Q. Please state your name, business address and present position with PacifiCorp dba Rocky Mountain Power ("the Company").

A. My name is Gregory N. Duvall. My business address is 825 NE Multnomah, Suite 600, Portland, Oregon 97232. My present position is Director, Net Power Costs.

QUALIFICATIONS

Q. Briefly describe your education and business experience.

A. I received a degree in Mathematics from University of Washington in 1976 and a Masters of Business Administration from University of Portland in 1979. I was first employed by PacifiCorp in 1976 and have held various positions in resource and transmission planning, regulation, resource acquisitions and trading. From 1997 through 2000 I lived in Australia where I managed the Energy Trading Department for Powercor, a PacifiCorp subsidiary at that time. After returning to Portland, I was involved in direct access issues in Oregon and was responsible for directing the analytical effort for the Multi-State Process ("MSP"). Currently, I direct the work of the load forecasting group, the net power cost group, and the renewable compliance area.

PURPOSE OF TESTIMONY AND RECOMMENDATION

Q. What is the purpose of your testimony?

A. My testimony is provided in support of the Company's Request for Approval of Changes to Renewable Avoided Cost Methodology for Qualifying Facilities Projects Larger than Three Megawatts ("Request for Agency Action") filed October 9, 2012. In the Request for Agency Action, PacifiCorp requested re-examination of the current methodology for determining avoided cost pricing for

renewable qualifying facilities ("QFs"), approved by the Commission in its Order dated October 31, 2005 in Docket No. 03-035-14 ("2005 Order"). Specifically, the Company requested re-examination of:

a. whether the Market Proxy method continues to produce avoided costs that are in the public interest, including (i) the definition the Integrated Resource Plan ("IRP") target; (ii) the timing of the need for renewable resources; and (iii) the treatment of resources acquired for renewable portfolio standard ("RPS") compliance;

b. what the proper implementation of the Proxy/Partial Displacement Differential Revenue Requirement ("Proxy/PDDRR") method for renewable QF resources is, including (i) the capacity contribution of intermittent resources; (ii) the type of resource deferred (thermal or renewable); and (iii) integration costs; and

c. what the ownership of renewable energy credits ("RECs") from renewable QF resources is, including (i) the ownership of RECs under the Proxy/PDDRR method; and (ii) the right of a QF to buy-back RECs and the associated price.

I will address the questions related to the appropriate method for calculating renewable avoided costs raised in parts a and b, and Company witness Mr. Paul H. Clements will address the issue of REC ownership raised in part c.

Q. Why did the Company request re-examination of the method for calculating wind avoided costs?

A. The Market Proxy method no longer aligns with the Company's IRP and therefore

does not reflect the avoided cost of new wind resources. The Company is not currently seeking to acquire renewable resources. Yet under the Market Proxy method, Utah wind QFs receive the winning price from the most recent renewable request for proposal ("RFP") as if the Company were actively acquiring new renewable resources.

In sharp contrast, the Company was actively seeking to acquire renewable resources when the 2005 Order was implemented. In October 2005, when the 2005 Order was issued by the Commission, the Market Proxy method made sense because the Company was regularly conducting renewable RFPs and planned to continue acquiring renewable resources on a regular basis for a number of years. This is no longer the case. Without changes to the methodology, retail customers will pay prices for QFs that are higher than the avoided cost of energy and capacity from other sources. Since the Public Utility Regulatory Policies Act of 1978 ("PURPA") standard for avoided cost pricing is that customers remain indifferent as to whether the energy is purchased from a QF or from other resources, it is necessary for this Commission to re-examine the use of the Market Proxy method for wind QFs exceeding three megawatts.

Q. How does the Company propose to calculate avoided cost prices for renewable QFs exceeding three megawatts?

A. The Company recommends using the Proxy/PDDRR method approved by the Commission in the 2005 Order as the basis for producing avoided costs for all renewable resources, including wind resources. The Proxy/PDDRR method, however, should be updated to account for more current information regarding the

capacity contribution of renewable resources and the cost of integrating intermittent generation. In its 2005 Order, the Commission acknowledged that the Proxy/PDDRR method is an accurate method to calculate avoided cost prices for wind resources in excess of the IRP target amount. My testimony demonstrates why the Market Proxy method no longer produces accurate avoided cost prices and provides details on how to implement the Proxy/PDDRR method in a manner that is in the public interest and reflects the best available data known at this time.

