COMMENTS ON THE PACIFICORP 2015 INTEGRATED RESOURCE PLAN

THE INTERWEST ENERGY ALLIANCE

August 20, 2015

The Interwest Energy Alliance, a Colorado nonprofit corporation ("Interwest") is a 501(c)(6) trade association of wind, utility-scale solar, and other renewable energy project developers and equipment manufacturers working with the non-governmental conservation community to promote renewable energy in Utah, Arizona, New Mexico, Colorado and Wyoming.

INTRODUCTION

I. The 2015 Integrated Resource Plan includes a reduced reliance on coal and was developed with improved response to the public process, but the utility has engaged in risky litigation strategy and refrained from investment in cost-effective clean energy.

Interwest commends PacifiCorp for portions of the Integrated Resource Plan and Action Plan, including the improved wind integration study, reduced reliance on coal plants, and recent solar contracts with qualified facilities.[1] Each of these will better enable Rocky Mountain Power to transition to a cleaner energy future, enabling cost-effective carbon reduction and regulatory compliance. PacifiCorp attempted to incorporate Clean Power Plan ("CPP") scenarios in its modeling, consistent with stakeholder comments.[2] This progress provides increased transparency and relevant analysis of a variety of potential regulatory futures.

[1] The utility will add 816 MW of executed wind and solar qualifying facility purchase power agreements from 36 projects having in-service dates by the end of 2016. PacifiCorp Integrated Resource Plan ("IRP"), Vol. 1, p. 4.

[2] U.S. Environmental Protection Agency (EPA) issued a proposed rule under §111(d) of the Clean Air Act (111(d) or the 111(d) rule) to regulate greenhouse gas emissions from existing sources in June 2014. At the same time, EPA issued a proposed rule for modified or reconstructed sources. Comments on the proposed rule were due December 1, 2014, and a final rule is expected summer 2015. Vol 1, p. 19.

Interwest also acknowledges PacifiCorp's Gateway transmission development and entry into the CAISO energy imbalance market ("EIM"). The EIM has brought more efficient dispatch and reduced reserve requirements for PacifiCorp.[3] Wind and solar development over broader geographic areas will increase aggregated fleet-wide capacity factors and available zero fule-cost energy. Gateway West transmission expansion will improve reliability. All of this reduces costs for Utah ratepayers.

Nevertheless, PacifiCorp does not plan to add renewable energy facilities in its expansive service area for more than 15 years, saying it is essentially in a holding pattern throughout the planning period, awaiting the outcome of litigation contesting the coal upgrade requirements and a final CPP Rule to determine the best path forward. Vol. 1, Table 1.3, Action Plan, pp. 11-12. The IRP contains few real supply-side commitments. The utility continues to rely primarily on coal and natural gas until such time as decisions are rendered along unpredictable time frames by federal courts. This reliance on thermal power sources increases, rather than reduces, potential risks and costs to ratepayers.

[3] CAISO, *Benefits for Participating in EIM*, April 2015, available at: http://www.caiso.com/Documents/PacifiCorp_ISO_EIMBenefitsReportQ1_2015.pdf; Wind Integration Study, Vol. 2, App. H, pp. 97 and 128; http://www.pacificorp.com/content/dam/pacificorp/doc/Energy_Sources/Integrated_Resource_Plan/2015IRP/PacifiCorp_2015IRP-Vol2-Appendices.pdf

IRP MODELING ASSUMPTIONS HIDE THE VALUE OF RENEWABLE ENERGY

II. Renewable energy can and should play a greater role in PacifiCorp's planning for a lower carbon future.

A. Wind and Utility-Scale Solar Energy Costs Continue to Drop to Unforeseen Lows. Wind and solar costs are expected to decline at least through 2020, a characteristic not shared by other generation technologies.[4] Wind energy was the largest source of new generation in the US between 2011 and 2014.[5] The cost of wind declined over 50% between 2009 and 2013. Id. The National Renewable Energy Laboratory ("NREL") predicts an additional 20%-30% reduction in the costs of wind energy by 2030.[6] Advanced technologies have opened up new regions within Utah to cost-effective wind development, through increased tower heights, larger rotor diameters, and improved siting techniques.[7] Installed capital costs for wind facilities averaged $1,630/KW in 2013, and has dropped in some areas since that time.[8] PacifiCorp's modeling reflected base capital costs over $2,100/KW, which is too high for accurate least-cost portfolio selection. See Table 6.1, Vol. I., p. 93.

[4] R. Binz, *et. al*, *Practicing Risk-Aware Energy Regulation, 2014 Update*, Nov. 2014, p. 3, available at: https://www.ceres.org/resources/reports/practicing-risk-aware-electricity-regulation-2014-update/view.

