with generating the power required for compliance. A rough estimate that only includes the power the Company is applying toward 2012 compliance (all of Wild Horse II and 59 percent of Lower Snake River), yields a per-megawatt hour compliance cost of \$25.50 in 2012. While PSE has chosen to exceed the state's RPS by a wide margin, the statute only calls for a calculation of the incremental cost of complying with the annual target. PSE's inclusion of its

Commission Staff Comments Renewable Portfolio Standards  
Dockets UE-131056, UE-131063, UE-131072

excess renewable generation and the associated cost has the potential to skew the incremental cost calculation and make compliance appear more costly.

The second factor behind PSE's higher reported cost of compliance was that the Company did not reflect its revenues from selling RECs in its calculation. Avista did this, and Staff feels that it would be appropriate for PSE to do so as well, since the proceeds from REC sales return to ratepayers and can be used to offset the cost of the facilities that produce the RECs. Staff has requested that PSE provide information about its REC sales in 2012 and 2013 to more accurately determine the Company's incremental cost of compliance.

PSE has not provided Staff with a final cost of compliance in 2012. PacifiCorp and Avista used the 2013 filing to provide a finalized calculation based on accurate Mid-Columbia market prices in 2012, while PSE's report only included a projected 2013 cost. PSE's 2013 projection was the same as its 2012 projection, apart from the addition of two new incremental hydro facilities coming online in 2013. These figures were taken from projections in the Company's 2011 IRP. However, since PSE used market prices as a substitute resource, which were surely different in 2012 than what the Company projected they would be 2011, and even more different in 2013, Staff questioned the reliability of PSE's incremental cost calculation and has asked the Company for an update based on actual 2012 prices. This is one reason to consider requiring the use of PPAs or additional capacity investment as a substitute resource for incremental cost calculations, since those costs can be levelized so they will not need to be revisited and recalculated each year, as estimates using market prices necessarily must do.

Based on the time limitations for acting on the current reports, Staff will likely recommend that the Commission provisionally accept the various methodologies used to calculate incremental costs. However, Staff requests time to work with the utilities, the Department of Commerce and other stakeholders in refining and finalizing a uniform methodology for use in the future.

Staff's tentative recommendation for the incremental cost calculation methodology includes the following points:

- Use the levelized NPV of the renewable resource as the initial cost assumption.
- Use a PPA or additional capacity investment as a substitute resource, including any necessary ancillary services (transmission, capacity, etc.).
- Report the incremental cost of all renewable generation for the year, but in the final incremental cost calculation only include the cost of the power used for compliance or sold as RECs; omit any project or any share of a project that is being rolled into a future year.
- Include the cost of all incremental hydro generation, even any excess, as it cannot be claimed in another year.
- When using credits generated in a previous year, calculate the incremental cost based on the year in which the credits were generated.
- Subtract the proceeds from any REC sales.

Apart from the change in substitute resource and the omission of unused generation from final calculations, all of these methods are already used by at least one of the investor-owned utilities.

### **Incremental Hydropower Calculation Methodologies**

In preparing for implementation of the EIA, the Commission in 2011 created a Renewable Portfolio Standards Workgroup. This body, composed of representatives from Commission Staff, the regulated utilities, the Department of Commerce and other interested parties, was tasked with preparing the standards and reporting requirements for RPS compliance.

One of the main issues the workgroup faced was developing a methodology for measuring the output from qualified hydro efficiency upgrades. The EIA allows for electricity produced from efficiency upgrades to hydroelectric facilities installed after March 31, 1999 to be applied to RPS targets; however, the act did not spell out how the eligible output should be calculated. The workgroup outlined three acceptable methodologies:

Method 1: Annual calculation using hydro model and actual inflows or generation.

- The difference between the two states (before and after efficiency improvements) determines the amount of renewable electricity available for that specific calendar year.
- Requires an annual model run to determine amount of electricity that would have been produced without the improvements in each year.
- Renewable electricity quantity is expected to vary significantly from year to year depending on variable inflow conditions and duration.

Method 2: One-time calculation of renewable electricity *percentage* using an historical period of inflow or generation.

- Historical inflow or generation based on minimum of 5 years, for the entire available inflow record or generation, as determined by the utility.
- Electricity output in each state (before and after improvements) is calculated using a hydro model for all flow conditions.
- The difference between the two states, as an average efficiency percentage, is then applied to the actual generation in all future years to determine the eligible renewable resource electricity in each year.
- Renewable electricity quantity will vary from year to year depending on inflow duration and conditions but will be a straight percentage based on actual generation each year.

Method 3: One-time calculation of renewable electricity using an historical period of inflow or generation.<sup>37</sup>

- Historical inflow or generation based on minimum of 5-years for the entire available inflow record or generation, as determined by the utility.