Q. How is your testimony organized?

A. My testimony is divided into two sections. In the first section, I show why the Market Proxy method is no longer in the public interest due to the flawed definition of the IRP target, the impact of the timing of the need for renewable resources, and the treatment of resources acquired for RPS compliance. In the second section, I discuss the proper implementation of the Proxy/PDDRR method for renewable resources, including accounting for the capacity contribution of intermittent resources, the type of resource deferred (thermal or renewable), and integration costs.

THE MARKET PROXY METHOD

Q. Please describe the currently approved method for calculating avoided costs for wind QFs.

A. The currently approved method incorporates both a Market Proxy method and a Proxy/PDDRR method. The Market Proxy method prices a wind QF resource based on the winning bid in the most recently executed renewable RFP. To derive avoided cost prices using the Market Proxy method, the Commission requires use

of the Company's "most recently executed RFP contract … against which project specific adjustments are made to produce an indicative price for wind QFs in Utah."[1] The last RFP conducted by the Company was the 2009R RFP, which was issued on July 8, 2009. The 2009R RFP resulted in the selection of the Dunlap wind facility; therefore, the Dunlap wind facility is the resource currently used to set the Market Proxy avoided cost prices.

For wind QFs exceeding the IRP target for wind resources, the Proxy/PDDRR method is used. Under the Proxy/PDDRR method, the Company performs two energy simulations using GRID to determine the system energy value of adding a QF resource, taking into account its specific operating characteristics and point of delivery on the Company's system. The Proxy/PDDRR method also provides a capacity payment based on the cost and timing of the next deferrable thermal resource in the IRP, and includes the cost of integrating the intermittent generation into the Company's system. In applying the capacity payment to wind QFs, the Proxy/PDDRR method accounts for the capacity contribution that the wind QF resource makes to displace the next deferrable resource.

Q. Why is the Market Proxy method no longer in the public interest?

A. The Market Proxy method produces prices that exceed the Company's avoided cost because it does not take into account the Company's current need for new resources in Utah. The three fundamental issues raised in the Company's Request for Agency Action outline the limitations of the Market Proxy method.

First, the Market Proxy method is linked to the concept of an IRP target

[1] 2005 Order, p. 21.

for renewable resources that originated in the 2004 IRP and called for the acquisition of 1,400 MW of cost effective wind resources. That target was later confirmed through a commitment made by MidAmerican Energy Holdings Company when it acquired PacifiCorp in March 2006.[2] The Company fulfilled that commitment by October 2010.[3] However, the 2011 IRP Update shows no additional wind resources are needed or cost-effective for Utah.

Second, the Market Proxy method does not reflect the timing of the need for new resources. QFs are paid the full cost of the Dunlap project as soon as the QF comes online, even though the 2011 IRP Update does not show the need to add new wind resources until November 2018. Even then, the new wind resources in the 2011 IRP Update are not cost-effective and are only added to meet RPS requirements outside of Utah. In addition, the Company currently does not need a new natural-gas fired resource until 2025 as was documented in the updated resource needs assessment filed with the Commission on September 28, 2012, in Docket No. 11-035-73. Pricing a wind QF at the full cost of a wind resource during years when there are no resources to defer results in prices that exceed the Company's avoided costs.

Third, the Market Proxy method does not account for circumstances where the IRP wind resources are not cost-effective and are acquired solely for the purpose of complying with RPS requirements outside of Utah. When the Market Proxy method was adopted in October 2005, wind resources in the IRP were all cost-effective and were acquired as part of the least cost, least risk portfolio. They

[2] The acquisition and accompanying commitments were approved by the Utah Commission in Docket No. 05-035-54.
[3] 2011 Integrated Resource Plan, Docket No. 11-2035-01 (Utah PSC Mar. 31, 2011) at 100.

were not driven solely by RPS requirements. The current situation raises inter-jurisdictional cost allocation issues that have not previously been contemplated.

