ORDER NO. 13 422

ENTERED NOV 12 2013

BEFORE THE PUBLIC UTILITY COMMISSION

OF OREGON

UM 1658

In the Matter of PORTLAND GENERAL ELECTRIC COMPANY, 2012 Renewable Portfolio Standard Compliance Report.	ORDER

DISPOSITION: STAFF'S RECOMMENDATION ADOPTED

This order memorializes our decision, made and effective at the public meeting on November 12, 2013, to adopt Staff's recommendation in this matter. The Staff Report with the recommendation is attached as Appendix A.

Dated this 12th day of November, 2013, at Salem, Oregon.

Susan K. Ackerman
Chair

John Savage
Commissioner

Stephen M. Bloom
Commissioner

A party may request rehearing or reconsideration of this order under ORS 756.561. A request for rehearing or reconsideration must be filed with the Commission within 60 days of the date of service of this order. The request must comply with the requirements in OAR 860-001-0720. A copy of the request must also be served on each party to the proceedings as provided in OAR 860-001-0180(2). A party may appeal this order by filing a petition for review with the Court of Appeals in compliance with ORS 183.480 through 183.484.

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ITEM NO. 1

PUBLIC UTILITY COMMISSION OF OREGON
STAFF REPORT
PUBLIC MEETING DATE: November 12, 2013

REGULAR X **CONSENT** ____ **EFFECTIVE DATE** **Upon Commission Approval**

DATE: November 12, 2013

TO: Public Utility Commission

FROM: John Crider

THROUGH: Jason Eisdorfer, Maury Galbraith and Aster Adams

SUBJECT: PORTLAND GENERAL ELECTRIC: (Docket No. UM 1658) Renewable Portfolio Standard 2012 Compliance Report

STAFF RECOMMENDATION:

Staff recommends that the Commission find that Portland General Electric (PGE) complied with the Renewable Portfolio Standard (RPS) for the 2012 compliance period, based upon PGE's 2012 Renewable Portfolio Standard Compliance Report. Staff also recommends that PGE be directed to retire the RECs placed in its WREGIS 2012 OR RPS sub-account, and to provide a WREGIS retirement report to the Commission within 30 calendar days from the Commission's order date in this docket.

DISCUSSION:

On June 1, 2013, PGE filed its 2012 RPS Compliance Report. The purpose of the compliance report is to document PGE's compliance with the Oregon RPS.

On August 2, 2013, Staff filed initial comments. PGE reply comments were filed on September 11, 2013. No other parties filed comments.

RPS Compliance Requirement

As stated in ORS 469A.052, utilities supplying 3% or more of the state's retail load must ensure that a certain percentage of the electric energy sold to retail customers within the state of Oregon is derived from eligible renewable energy resources. Based on 2012 retail sales, PGE was required to obtain at least 5% of retail load from RPS qualifying resources.

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PGE's total number of megawatt-hours sold to retail customers in 2012 was 17,975,810 MWh. The RPS requires PGE to retire Renewable Energy Certificates (RECs) equal to 5% of this total, or 898,791 RECs, or provide an alternative compliance payment.

PGE has chosen to meet the requirements completely with a combination of bundled and unbundled RECs. The following table lists PGE's proposed set of RECs for compliance with the 2012 RPS targets:

Table 1. RECs Used by PGE for the 2012 RPS Compliance

Type of REC	Number of RECs	Percentage of RPS
Newly acquired unbundled	140,800	15.7%
Banked unbundled, less Faraday	38,958	4.3%
Faraday 1-5	1,236	0.1%
Faraday 6	1,698	0.2%
Banked bundled	716,099	79.7%
Total	**898,791**	**100.0%**

As can be seen from Table 1, PGE's 2012 RPS compliance report demonstrates compliance with the RPS through the use of 140,800 newly acquired unbundled RECs, 719,033 banked bundled RECs and 38,958 banked unbundled RECs. The total of 179,758 unbundled RECs is exactly 20% of the required 898,791 RECs which is within the allowable limit on use of unbundled RECs for compliance.

The Oregon RPS contains a cost protection for ratepayers in the form of an annual cost cap on RPS compliance-related expenses incurred by the Company. Specifically, utilities are relieved of their compliance requirement to the extent that RPS expenditures exceed 4% of annual revenue requirement[1]. PGE's RPS Compliance Report offers a calculation of RPS-related expenditures to date. PGE's calculation of the total cost of compliance ($3,859,811 = 0.23% of revenue requirement)[2] is far below the cost cap of 4% of revenue requirement established by statute.