[5] AWEA, U.S. Wind Industry Annual Market Report 2013 Market Report (pp. 18-21 attached as **Exhibit A** for convenient reference); full report available at http://awea.files.cms-plus.com/applications/secure/index.aspx?FileID=28442&ct=815c800736a8836e6643b42b7e7946f47092bfb45d952c0c7a7eadb73c450f262c84bf8f8174b6e0affff39c600f31b81fd18fdd40bc8f98502b23e9a35dd35c.

[6] E. Lantz, et al., *IEA Wind Task 26: The Past and Future Cost of Wind Energy*, National Renewable Energy Laboratory ("NREL"), April 2012, available at: https://www.ieawind.org/index_page_postings/WP2_task26.pdf.

[7] R. Wiser and M. Bolinger, for Dept. of Energy/LBNL, *2013 Wind Technologies Market Report*, ("LBNL 2013 Market Report") pp. 33-37, available at: http://emp.lbl.gov/reports/re.

[8] LBNL 2013 Market Report, p. 49, also avail at: http://emp.lbl.gov/sites/all/files/lbnl-6809e.pdf.

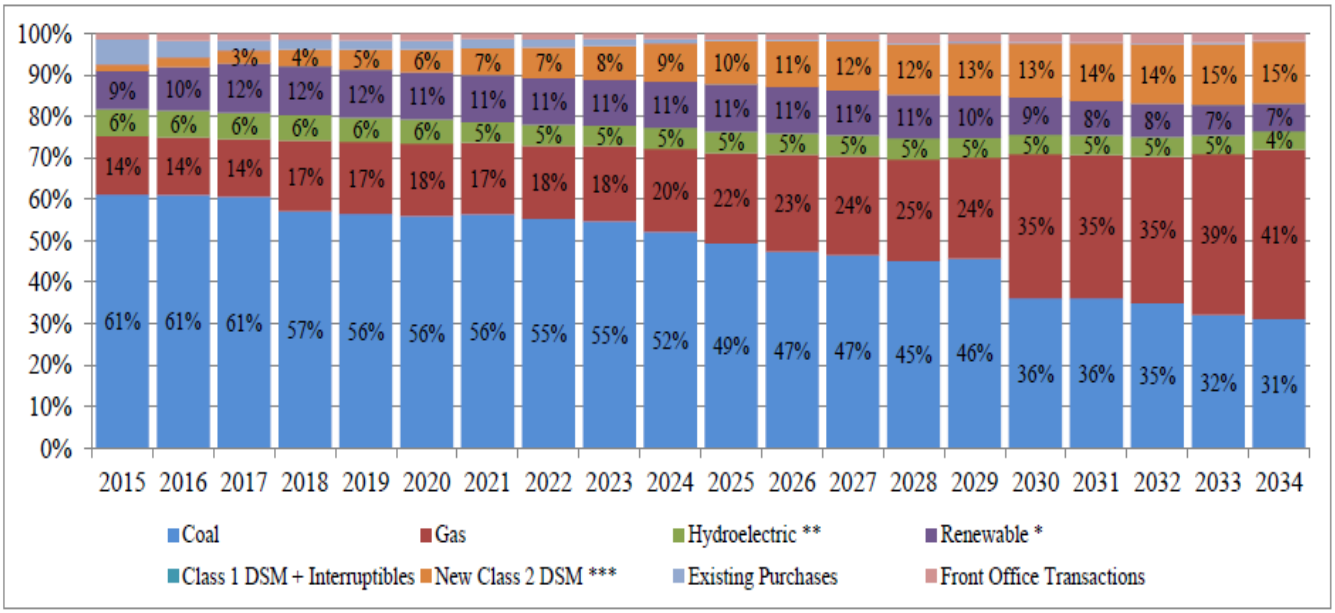
Utility-scale solar energy prices have also dropped to historic lows. Utility-scale solar is now selling for less than $4.00/MWh in Nevada, and Utah has rich solar resources ripe for production.[9] Growth in utility-scale solar and wind energy is likely to be critical to cost-effective CPP compliance. The American Wind Energy Association ("AWEA") and the Solar Energy Industries Association ("SEIA") have published a handbook for state regulators to help consider how to weave renewables into their state compliance plans.[10]

Despite all of these well-known benefits to increased renewable acquisition and costs and risks of under-investment, PacifiCorp is planning a *decline* in renewable energy production before 2030. PacifiCorp's energy use anticipated under the Preferred Portfolio is depicted as follows:

[9] See generally, M. Bolinger & S. Weaver, LBNL, *Utility-Scale Solar 2013*, Sept. 2014, pp. 11-15, avail. At http://emp.lbl.gov/sites/all/files/LBNL_Utility-Scale_Solar_2013_report.pdf; See also Docket No. 15-07003, *Application of Nevada Power Company, Seeking Approval of the First Amendment to its Emissions Reduction and Capacity Replacement Plan, Seeking Approval of a 100 MW Purchased Power Agreement with SunPower Executed Pursuant to the 2014 ERCR RFP, and of a 100 MW Purchased Power Agreement with First Solar Executed pursuant to the 2015 ERCR RFP*, filed July 1, 2015, Public Utilities Commission of Nevada, p. 4 of 252, available at: http://pucweb1.state.nv.us/PUC2/DktDetail.aspx. Prices proposed for Commission approval are $38.70/MWh in first year of 20 years (with a $5/MWh incentive paid by Switch)(First Solar), and $46.00/MWh fixed for 20 years paid by ratepayers (SunPower).

[10] AWEA and SEIA, *A Handbook for States: Incorporating Renewable Energy Into State Compliance Plans for EPA's Clean Power Plan*, Feb., 2015, avail.at: http://awea.files.cms-plus.com/FileDownloads/pdfs/Handbook%20for%20States%20final.pdf.

Figure 8.25 – Projected Energy Mix with Preferred Portfolio Resources



*Renewable resources include wind, solar, and geothermal.
**Hydroelectric resources included owned and contracted.
***Class 2 DSM resources represent cumulative acquisition of new DSM resources over time.

2015 IRP, Vol. 1, p. 193

Renewable energy (wind, solar and geothermal) decreases from 6% to 4% by 2034. Rather than taking early action to invest in zero fuel-cost resources, PacifiCorp projects a growing investment in natural gas, and has constrained its model from choosing the most cost-effective timing for coal unit transitions. This results in unfortunate missed opportunities for Utah ratepayers, who could benefit from adding more stable-priced long term renewable energy acquisitions within the next 2-4 years covered by the Action Plan.

The CPP Final Rule increased Utah's emissions reductions requirements from the draft Rule, so it is required to reduce its carbon emissions by 611 lbs. of CO_2/MWh, or 34%. The CPP Final Rule was not yet published during the IRP public process and drafting stage, so the team developed alternative scenarios. The timing and target level has been solidified by the CPP Final

Rule, but the clear pattern of developing rules for carbon restrictions on existing plants has been evident for several years. The Utah Commission requires that PacifiCorp provide "[a] plan of different resource acquisition paths with a decision mechanism to select among and modify as the future unfolds."[11] PacifiCorp acknowledges in the IRP that near-term renewable acquisitions are warranted to comply with carbon restrictions upon existing power plants. In Table 9.3 *Near-term and Long-term Resource Acquisition Paths*, PacifiCorp informs the Commission that in response to "state implementation of Sec. 111(d) emission rate targets", the utility would "Initiate new renewable resource procurement activities for resources coming on-line as early as 2020" and "Reduce acquisition of FOTs concurrent with addition of system renewable resources".[12] Now that the CPP Final Rule has been published, new renewable resource procurement activities should be front and center in the Action Plan rather than included as an alternative to be considered later. These regulations are now facing Utah regulators, and the utility can assist by taking steps to increase the available renewable generation to provide flexible compliance options.

Wind and utility-scale solar energy are cost-effective options, expected to play a fundamental role in CPP emissions reductions.[13] Renewables are available in a "buyer's market". RPS mandates, federal incentives and clean energy policies have increased competition and activity in the renewable supply markets. This higher level of activity has driven and will help

[11] IRP Vol. 1, p. 236, fn. 82, citing Public Service Commission of Utah, *In the Matter of Analysis of an Integrated Resource Plan for PacifiCorp,* Report and Order, Docket No. 90-2035-01, June 1992, p. 28.

[12] IRP Vol. 1, Table 9.3, pp. 237-38.

[13] See generally, SEIA, *Cutting Carbon Emissions Under § 111(d), The Case for Expanding Solar Energy in America*, 2014, avail. at http://www.seia.org/sites/default/files/resources/v0T96Qeums-SEIA-111d-whitepaper2.pdf; and Dept. of Energy, *Wind Vision: A New Era For Wind Power in the United States*, March 2015, avail. at http://www.energy.gov/eere/wind/maps/wind-vision.

maintain low costs for utility-scale renewable resources. Interrupting the regular pattern of resource procurement will dampen competition and responses to RFPs in all PacifiCorp states. Therefore the Commission may want to consider the potential for diminished competition in Utah if PacifiCorp sits out the next few years while the state's compliance plan for the CPP is developed. This delay may make the later acquisition of renewables more costly, and does not appear to be the best planning scenario in the face of PacifiCorp's admission that near-term renewable procurement should be selected as the path forward in the face of strong carbon regulations. See IRP Vol. 1, Table 9.3, pp. 237. Therefore, Interwest recommends that the Utah Commission require concrete steps in the Action Plan to schedule a pattern of "renewable resource procurement activities for resources coming on-line as early as 2020".