IRP Wind Resources Target

Q. Please provide further details of the IRP target for wind resources referenced in the 2005 Order.

A. At the time the 2005 Order was issued, PacifiCorp had planned to acquire 1,400 MW of new wind resources by issuing frequent system-wide RFPs for wind resources. In its 2005 Order, the Commission cited the testimony of the Office of Consumer Services, then the Committee of Consumer Services (the "Office") in support of the Market Proxy method.[4] The referenced Office testimony explained that the Market Proxy method was appropriate because PacifiCorp would be adding wind resources every year in the foreseeable future:

> We now recommend that special treatment should be afforded wind QF resources that supply PacifiCorp with capacity that helps bring PacifiCorp's total wind capacity up to the limits specified in PacifiCorp's IRP 2004, 200 MW per year and 1,400 MW in total. … PacifiCorp determined that it would be economic to add approximately 200 MW of wind per year, and up to 1,400 MW total. As part of implementing its IRP action plan, PacifiCorp has signed some wind contracts and is working to add more wind resources to its system. In meeting the goals that the Company established in IRP 2004, it makes no difference whether a wind resource is acquired through an RFP solicitation or through a QF contract.[5]

Q. How does the 2005 Order define the IRP target?

A. In the 2005 Order, the Commission defined the IRP target amount as follows:

[4] 2005 Order, p. 20.

[5] *In the Matter of the Application of PacifiCorp for Approval of an IRP Based Avoided Cost Methodology For QF Projects Larger Than One Megawatt*, Docket No. 03-035-14, Rebuttal Testimony of Philip Hayet, September 8, 2005, p. 24.

> All parties agree a Proxy approach for determining the avoided generation capacity and energy costs associated with a wind QF is appropriate for meeting the IRP planned acquisition of ***cost effective*** wind resource, the IRP target amount. The IRP target amount is defined as an accumulated target, currently 1,400 megawatts, with annual overages and underages rolled forward for the next year.[6] (Emphasis added)

The 2005 Order is clear that to be included in the IRP target, a wind resource has to be cost-effective.

Q. Has the 1,400 MW IRP target changed?

A. Yes. In the Commission's order in Docket No. 12-2557-01 issued September 20, 2012 ("2012 Order"), the Commission clarified that "under the 2005 Order, as long as wind resources are present in the IRP, [the Company] should use the market price proxy method to determine indicative avoided cost pricing for wind QFs." The Commission further clarified, "our intent is clear that the Proxy/PDDRR method is not applicable until the wind resource seeking indicative avoided cost pricing exceeds the IRP wind resource target level." The 2012 Order, however, is silent on the matter of cost-effectiveness. Since none of the wind included in the 2011 IRP Update is cost-effective, the IRP target is zero.

Q. What is the difference between the 1,400 MW IRP target and approximately 2,075 MW of new wind resources included in the 2011 IRP Update?

A. The Company acquired the 1,400 MW of wind identified in the 2004 IRP and the 2005 Order on the basis of cost-effectiveness. Acquisition was an ongoing process; the Company routinely issued renewable RFPs between 2005 and 2009. In sharp contrast, the wind resources in the 2011 IRP Update are not currently

[6] 2005 Order, p. 18.

being acquired, are not cost-effective and are planned for RPS requirements outside of Utah. A system-wide renewable RFP has not been issued since 2009 for renewable resources nor does the Company expect to issue a system-wide renewable RFP in the near future.

Under the Market Proxy method, QFs continue to receive prices as if the Company were still conducting regular renewable RFPs. The 2005 Order adopting the Market Proxy method did not envision the situation that PacifiCorp is in now. The Market Proxy method does not capture these important distinctions and is no longer appropriate in the current environment.

Timing of New Resources

Q. You have noted that the Market Proxy method does not account for the timing of new resource additions in the IRP, but the Proxy/PDDRR method does. Why is it important to account for the timing of new resources in the IRP?