[1] *See* ORS 469A.100(1)
[2] See UM 1658 initial filing, "Portland General Electric Renewable Portfolio Standard Oregon Compliance Report 2012' at pg. 6

With the exception of RECs attributed to generating units 1 through 5 at the Faraday hydroelectric plant (see *Issue* below), Staff has confirmed the validity of the RECs used for this Compliance Report as reported by WREGIS and Oregon Department of Energy (ODOE). [3] Staff is also in agreement with PGE that their RPS-related expenditures to date are below the 4% annual revenue requirement cost cap. The only issue Staff has discovered with this Compliance Report concerns the determination of RECs from efficiency upgrades at PGE's Faraday hydro plant.

Issue: Faraday Units 1-5 RECs

Generally, to qualify as an eligible renewable resource for the purpose of RPS compliance, a generation facility is required to have become operational on or after January 1, 1995. However, incremental energy delivered from facilities operational before January 1, 1995, is considered RPS-qualifying if that energy is attributable to efficiency upgrades.

In 1996 PGE's Faraday hydropower plant suffered significant damage from flooding. As a result of this event, five of the six generating units suffered electrical damage which necessitated a rewinding of the stator coils of each unit. Between the time of the initial service of the generators and their 1996 rewind, the performance characteristics of stator winding materials and methods had improved greatly. Because of this, the newly rewound generators experienced an increase in their maximum output capability.

In order to be eligible for RPS-compliant RECs, the upgrade must pass a two-pronged test. First, the generation source must be one listed as eligible under ORS 469A.020-025. For eligibility, the statute also requires that either the resource became operational after January 1, 1995, or if an incremental improvement has been made to the unit, that the improvement be realized after January 1, 1995. In the case of incremental improvement, only the energy provided by the improvement can be counted toward RPS compliance.

The second part of the eligibility test is found in OAR 330-160-0050 (1) which states:

> "Efficiency upgrades from an Oregon RPS qualifying hydroelectric facility, refers to additional incremental qualifying electricity production at an existing hydroelectric facility due to upgrades to existing generators, turbines and other Department-approved equipment changes. Efficiency upgrades do not include

[3] ODOE is granted legislative authority to administer and oversee the RECs validation program through WREGIS as detailed in ORS 469A.130

increased generation achieved through increased impoundments or increased appropriation or diversions of water. "

Further, section (2)(b) goes on to state, in part,

"The determination of the percentage increase in the efficiency of hydroelectric power production as described in Subsection (1) of this rule shall be based on the best available evidence..."

Thus, although the rules clearly allow the type of upgrade performed on the Faraday units to qualify as an eligible resource for RPS compliance, they do not offer a method of quantifying the efficiency increase due to the upgrade, nor do the rules specifically state how to measure or estimate the efficiency upgrade, but instead leave the determination to be based on "the best available evidence".

PGE's Position

PGE is claiming 1,236 RECs attributable to the generator stator rewinds for Faraday units 1-5.

In Reply Comments PGE states: "In our 2012 report, we explained: 'Because the units had previously been generator limited, these changes allowed increased output. Following those improvements, the facility showed a conservative 5% improvement in unit performance. The manufacturer's estimate of performance also suggested that PGE would see a 6-9% improvement in performance.' Unfortunately, specific pre- and post-upgrade generator data that would allow a definitive calculation are not available. " *See* PGE Reply Comments at 1.

PGE also states in Reply Comments that ... "PGE requests that, based on the best available evidence offered by PGE, the Commission confirm that these RECs can be included in PGE's 2012 Compliance Report. In the event the Commission finds Staffs position regarding the percentage efficiency increase persuasive, PGE still believes that sufficient evidence was provided to support the generator rewind upgrades as RPS eligible, post-1995, efficiency upgrades. Therefore, PGE supports Staffs alternative recommendation to at least allow the 1.0% efficiency increase set forth in Table 4 of Staffs comments." *See* PGE Reply Comments at 2.