B. A robust analysis of risks and costs reveals long-term cost savings from increased wind and solar acquisitions.

1. Wind energy provides a hedge against natural gas fuel prices.

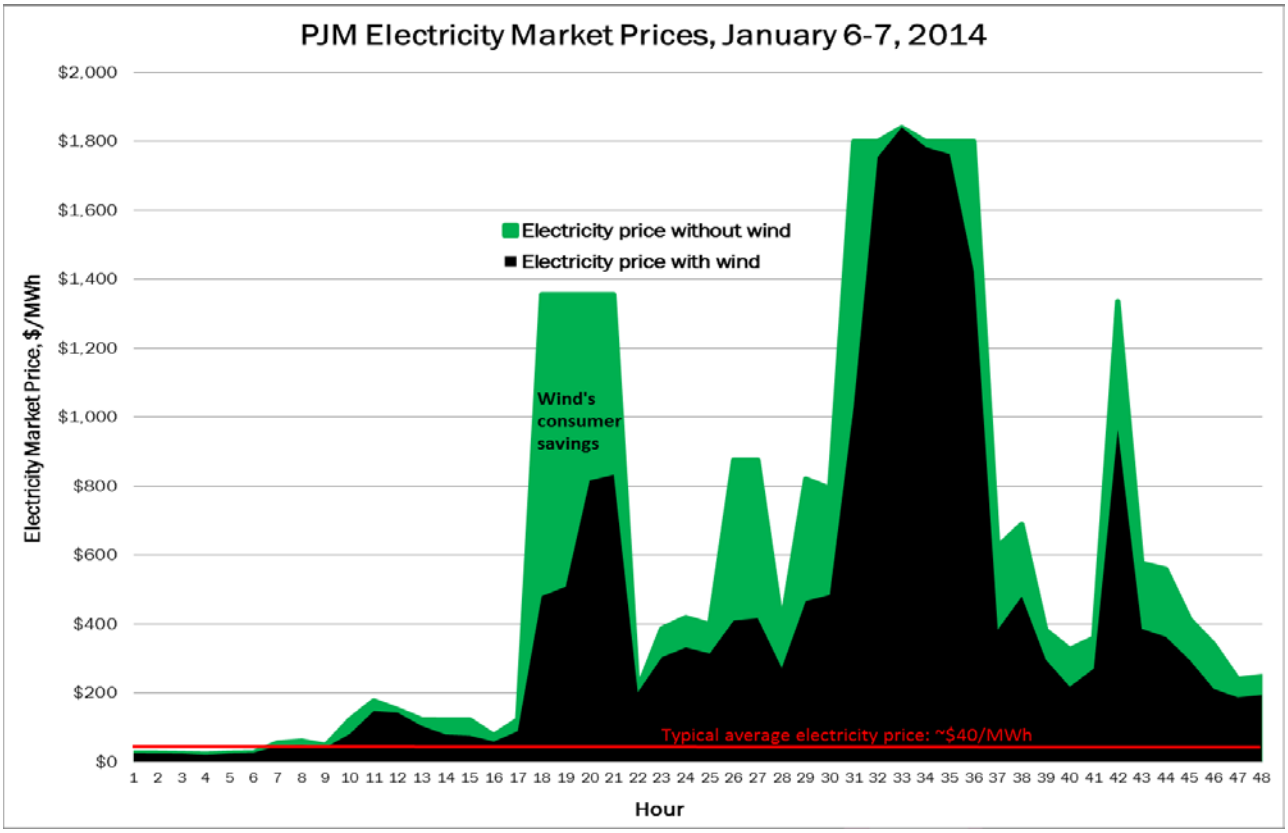
While natural gas prices are currently low, the commodity prices may continue to rise and retain some of its historic volatility. The IRP confirms some of these risks:

> In the longer term the current lack of a "signal-to-drill" price sets the stage for asynchronous supply and demand, creating price volatility as supply chases demand – and a demand surge can be expected. While the Marcellus is prolific and breakeven costs continue to decline many other plays are higher cost with full-cycle breakeven costs greater than $4.00/MMBtu. Thus, boom and bust cycles are likely since producers respond to price signals vis-à-vis demand expectations and price signals lag demand. To make matters worse, in the past, increased power sector coal burn could displace gas and dampen volatility but, with over 60 GWs expected to retire by 2020, coal's ability to mitigate natural gas volatility will be severely limited.[14]

[14] IRP Vol. 1, p. 24, citing *Annual Energy Outlook 2014*, Department of Energy, Energy Information Administration.