A. The primary reason to account for the timing of new resources in the IRP is to ensure QF prices do not exceed the costs the Company can avoid. The IRP determines the timing and type of new resource additions. The Market Proxy method is designed to reflect the market cost to PacifiCorp if it were to competitively procure a new resource today, and customers are not indifferent if they pay the full cost of a new resource today if that new resource is not needed until some date in the future.

Q. Have you prepared an example illustrating the impact of resource timing on avoided cost prices?

A. Yes. Table 1 below compares streams of avoided cost prices under different assumptions and the resulting 20 year nominal levelized payment. Column 2 contains the currently approved Market Proxy prices based on the Dunlap wind facility. Column 3 contains prices calculated using differential GRID runs, with one run including the energy of an 80 MW wind project at zero cost. Prices in column 3 do not include any capacity contribution. Column 4 is a combination of columns 2 and 3 – for years 2013 through 2018 the prices are the differential energy prices from column 3, and for years 2019 through 2032 the prices are the Dunlap prices from column 2. Column 4 illustrates the impact of using the full Market Proxy price beginning with the in service date of the next wind resource included in the 2011 IRP Update. Column 5 contains the prices under the Proxy/PDDRR method with a capacity contribution beginning in 2025 consistent with the recently filed resource needs assessment. Column 6 contains the prices for a thermal QF as calculated in the Company's 2012.Q4 Schedule 38 compliance filing made with the Commission on December 28, 2012, and is provided for comparison purposes.

Table 1

(1)	(2)	(3)	(4)	(5)	(6)
Year	Market Proxy (Dunlap 1)	GRID Energy Value	GRID (2013-2018) Mkt Proxy (2019-2032)	Proxy/PDDRR	Utah 2012.Q4 Compliance Filing
2013	$50.78	$24.84	$24.84	$24.93	$28.10
2014	$51.75	$23.57	$23.57	$23.71	$28.34
2015	$52.73	$25.18	$25.18	$25.36	$30.22
2016	$53.73	$24.37	$24.37	$24.66	$31.23
2017	$54.81	$25.71	$25.71	$26.01	$32.35
2018	$55.90	$28.16	$28.16	$28.52	$34.69
2019	$56.96	$30.41	$56.96	$30.84	$38.98
2020	$58.05	$35.76	$58.05	$36.13	$43.02
2021	$59.15	$37.92	$59.15	$38.12	$45.27
2022	$60.21	$45.30	$60.21	$45.55	$52.23
2023	$61.36	$47.82	$61.36	$48.20	$55.96
2024	$62.52	$51.15	$62.52	$51.65	$58.83
2025	$63.71	$50.74	$63.71	$51.09	$58.40
2026	$64.92	$54.07	$64.92	$54.54	$62.35
2027	$66.16	$54.85	$66.16	$55.23	$62.97
2028	$67.48	$56.86	$67.48	$57.20	$64.35
2029	$68.83	$52.29	$68.83	$53.16	$66.11
2030	$70.20	$54.67	$70.20	$55.52	$66.97
2031	$71.61	$56.74	$71.61	$57.48	$68.81
2032	$73.04	$60.18	$73.04	$60.63	$69.98
20 Year Nominal Levelized Payment at 7.154% Discount Rate					
$/MWH	$58.63	$37.09	$45.99	$37.43	$44.23

Q. When does PacifiCorp plan to add its next wind resource addition for Utah customers?

A. In the 2011 IRP Update, no wind resources are added for Utah customers.

Q. Does the Market Proxy method consider whether a Utah wind QF could replace the wind resources included in the 2011 IRP Update?

A. No. The Market Proxy method does not include a mechanism to ensure that the QF can offset a corresponding volume of wind resources that is needed for compliance with RPS requirements in other states. In Docket No. 03-035-14,

Division of Public Utilities ("Division") witness Artie Powell mentioned this issue as one of the necessary criteria for an acceptable proxy method:

> A proxy method provides reasonable results when: 1) the operating characteristics of the proxy plant closely match those of the QF being evaluated; 2) the QF exactly replaces the entire capacity and energy of the proxy plant; and 3) the QF does not significantly affect other plant additions or system operations.[7]

In other words, for the Market Proxy method to be reasonable, PacifiCorp must avoid the need to acquire IRP wind resources when procuring a Utah wind QF contract. The IRP target set in the 2004 IRP was premised on acquiring cost-effective system-wide wind resources, and Utah wind QFs would have served as effective offsets to the resources called for in the then current IRP. However, a Utah wind QF is unable to exactly replace IRP wind resources acquired solely for compliance.