---

<sup>37</sup> WAC 194-37-130(2) requires consumer-owned utilities to “calculate renewable resource power from incremental hydropower as the increase in annual megawatt-hours of generation attributable to the qualified incremental hydropower efficiency improvements under average water generation.” WAC 194-37-130(3)(c) requires an explanation of “how the amount of generation in ‘average water generation’ was calculated.” Under WAC 194-37-040(3), “‘average water generation’ means the average megawatt-hours of generation from a hydroelectric project over a period of ten consecutive years or more, taking into account differences in water flows from year to year.”



Commission Staff Comments Renewable Portfolio Standards  
Dockets UE-131056, UE-131063, UE-131072

- Electricity output in each state is calculated using a hydro model for all flow conditions and an annual average incremental hydroelectric generation value is calculated.
- The average difference between the two states, in megawatt-hours, is then used for all future years as the available renewable electricity regardless of actual generation.

*Incremental Hydro Issues - Avista*

During its review of the 2012 RPS compliance filings, Commission Staff expressed concerns with Method 3, which Avista used in both last year's filing and the current filing. Staff remains concerned with this approach, which makes a one-time adjustment to estimate the incremental effect of the efficiency upgrade on annual generation, and then uses that static figure in perpetuity. Given the natural variability of hydrological cycles, compounded with the potential for further climatic change that could substantially alter snow pack, the timing and duration of spring runoff, and average stream flow volumes, an approach that relies upon an historical average could prove to be quite inaccurate in representing future hydrologic conditions and corresponding hydroelectric generation.

While recognizing these limitations of Method 3, Avista representatives have pointed out that the approach also has the significant benefit of providing greater predictability, which simplifies RPS compliance and allows the Company more flexibility in budgeting RECs. Using one of the other methods, which recalculate the amount of incremental hydro produced every year, would require the Company to maintain a hedge of RECs to make up the difference in the event of a shortfall. Since those RECs have a monetary value, the Company would incur opportunity costs by being required to hold onto that commodity rather than selling it.

To address the possibility that Method 3 is indeed inaccurate in representing average future conditions, Staff has proposed that Avista re-evaluate its calculation every five years and compare the amount of incremental hydro generation the Company claimed in the previous five years to how much the Company would have claimed had it used Method 1 or Method 2. Should Method 3 produce average generation values that vary substantially from those produced by Method 1 or Method 2, such a discrepancy would be easily identifiable in a formal analysis submitted to the Commission in the Company's 2017 and 2022 RPS Reports. Furthermore, a formal analysis that quantifies differences in modeled generation provides for an ability to true up the difference in the event that difference is deemed material by the Commission. For example, should the Company find that it has claimed substantially more incremental hydro than the alternate method would have allowed, it may be expected to retire a number of RECs equal to the discrepancy. Staff prefers that Avista's usage of Method 3 be bound by those conditions.

Since Avista and the other utilities are currently well above the three-percent requirement and minor differences in how incremental hydro generation is calculated are extremely unlikely to be the difference in a utility being in compliance, Staff feels that there is little risk to experimenting with the different methods. However, if the five-year check that Avista does in 2017 reveals that the Method 3 generates values that differ significantly from those generated by one of the other methods, Staff may recommend to the Commission that Avista switch to one of the other methods. Staff acknowledges that five years may prove to be an inadequate amount of time to fully assess possible methodological discrepancies; as natural climatic cycles typically follow a decadal oscillation pattern, Avista's 10-year analysis in 2022

might be the most meaningful in assessing the validity of Method 3 and the appropriateness of continued use.

### *Incremental Hydro Issues – PacifiCorp*

Staff identified two concerns with the methodology PacifiCorp used in estimating its incremental hydro generation. First, the Company used a model built on four years of production, despite the recommendation of the Workgroup – to which PacifiCorp was a party – that models be based on at least five years of data.<sup>38</sup> Second, the Company omits negative efficiencies in its model. In other words, under certain conditions, turbine power curves suggest that the pre-upgrade facility is more efficient than the post-upgrade facility, but the Company excludes these efficiency losses from the calculation of net incremental hydro gain.

In response to Staff inquiries, PacifiCorp stressed that it had invested considerable time in developing its incremental hydropower calculation method in order to comply with the Oregon RPS, and that the Oregon Department of Energy had already accepted the Company's reported incremental hydro generation based on the four-year model. The Company has indicated that rebuilding the model for 2012 using a five-year historical window would result in the Company reporting inconsistent amounts of incremental hydro generation in Oregon and Washington. As required under Oregon RPS rules, the Company must register its generation facilities in the Western Renewable Energy Generation Information System (WREGIS). Under the WREGIS operating rules, the Company can only have a single incremental hydro efficiency percentage associated with a generator and therefore it is impossible to track different percentages for a single generator in WREGIS.

Staff agrees that such a discrepancy is problematic, and has agreed to not recommend that the Commission ask the Company to re-develop its model for estimating 2012 incremental hydro generation using five or more years of data. However, Staff has asked that in future years PacifiCorp develop its model using at least five years of historical data. Staff prefers the use of ten years of data but acknowledges that the guidelines developed by the RPS Technical Workgroup recommend a minimum of only five years of historical data in model development. The Company is currently updating the analysis to include historical generation data from 2011 and 2012 and will be submitting the analysis to the Oregon Department of Energy this year.