Increased demand for natural gas, prior to 2020, is expected to come from liquefied natural gas (LNG) exports, industry, electricity generation, and pipeline exports to Mexico. IRP Vol. 1, p. 25. Extreme weather events will also strain supply and take-away capacity. IRP Vol. 1, pp. 21-22. During the polar vortex during January 2014, when gas transportation and delivery constraints caused a spike in natural gas prices, wind energy helped maintain reliable electricity service, while reducing overall energy prices for affected consumers.[15] Wind energy saved electricity users at least $1 billion during the polar vortex, because without it power prices would have spiked much higher during this extreme weather event, as described in the following chart reflecting PJM market prices:[16]

[15] Hresko, G. & Goggin, M. for American Wind Energy Association, *Wind Energy Saves Consumers Money During Polar Vortex*, Jan. 2015 ("AWEA Polar Vortex Report"); avail. at: http://awea.files.cms-plus.com/AWEA%20Cold%20Snap%20Report%20Final%20-%20January%202015.pdf.



AWEA Polar Vortex Report, p. 3.[17] The shaded green area in the chart above shows the amount by which wind energy reduced the electricity price spikes. These reduced electricity prices accrue to all of the electricity that was purchased by consumers in the market, not just the wind energy that was purchased. Because total electricity consumption was very high, wind's consumer savings for those two days alone total over $1 billion, as shown in the chart above.[18] A New England Wind Integration Study found that increasing penetrations of low marginal-cost wind

[17] Table from AWEA Polar Vortex Report, fn. 13 above, p. 3. PJM operates the electricity grid and market for all or part of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia, and the District of Columbia.

[18] AWEA Polar Vortex Report, p. 3.

energy reduces spot market prices overall, as well as reducing the differential for bulk power between day and night.[19]

Wind and solar energy are two of the few energy sources that offer perfect fuel price stability that can be locked in up front, as their fuel cost will always be zero. For all other major conventional sources of electricity, fuel prices cannot be locked in over the long term and are often set by the spot market. The costs of these fuel price increases and risk of supply shortages are passed directly on to consumers. In contrast, wind and solar energy costs remain stable, with zero fuel costs, throughout the 20 to 25-year purchase power agreement. Wind energy and utility-scale solar energy will continue to offer a valuable hedge against long-term natural gas prices into the future, despite the drop in natural gas prices.[20] A combination of wind and solar facilities provide a physical hedge that is not easily replicated in the financial or commodities markets.[21] PacifiCorp's lack of emphasis on these values runs contrary to the risk-aware best practices recommended by CERES in its seminal *Practicing Risk-Aware Energy Regulation*, a guide for regulators.[22]

---

[19] NREL Wind Integration Summary, p. 14.

[20] M. Bolinger, LBNL, *Revising the Long-Term Hedge Value of Wind Energy in an Era of Low Natural Gas Prices*, March 2013, p. 20, available at: http://emp.lbl.gov/sites/all/files/lbnl-6103e.pdf.

[21] T. Jenkin, et al, NREL, *The Use of Solar and Wind as Physical Hedge Against Price Variability Within a Generation Portfolio*, August 2013, pp 32-35., avail. at: http://www.nrel.gov/docs/fy13osti/59065.pdf.

[22] R. Binz, D. Mullen, R. Sedano, and D. Furey, *Practicing Risk-Aware Energy Regulation: 2014 Update*, A Ceres Report, Nov. 2014, avail. at: https://www.ceres.org/resources/reports/practicing-risk-aware-electricity-regulation-2014-update/view.

Over-reliance on natural gas may result in stranded assets, to the detriment of ratepayers. Therefore the Commission's leadership role is vital; requiring more affirmative planning over the next 2 to 4 years would protect the ratepayers from these risks and costs.

C. Increased penetrations of wind can be accommodated without raising reserve requirements and while maintaining reliable power supplies.