Staff's Position

Through discovery, PGE provided several pieces of documentation in an attempt to quantify the eligible incremental energy from the Faraday units. However, no actual test

data, curves or other such physical measurements were supplied to Staff for these units. PGE was able to supply documentation indicating an increase in the nameplate megawatt rating ("uprate") of the units after the rewind. PGE then made the claim that the *efficiency* improvement is equal to the *uprate* improvement, which averaged about 6%.

Staff notes that these are two distinct measurement parameters of a generating unit. The uprate improvement for which PGE provided documentation refers to the capacity improvement to the unit. That is, the "performance improvement" referenced by PGE[4] refers to an increase in the megawatt output the unit is capable of at full load. This increase in full-load capacity is not equivalent to an efficiency upgrade. To prove an increase in efficiency requires that the unit demonstrate a post-upgrade increase in output (compared to the pre-upgrade results) over the same range of head and flow conditions. Ultimately, it is only the *efficiency* improvements that are eligible for inclusion as RPS-qualifying energy, and evidence of this improvement has not been supplied by PGE.

OAR 330-160-0050(2)(b) relies on the "best available evidence" to support validation of efficiency upgrades. However, the particular issue at hand is not specifically addressed by statute or rule – namely, how to make a determination of eligibility when there is a lack of direct testimonial or statistical (measured) evidence to support the claim. In this case, there is a lack of measured test data or, in fact, any objective data to be considered because it simply does not exist. PGE can only rely on anecdotal and weak analogical evidence to support their position. Staff is willing to accept that the evidence presented supports the notion that the stator rewind could in fact provide some level of efficiency gain; however, Staff is of the opinion that the amount of efficiency gain cannot accurately be determined by the evidence provided by PGE.

In the absence of actual measured data or test results, Staff conducted a literature search on the subject and also consulted with the US Army Corps of Engineers (Corps), as they are recognized experts in hydropower engineering. Based on this research and consultation, Staff found that industry experts in the area of generator performance are in general agreement that the type of upgrade performed on the Faraday units (i.e., isolated generator stator rewind) typically results in efficiency improvements on the order of 1%. They were equally in agreement that efficiency improvements of 5-8% as claimed by PGE were extremely unlikely if not impossible for isolated stator rewinds – that is, rewinds without upgrades to the turbine runner or other hydraulics.

Staff Conclusion

[4] *See* PGE Reply Comments at 1

In Staff's opinion, the evidence provided by PGE does not support the claim of a 6.0% efficiency improvement. Based on Staff's industry research, Staff recommends that PGE be allowed to claim a 1.0% efficiency increase due solely to generator rewinds on units 1-5. In this case, the number of RECs is calculated as:

Table 2. Revised REC Calculation – Comparison of PGE and Staff Proposals

Year	Total MWH	Base MWH	PGE Efficiency		Staff Revised Efficiency	
			%	MWH	%	MWH
2007	43,889	41,404	6.0%	2,633	1.0%	439
2008	59,456	56,091	6.0%	3,567	1.0%	595
2009	55,494	52,353	6.0%	3,330	1.0%	555
2010	54,278	51,022	6.0%	3,257	1.0%	543
TOTALS	213,117	200,870	6.0%	12,787	1.0%	2,131

If this re-calculation of RECs is directed by the Commission, PGE would still have enough banked RECs from the Faraday units to be in compliance with the 2012 RPS with no changes necessary to the 2012 Compliance Report (which calls for 1,236 RECs from Faraday units 1-5). However, PGE would have fewer banked RECs from these units for future compliance.

Conclusion

Staff finds that PGE's RPS Compliance Report is consistent with ORS 469A.052, which states that for the calendar year 2012, at least five percent of the electricity sold by a large utility to retail electricity consumers must come from qualifying resources. For 2012, PGE used a combination of bundled and unbundled RECs to account for 100% of the requirement.

PROPOSED COMMISSION MOTION:

1. Portland General Electric be found to have complied with Oregon's Renewable Portfolio Standard during the 2012 compliance period.

2. In addition, PGE be directed to retire the RECs placed in its Compliance Report, and to provide a WREGIS retirement report to the Commission within 30 calendar days of the Commission's order in this docket.

3. OPUC direct PGE to work with the Oregon Department of Energy to verify qualifying RECs from the Faraday facility based on a 1.0% percent efficiency improvement and make corresponding changes in WREGIS.

Docket No. UM 1605 PGE 2011 RPCR