Staff also encourages the Company to remove negative efficiency gains from its model in future filings. PacifiCorp interprets the language referring to "efficiency improvements" in RCW 19.285 to mean that renewable generation is created within an hour if the electricity is attributable to efficiency upgrades. The Company claims that the statute does not support decreasing the level of renewable generation if there is a decrease in efficiency. Staff disagrees. In Staff's view, an efficiency improvement is an improvement in a facility's ability to convert a volume of water to electricity, and the net effect of any facility modification should determine the extent to which improved efficiency has been achieved. A

---

<sup>38</sup> Docket UE-110523, Washington Renewable Standards Working Group Consensus Report, Attachment 4 – RPS Hydro Methodologies (May 1, 2012)

facility modification might also contribute inefficiencies, and those should not be ignored when determining the overall impact of that facility modification.

However, Staff acknowledges that resolution of this issue will have only a trivial impact on the modeled efficiency gains for PacifiCorp's hydro facilities. Additionally, as the Company has pointed out, the Company's analysis does not include incremental generation on the upper end of the efficiency curve of the new turbine beyond the capacity limit of the old equipment which, if accounted for, would more than offset the effect of not including efficiency losses in the Company's model. Staff believes this to be true, but would prefer if the Company's model would include both a) the efficiency losses and b) the efficiency gains due to a capacity increase. Doing so, however, would be problematic as efficiency gains due to capacity increases are not allowed per Oregon law. For the sake of consistency and administrative ease, the Company uses the same calculation methodology in both Washington and Oregon. Staff recognizes that this is a desirable objective that should be considered when recommending a change to the Company's model, and with this objective in mind will likely not recommend that model changes be made to address these shortcomings. However, Staff wishes to broach the subject here in the event that the Commission does wish to address these issues.

#### *Incremental Hydro Issues – PSE*

Although PSE intends to apply incremental hydropower toward its 2013 RPS obligation, it has not provided its model or chosen methodology to the Commission. In failing to provide this information to the Commission, the Company has not met its reporting requirements (as described in Section 5 above) and deprives Commission Staff of a reasonable opportunity to review the model and assess the validity of the underlying methodology.

#### *Incremental Hydro Issues – Grant County PUD*

Grant County PUD operates Wanapum Dam, an upgraded hydro facility that sells power to all three of the regulated utilities, including a share of the eligible incremental hydro generation that the facility produces. Grant County uses Method 3 to calculate the amount of incremental hydro that the facility produces, which is then used to inform each regulated utility of its share of the eligible incremental generation. The Commission has no direct authority over Grant County PUD, but the problems associated with Grant County's modeling effort affects the regulated utilities by generating potentially inaccurate data that each utility reports to the Commission for compliance purposes.

Last year, Staff raised two significant concerns with Grant County PUD's methodology. First, Grant County's model overstated the amount of incremental hydro generation by not controlling for periods of high spill, in effect allowing the model to attribute generation to large volumes of water that had actually been spilled rather than run through the turbines. Second, the model had calculated average historical conditions using non-consecutive years that were both dated (i.e. they were between 1942 and 1984) and not representative of a reasonable range of historical conditions.

Over the past year, Grant County PUD received modeling input from the Washington State Auditor's Office with help from Washington State University. As a result of that input, Grant County PUD

Commission Staff Comments Renewable Portfolio Standards  
Dockets UE-131056, UE-131063, UE-131072

generated incremental hydro generation data for Wanapum Dam for 2013, and retroactively for 2012, using a redeveloped model. The updated model data were provided to the investor-owned utilities which, in turn, submitted the model to the Commission along with the 2013 RPS Reports.

Staff acknowledges that the redeveloped model is an improvement over the model Grant County provided the investor-owned utilities in 2012. The 2013 model controls for periods of high spill and uses consecutive years, enabling the model to adequately capture inter-annual variability. However, Staff believes that the model continues to suffer from a misrepresentation of the historical average. In particular, it appears that the length and location of the historical window (1978-1990) was chosen to maximize the apparent historical average and, accordingly, the incremental generation the utility reports going forward. Staff believes that the need to fairly represent the historical average is foundational to using a historically-based methodology. If the selected period represents an above-average period of water flow, as Staff suspects, there is the potential to inflate reported incremental generation.

Staff has raised its concerns with the State Auditor's office, and personnel at the State Auditor's office have shared Staff's concerns and are discussing potential options with the Department of Commerce. Staff believes that it is not in the public interest to move forward with final 2012 compliance determinations for the investor-owned utilities until this issue is resolved. Staff proposes to continue to work with personnel from the Auditor's office and the Department of Commerce, along with interested parties, to address the mutual concerns. It is essential that this issue be fully resolved in a timely manner, and at least before June 1, 2014, so that 2012 final compliance determinations can be made for the investor-owned utilities.