1. Utilities around the country have surpassed PacifiCorp's renewable penetrations. PacifiCorp's renewable (non-hydro) energy reflects only 9% (2015) and 10% (2016) of their current energy use, so they are not yet approaching the larger penetrations successfully integrated by other forward-looking utilities.[23] In other areas of the country, overall renewable energy penetrations far exceed PacifiCorp's. Nine states achieved in-state penetrations greater than 12% as of the end of 2013.[24] Two states—South Dakota and Iowa— generate more than 20% of their annual electricity demand from wind energy (noting, however, that all of that wind energy is not necessarily consumed in the host state because of the nature of the interconnected power system.)[25] As shown in Figure 10 below, Public Service Company of Colorado, a subsidiary of Xcel Energy, has achieved several instantaneous penetrations in the 60% range since 2013.[26] ERCOT has experienced nearly 40%, in what is essentially an island system because it is not synchronous with the rest of the United States.[27]

---

[23] See Fig. 8.25, p. 2, above.
[24] LBNL 2013 Market Report, pp. 9-10.
[25] NREL, *Review and Status of Wind Integration and Transmission in the United States: Key Issues and Lessons Learned*, March 2015 ("NREL Wind Integration Summary"), pp. 22-23, avail. at: http://www.nrel.gov/docs/fy15osti/61911.pdf.
[26] Ibid. See also:
[27] Id.

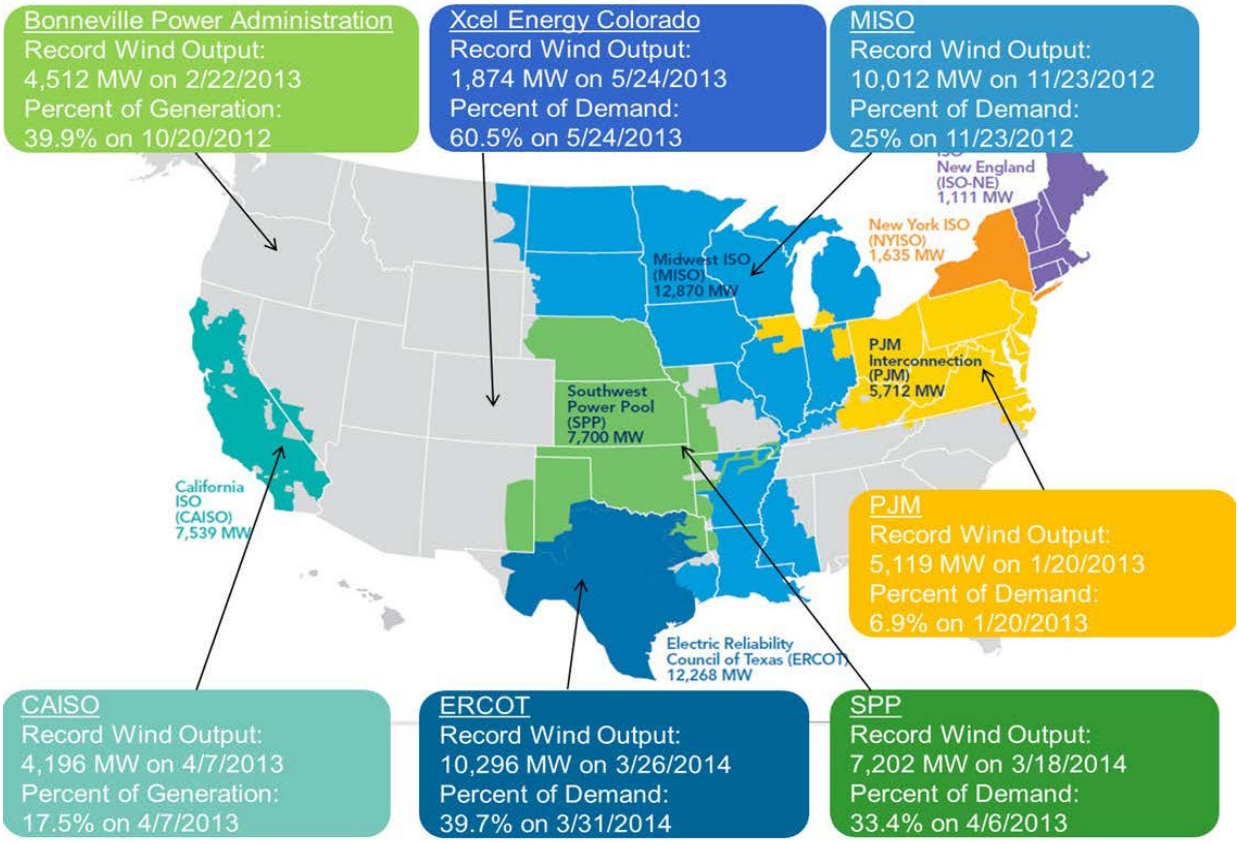


Figure 10. Instantaneous wind penetration records for U.S. grid operating areas shown overlaid on a map of currently installed wind capacity by independent system operator ("Wind Generation Records & Turbine Productivity" 2014).