RPS Compliance

Q. If PacifiCorp were to procure a Utah renewable QF contract today, could the full output from that facility be used to fulfill RPS compliance requirements in other states?

A. No. Under the 2010 Protocol inter-jurisdictional cost allocation methodology a QF is treated as a system resource, so each state is allocated a share of the costs and RECs (if retained by the Company) from a Utah renewable QF. Approximately 25.0 percent and 1.6 percent of a Utah renewable QF could be used for RPS compliance in Oregon and California, respectively. The volume of wind additions included in the 2011 IRP Update was determined based on the

[7] *In the Matter of the Application of PacifiCorp for Approval of an IRP Based Avoided Cost Methodology For QF Projects Larger Than One Megawatt*, Docket No. 03-035-14, Direct Testimony of Artie Powell, Division of Public Utilities, July 29, 2005, p.7.

Company's compliance obligation in Oregon, Washington, and California assuming all of the costs, benefits and RECs were assigned to these three states. A Utah QF, assuming RECs from the QF are retained by the Company, can only replace a fraction of the capacity and energy of wind resource additions in the 2011 IRP Update that were solely added to meet these RPS requirements.

Q. Can the RECs generated from a Utah QF be used to fulfill RPS compliance requirements in Washington at all?

A. No. RECs generated from resources located in Utah, even if the Company retains the RECs, cannot be used to meet Washington's RPS requirements because of their geographical location.

Q. How does the option of a Utah wind QF to buy back RECs impact PacifiCorp's ability to use that facility for RPS compliance?

A. If a Utah wind QF exercises the option to buy back RECs, PacifiCorp cannot use the RECs from that facility to satisfy its RPS requirements in any state.

Q. Have any Utah wind QFs exercised the option to buy back RECs?

A. Yes. Spanish Fork Wind Park 2 exercised the option to buy back RECs from PacifiCorp.

Q. Why was this concern not addressed in the proceeding that resulted in the 2005 Order?

A. At the time of the 2005 Order, all wind in the 2004 IRP was cost-effective. This is no longer the case. In the 2011 IRP Update, 1,175 MW of wind resources were needed to comply with RPS requirements from 2018 through 2030, and an additional 900 MW of wind resources were assumed to be added between 2025

and 2030 in recognition of long-term public policy goals and a potential green future.

Q. How does this change in circumstance impact the calculation of avoided cost for Utah QFs?

A. Since Utah QFs cannot offset the needed volume of renewable resources that are acquired solely for compliance, such resources should not be the basis for setting Utah avoided costs. Furthermore, the wind resources included in the IRP should not be used to set avoided costs in Utah as long as they are not cost-effective resource additions.

Q. What allocation issues arise when renewable resources are acquired solely for RPS compliance?

A. The primary issue is whether the full costs and RECs are assigned situs to the states with RPS requirements, or only the costs which exceed the costs PacifiCorp would have otherwise incurred are assigned situs to the states with the RPS requirements. The 2010 Protocol allocation method, approved by the Commission in its February 3, 2012, order in Docket No. 02-035-04, addresses the allocation of state resources procured either for portfolio standard compliance or state-specific initiatives. However, the 2010 Protocol is effective only through 2016, and the Company is currently working with the Multi State Protocol Standing Committee to evaluate alternatives for inter-jurisdictional cost allocation beyond 2016.

Q. Were the new wind resources included in the 2011 IRP Update assumed to be assigned situs by the Company?

A. Yes. All of the costs and RECs of the new wind resources in the 2011 IRP Update were assumed to be assigned situs to the states with the RPS requirements. If that were not the case, the RPS requirements would not be met based on the volume of wind generation included in the 2011 IRP Update. If system allocated resources were assumed to be used to meet RPS requirements then additional renewable resources that are not cost-effective would be required.

