

**BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON**

LC 67

In the Matter of)	Response Comments of
PacifiCorp, dba Pacific Power’s)	NW Energy Coalition
2017 Integrated Resource Plan.)	
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The NW Energy Coalition (“Coalition”) provides the following comments in response to PacifiCorp’s Reply Comments and PacifiCorp’s Informational Filing (July 28, 2017).

PacifiCorp (“Company”) proposes in the 2017 Integrated Resource Plan to repower about 1000 MW of existing wind energy facilities, acquire up to 1270 MW of new Wyoming wind, and construct a new transmission segment in central Wyoming. However, an additional key assumption is that the schedule for coal unit retirement is unchanged since the 2015 IRP, despite many changes in the policy and resource landscape including passage of Oregon SB 1547 which refines and extends state energy policy in the direction of more rapid decarbonization and uptake of clean energy. NWEC Comments, June 23, 2017, Table 3.

Below we address in turn the wind, coal and transmission aspects of the 2017 IRP, while noting they must be considered together within the broader context of the Commission’s IRP guidelines.

1. The 2017 IRP Takes the Appropriate Approach to the Commission IRP Guidelines

Concerning the proposed wind repowering, new wind and new transmission, Staff and ICNU both raise concerns that this buys ahead of need. But the Company responded with clear reference to the Commission’s IRP guidelines and longstanding practice, as well as the results of its current 2017 IRP analysis.

The IRP process has never been intended to be merely a new resource review. The Commission launched the IRP process in 1989 knowing that the Energy Facility Siting Council (EFSC) had a need-for-power review process for new major energy resources. However, even then it was considered cumbersome and inconsistent, and in 1995 the Oregon legislature took action leading to the removal of the EFSC need-for-power standard.

To be sure, when the Commission initially established the IRP process, the list of elements included (point #4): "Identification of resources needed to bridge the gap between expected loads and resources." Clearly, however, this is not the end point of the process but rather an intermediate step. Indeed, subsequent points refer to analysis of uncertainties, screening and rank ordering of "alternative courses of action," a much broader construct than just new resources. Order 89-507 at 8-9.

A fair reading of this language and the full Order must conclude that at the beginning, as now, the Commission intended for the IRP process to assess overall system value, not only the need for new resources. Indeed, the Commission explained:

“The result of the process is the selection of that mix of options which yields, for society over the long run, the best combination of expected costs and variance of costs.” Order 89-507 at 2.

As the Company points out, “the Commission made clear that the when analyzing portfolios, the ‘key cost metric’ should be the present-value revenue requirement (PVRR).” PacifiCorp Reply Comments at 27. As the figure of merit for IRPs, PVRR of course incorporates new resources, but only when those resources improve overall system value rather than providing isolated, standalone net benefit.

Furthermore, the Commission has always directed the IRP process toward incorporating not only direct system needs but also Oregon's energy policy. Both Order 89-507 and the current IRP guidelines in order 07-002 provide overall direction in nearly identical language:

1. All resources must be evaluated on a consistent and comparable basis.
2. Uncertainty must be considered.
3. The primary goal is least cost to the utility and its ratepayers, consistent with the long-run public interest.
4. The plan must be consistent with Oregon’s energy policy.

Order 07-002 at 2.

The Company has taken the right approach to cabin the analysis and selection of major new resource actions for the 2017 IRP within the Commission’s traditional framework. But there are still unanswered questions about aspects of the proposed actions, and there is a major task ahead in providing a more thorough and consistent assessment of the Company’s major generation resource, its coal fleet.

2. Wind Repowering and New Wind Should Be Acknowledged

The Company has demonstrated that repowered and new wind would provide at least a modest net benefit to customers even with the expected life of all coal units untouched. At the same time, the step-by-step expiration of the federal Production Tax Credit poses a serious lost opportunity for customer benefit if the 2016 PTC value is not captured. Given these key points, the Coalition believes the Company has satisfied the longstanding requirements of the Oregon IRP process for these resources, and therefore supports acknowledgment.

Going forward, it stands to reason that the proposed new wind would have even greater value if more of the coal fleet were phased out earlier. But even before reaching that necessary stage of assessment, it is clear that the Company’s action plan does not exhaust the current potential for new least cost, least risk renewable resources on the system, including wind outside Wyoming as

well as solar across the Company system, that would provide net system benefits (particularly solar summer capacity benefits, as demonstrated in the detailed studies of the IRP) while capturing the federal PTC or ITC.

At the August 17 Staff workshop, the Company indicated it might be possible to issue a second renewable energy RFP to test that potential. While such an additional resource acquisition has not been studied and is not included in the current IRP, it may be appropriate to propose it in the 2017 IRP Update, particularly in light of the risk that the proposed repowering and new wind acquisitions may be only partially completed or delayed, and thereby not qualify in full for the 2016 PTC for which the Company has reserved equipment purchases to satisfy PTC “safe harbor” requirements. PacifiCorp Reply Comments at 8-9.

3. Consistent and Thorough Coal Fleet Assessment Must Still Be Conducted

The broader question going forward is what new, clean resource mix would be least-cost and least-risk in preparation for a careful, intentional phaseout of the coal fleet. At this late stage of the current IRP process, there is not enough time to go back to the drawing board on coal analysis. In that light, the Company made assurances at the August 17 Staff workshop that it will take a fresh look in the next IRP cycle.