NREL Wind Integration Summary, p. 24. Therefore, PacifiCorp and Rocky Mountain Power could effectively integrate more wind and solar energy, particularly as coal unit transitions open up transfer capacity on its transmission grid.

2. Increased wind and solar will not substantially raise integration costs. Wind integration studies around the country reveal that increased wind penetrations do not substantially raise reserve requirements. The NREL Wind Integration Summary confirms the low cost of wind integration as study methodologies have become more accurate and operations reduces

unnecessary reserves.[28] Operational and regulatory advancements, including coordination between balancing areas also PacifiCorp's own IRP Wind Integration Summary highlights the savings brought by PacifiCorp's participation in the energy imbalance market ("EIM"). NREL's recent compendium of wind integration studies confirms this trend.

> Some grid operators now have enough wind energy on their power system that they are able to empirically determine the impact wind energy has had on their need for operating reserves. Data shows that for modest wind penetration levels, the increase in reserve requirements and associated costs due to additional wind are small. For example, ERCOT has calculated that the incremental regulating reserve needs are very modest for approximately 10,000 MW of wind (corresponding to approximately 11% of ERCOT's energy needs) on its system (Maggio 2012). When assigned a dollar value, these reserve needs account for an additional cost of approximately $0.50/MWh of wind (Ahlstrom 2013), or approximately $0.06 per month on a typical Texas household's $140 monthly electric bill. Similarly, Midcontinent Independent System Operator has described the impact of more than 10,000 MW of wind generation on its regulation reserve needs as "little to none" (Navid 2012, Ruud 2014). This small increase in reserve requirements is consistent with the findings of grid integration studies.

NREL Wind Integration Summary, Sec. 3.1, p. 25 (internal footnotes deleted).

D. Wind and solar energy can provide valuable flexibility and reliability support to the grid. As utilities become sophisticated at integrating higher levels of wind, they are changing operations and using technology to yield flexibility and to control their systems with wind energy. PacifiCorp has already taken strides toward using renewable energy to provide supply side diversity and flexibility. NREL's Wind Integration Summary found that increasing balancing area size and implementing sub-hourly energy markets are the most effective means to

[28] Ibid.

facilitating reliable wind integration.[29] Fortunately, PacifiCorp has already joined the CAISO EIM and has initiated a study of the benefits of joining a Western ISO. Interwest urges the Commission to promote these advances. Increased diversity among generation supply resources and faster scheduling on the grid, with appropriate market rules, provide reduced reserve requirements. Utah ratepayers will benefit if Commissions continue to expect and incentivize these adaptations.

Increasing renewable energy can *improve* reliability. NREL has studied the question of transient stability and whether large penetrations of inverter-based, or non-synchronous, wind and solar generation may substantially alter system stability.[30] The Western Wind and Solar Study-Phase 3 ("WWSS-3") evaluated the Western Interconnection frequency response to large generation outages under a variety of system conditions, for example, where larger penetrations of wind are likely in the future, and in Utah, for example, where larger penetrations of solar energy are likely.[31] WWSS-3 focused on large-scale events that affect the security of the entire Western interconnection. NREL recognized concerns from California about the evening drop-off of solar production, when committed thermal units need to be dispatched up to compensate for the

[29] NREL Wind Integration Summary, p. 35.

[30] NREL, Western Wind and Solar Study-Phase 3, Dec. 2014, p.8, avail. at: http://www.nrel.gov/electricity/transmission/western_wind.html.

[31] WWSS-3, p. 9. Sensitivity cases included testing for sensitivity to tripping of distributed photovoltaics, comparative impacts of tripping large thermal generation versus distributed photovoltaic solar energy, and transient stability impacts of higher wind and solar generation with extreme levels of coal generation displacement, among other relevant tests. WWSS-3, p. 9. The study also included testing of a limited selection of mitigation measures to improve frequency response and transient stability, including conversion of coal steam turbine generators to synchronous condensors to address "weak grid" concerns; inertial and governor controls on wind plants; frequency-responsive controls from utility-scale PV and concentrated solar power (CSP); energy storage for frequency control, and transmission reinforcement for transient stability improvement.

combinations of lost solar production and evening load rise. Confronting this issue, the analysis found that operational and technical advancements can minimize the costs, allowing the system to continue to benefit from increasing penetrations of solar power.[32]

In addition, the WWSS-3 analysts considered coal displacement and retirement and weak grid concerns, including those which may result from hypothetical coal plant displacements in Wyoming.[33] The modeling showed that increasing wind energy can actually improve reliability. When most of the large thermal units went offline ("de-committed"), the dynamic characteristics of the wind plants become important and extremely valuable to minimize the effect of contingency events.[34] Therefore, greater penetration of wind energy would provide flexibility and reliability benefits to PacifiCorp's system on a broad scale.