Q. What would be the impact if the Commission were to use the wind resource costs from the 2011 IRP Update to set avoided costs?

A. If that were the case then the method would produce prices that exceed avoided costs, contrary to PURPA.

THE PROXY/PDDRR METHOD

Q. Has the Commission determined that the Proxy/PDDRR method can accurately produce avoided costs for renewable resources?

A. Yes. In the 2005 Order the Commission determined that once the IRP target is met, the Proxy/PDDRR method should be used to calculate avoided cost prices for wind resources. The Proxy/PDDRR method should be used for all QFs, including wind and other renewables, because the IRP target does not account for the timing of wind resource additions, should only include cost-effective wind plants, and does not reflect PacifiCorp's ability to use Utah wind QFs for the purpose of satisfying other states RPS requirements.

Q. What specific aspects of the Proxy/PDDRR method need to be addressed as applied to renewable resource?

A. In its Request for Agency Action, PacifiCorp requested a review of several aspects of the Proxy/PDDRR method that apply to all renewable resources, not just wind. First, PacifiCorp requested a review of the capacity contribution to apply to intermittent resources when used to partially displace the next deferrable thermal proxy resource in the IRP. Second, PacifiCorp requested a review of what proxy resource to use in the Proxy/PDDRR method. Third, PacifiCorp requested a review of integration costs included in the Proxy/PDDRR calculation.

Capacity Contribution

Q. How did the 2005 Order address the capacity contribution to assign intermittent resources under the Proxy/PDDRR method?

A. The 2005 Order addressed the capacity contribution of wind resource, but did not address the appropriate capacity contribution for other renewable resources. In the 2005 Order, the Commission determined that the high load hour ("HLH") capacity factor of a wind resource should be used to assign a capacity value to wind resources. The Commission found that:

> Wind power delivered in high load hours should receive a capacity payment consistent with the wind QF capacity factor in high load hours.[8]

The 2005 Order did not address what capacity contribution to assign to solar, hydro and other types of resource.

[8] 2005 Order, p. 23.

Q. In the 2005 Order, the Commission noted the Division "states that the percentage of capacity payment should be updated as better information becomes available."[9] Is better information available?

A. Yes. The Company recently conducted a study to determine the historical capacity contribution of wind and solar resources on its system. The study measured the actual capacity contribution provided by the Company's wind portfolio over the period 2007 to 2011. The capacity contribution for solar resources was calculated using solar profile data produced by the National Renewable Energy Laboratory ("NREL"). The solar profile data was developed using the NREL PVWATTS[10] tool and was designed to be representative of a geographically dispersed fleet of solar resource in the Company's service area over the period 2007 to 2011. Exhibit RMP___(GND-1) provides an overview of the capacity contribution study. This type of study is used by the Company to calculate avoided costs of renewable resources in Idaho and will also be used to determine the capacity contribution of intermittent resources in the Company's 2013 IRP.

Q. What does the study show?

A. The study shows that the contribution of wind resources in meeting the highest 100 hours of summer load is 4.1 percent of nameplate capacity. The corresponding capacity contribution of solar resources is 11.5 percent for energy-oriented facilities and 25.9 percent for peak-oriented and tracking facilities.

[9] 2005 Order, p. 22.
[10] http://rredc.nrel.gov/solar/calculators/pvwatts/version1/.

Q. Do you believe that the capacity contribution used for avoided cost pricing should be consistent with the capacity contribution used in the IRP?

A. Yes. The IRP selects resources based on their ability to meet PacifiCorp's peak load in a least cost, least risk manner. The capacity payment used in the Proxy/PDDRR method is based on partially deferring the resources selected in the IRP. If a different value is used for purposes of avoided cost pricing under the Proxy/PDDRR than the IRP, the two will no longer be consistent and the basis for the capacity payment will not be valid.