E. Individual wind farms provide valuable ancillary services, which should be encouraged and compensated.

On a more localized level, wind farms and individual wind turbines provide ancillary services which should be recognized as part of Commission review and approval of the resource plan, as well as in resource acquisitions and in rate cases, so policies can be developed to allow cost-recovery and financial incentives to promote advanced technologies. NREL's Wind Integration Summary report in 2014 found that advanced wind turbine controls can enable the provision of synthetic inertia, governor response, and regulation to further augment power system

[32] WWSS-3, p. 79.

[33] The WWSS-3 study authors noted that coal plants can be displaced for reasons other than retirement, due to forced outages or other operational concerns. WWSS-3, Sec. 7, p. 95. They further noted that the Northeast portion of the Western Interconnection evolved with the expectation that the large coal plants would be base-loaded, providing an anchoring effect on system voltage. Recognizing these concerns, they studied the decommissioning of Dave Johnson Unit 4, Wyodak, Unit 1 and Laramie River, Unit 1, and conversion to synchronous condensors.

[34] Ibid.

flexibility and reduce the cost of reliably utilizing large amounts of wind generation.[35] Interwest urges the Commission to encourage PacifiCorp to seek every available opportunity to acquire cost-effective wind and utility-scale solar resources early in the planning period, rather than waiting until it is nearing the deadline for more coal transitions. The current plan to reduce the reliance on renewables between now and 2030 will increase costs and risks to Utah ratepayers. Conversely, if redirected, the utility and its ratepayers could benefit from additional diverse stable-priced supply-side resources, improve its overall reliability, and "plan ahead" instead of its current posture of "planning behind" the federal environmental regulations.

RECOMMENDATIONS FOR FUTURE REPORTS

Interwest notes some high-level challenges created by continued use of System Optimizer by PacifiCorp for its resource planning. There are several changes which should be considered further by the Commission prior to approval or reliance upon the IRP for any purpose.

First, Interwest notes that PacifiCorp removed System Optimizer's ability to choose whether and when coal units will be retired. Rather, the modeling team apparently hand-picked the potential resources to be retired or transitioned, constraining the model rather than allowing it to choose based on the most cost-effective timing and resource choices. This is a change from the 2013 IRP, where it allowed System Optimizer to design the least-cost portfolios. To the extent that System Optimizer is not capable of effectively choosing the most cost-effective timing and

[35] NREL Wind Integration Summary, p.2. See also NREL, *Active Power Controls From Wind Power: Bridging the Gaps*, Jan. 2014, avail. at: http://www.nrel.gov/docs/fy14osti/60574.pdf.

resource choices, the choice of assumptions related to timing of retirement of each coal plant could be more transparently worked into the public process.

Second, PacifiCorp assumed that RECs could be used to comply with the Oregon and Washington RPS requirements, but the renewable attributes would be useable in other states for Sec. 111(d) compliance. This is an extremely risky assumption, since it is contrary to state law and the standard definition of RECs. There is no indication this state law will change. The IRP results can be questioned on this basis alone. Physical assets also provide flexibility and assurance of future compliance options rather than relying on the REC markets for a state compliance plan.

PacifiCorp has planned for a decline in renewable energy production by 2030. This remarkable disclosure runs contrary to plans adopted by other utilities around the West, which are looking for opportunities to reduce costs to ratepayers. Based on this high-level observation, this Commission should request modification and refuse to allow the utility to rely on this IRP for any presumptions in regulatory dockets. At a minimum, the utility could be required to update the IRP with much more intensive analysis with firm commitments in 2016, based on the CPP Final Rule.

Respectfully submitted this 20th day of August, 2015.

/s/ Lisa Tormoen Hickey
Lisa Tormoen Hickey
Attorney licensed in CO and WY
Alpern Myers Stuart LLC
14 North Sierra Madre, Suite A
Colorado Springs, CO 80903
Telephone: 719-471-9231 or 719-964-5526
E-mail: lisahickey@coloradolawyers.net

On Behalf of Interwest Energy Alliance

Interwest Energy Alliance
Sarah Cottrell Propst, Executive Director
P.O. Box 8526
341 East Alameda
Santa Fe, NM 87504-8526
propst@interwest.org