Q. Why is it inaccurate to use the HLH capacity factor to measure the capacity contribution of a resource?

A. An HLH capacity factor represents an average amount of power, and is not representative of a resource's ability to be used by the Company to meet its peak load. To be used for capacity, a resource needs to be available at the time of the peak load. The Company's study on resource capacity contribution looks at the level of generation produced during the highest 100 summer hours. While the peak load used for planning in the IRP is the single highest hour, the Company chose to use the highest 100 summer hours as a means to prevent undesirable swings that may occur if only one hour was used. The current HLH approach determines the capacity contribution over about 4,800 hours, which is not capacity at all; rather it is the energy produced during HLH hours. The Company believes its approach outlined in Exhibit RMP___(GND-1) is more appropriate than using the contribution in all HLH which has little bearing to the capacity needs evaluated in the IRP.

Deferrable Resource

Q. What proxy resource has the Commission approved for use in the Proxy/PDDRR method as it is applied to renewable resources?

A. The Commission has approved the use of the next deferrable thermal resource as the proxy in the Proxy/PDDRR method as it is applied to renewable resources.

Q. Does the Company support this assumption in the currently approved Proxy/PDDRR method?

A. Yes.

Q. Would it be reasonable for the Commission to change the deferrable proxy resource to a wind resource?

A. No. As discussed in the Market Proxy section above, the use of a wind proxy resource would not be reasonable. If the proxy were from the IRP, it would produce costs that exceed avoided costs since the IRP wind proxy is not cost-effective. If the proxy were from the last RFP, it would be the Dunlap resource which is out of date and will become more out of date in the future. In addition, the Dunlap resource has little chance of being superseded by a more current project in the near future since the Company has no current plans to conduct a renewable RFP.

Integration Costs

Q. Has the Commission addressed how wind integration costs should be included in the calculation of avoided costs for intermittent resources?

A. Yes. In the 2005 Order the Commission adopted the Division's recommendation to use a $3.00 per megawatt hour as the starting point for integration costs. It also

adopted the Division's recommendation to revisit the issue of wind integration as real data became available.[11]

Q. Is real data now available that should be used in the calculation of avoided costs?

A. Yes. Since the 2005 Order, PacifiCorp has performed several wind integration analyses including the 2010 Wind Integration Study, and the current draft 2012 Wind Integration Study. The Company's studies are developed using a collaborative process involving input from various stakeholders. The draft 2012 Wind Integration Study also involved a technical review committee. These studies are used in the IRP and to set rates in general rate cases and should form the basis for the integration costs used in the calculation of renewable avoided costs.

Q. How does PacifiCorp propose to calculate the integration rate used in the Proxy/PDDRR method?

A. PacifiCorp plans to use the same method to account for intermittent resource integration that is currently used in the IRP and general rate cases. This method was also presented in the Company's 2012.Q2 Schedule 38 compliance filing identifying changes made to the Proxy/PDDRR modeling.[12] In the compliance filing, the wind integration value represented the incremental cost of wind reserves on the Company's system and was calculated nominally for each year based on differential GRID model runs. The differential GRID model runs calculated the cost of 20 average megawatts of incremental reserves to integrate wind capacity (equivalent to about 192 MW of wind based on the 2010 Wind

[11] 2005 Order, p.24.
[12] In its 2012.Q2 Schedule 38 compliance filing the Company proposed to calculate the price of wind QFs using the PDDRR methodology.

Integration Study) in excess of the wind additions in the 2011 IRP Update. In the 2012.Q2 Schedule 38 compliance filing, the Company calculated wind integration cost to be $4.35 per megawatt hour on a 20 year nominal levelized basis beginning in 2013.

Q. Does PacifiCorp intend to periodically update its wind integration avoided cost calculations?

A. Yes. To reflect changing market conditions and the issuance of new wind integration studies, the calculation of the cost to integrate intermittent resources would be periodically updated and presented in the ongoing quarterly compliance filings.

Q. Has the Company independently calculated integration costs for solar resources?

A. No. The Company proposes to use the wind integration costs as a proxy for integrating solar at this time.

Q. Does this conclude your direct testimony?

A. Yes.