We have little doubt that a truly consistent and thorough assessment would support downward dispatch and earlier retirement of significant parts of the coal fleet. Indeed, the Sierra Club demonstrated exactly that result using the Company’s own model during the deliberations over the 2015 IRP.

4. The Case for Transmission Segment D2 is Not Yet Enough for Acknowledgment

The 2017 IRP makes a strong push for construction of the D2 transmission segment. At 140 miles and a projected cost over \$600 million, it is a major new resource, although it is just a small part of the full proposed Gateway West program.

Concerning segment D2, there are still issues needing clarification. For example, the Company has stated that the current system in central Wyoming is so congested that at times existing wind is being curtailed to avoid system instability (however, the Company was unable to provide any clear estimate of the magnitude of curtailment at the August 17 staff workshop).

While D2 would mitigate that curtailment as well as provide other benefits as described in the IRP and the Company’s July 28 filings, one question we pose is whether the company has studied other non-transmission alternatives for system reliability, especially in that area of central Wyoming.

An assessment of the relative cost and potential magnitude of non-transmission alternatives is needed. For example, to address voltage stability, it is possible that synchronous condensers and the “synthetic inertia” capability of wind energy converters and solar inverters could be applied.

If there are enough low-cost non-transmission alternative measures to increase the available transmission capacity (ATC) in central Wyoming, it is possible new wind resources could be added without the very high cost of the D2 transmission segment. Furthermore, downward dispatch and/or retirement of coal, especially the Dave Johnston units, would open up considerable new ATC.

Driven by the December 31, 2020 deadline for new wind operation to qualify for the federal PTC, the Company places an aura of inevitability around the wind/transmission combination: “Timing is critical for both the new wind and transmission projects. These assets must achieve commercial operation by the end of 2020 to qualify for the full benefits of the PTCs and maintain favorable economics.” PacifiCorp Reply Comments at 33.

However, if the Company proceeds with the new wind and the D2 transmission segment, it is possible one or both could be delayed. If the wind is delayed in coming online past December 31, 2020, it will not qualify for the PTC. (We agree with the Oregon Independent Evaluator of the draft PacifiCorp 2017R RFP that customers should be shielded from such risk.)

But delay for the D2 segment does not have equally onerous consequences. If D2 is delayed or not constructed, the actual wind PTC could be reduced somewhat but would not be eliminated, as long as operation commences by the PTC deadline.

Importantly, the case for the D2 segment rests on a narrow assumption: that the existing coal fleet remains in place. It remains to be seen whether non-transmission alternatives and coal redispach and retirement can defer or displace D2, and whether the remainder of Gateway West has quite the aura of inevitability that the Company has claimed.

Given the very high cost and completion risks of any new transmission, this warrants another look at D2 to assess whether non-transmission alternatives and downward dispatch or retirement of coal could substitute for the new line. The studies provided by the Company in the 2017 IRP do not thoroughly address this option.

To fully assess whether D2 should be acknowledged, the Company should provide additional studies to address how much new ATC for wind could be available in central Wyoming without D2 to the extent that:

- Non-transmission alternatives relieve central Wyoming congestion
- The coal fleet is dispatched down during periods when new wind is highly available
- Nearby coal units, especially at Dave Johnston, are retired earlier

5. Co-Optimized Assessment of Coal Phaseout, Clean Energy Replacement, Non-Transmission Alternatives and Transmission Expansion Must Be Conducted

As coal’s role shifts in the Company’s resource portfolio, opportunities for will open not only for additional acquisition of clean energy resources (both supply and demand), but also reassessment of the transmission grid including comprehensive review of possible new lines and non-transmission alternatives to support the changing resource mix.

While the Company maintains that its Energy Gateway program is the only way to do so, it has not made a convincing case, and indeed is not proposing most proposed Gateway segments for acknowledgment in this IRP.

Yet it is evident that the Company intends for the D2 segment to force open the door for the long-desired Gateway West program as a whole, including segments D1 and E, at a cost of multiple billions of dollars.

The Company claims that operation of D2 would “provide an opportunity for further increases to the future transfer capability out of wind-rich regions of Wyoming with construction of additional segments of Energy Gateway.” PacifiCorp Reply Comments at 27. But once again this appears to assume that all existing coal plants remain fully in service.

It is important to note that the transmission path to the west out of central Wyoming is already highly utilized. Adding the D2 segment and new wind, but without downward dispatch and retirement of coal, is likely to force the issue for the remainder of Gateway West. We do not believe in the inevitability of this outcome.

This area is referred to as Path 19 (Bridger West) in regional transmission studies. In its most recent published survey, the Western Electricity Coordinating Council concluded that Path 19 was the third most heavily utilized in the Western Interconnection.

For comparison, in the WECC study, Path 27 is the most utilized (from Intermountain Power Project in central Utah to southern California); the other four of the top six are all related to export of Colstrip coal power from eastern Montana to the west coast. Western Electricity Coordinating Council, 2013 WECC Path Reports, Figure 1 and Table 5.

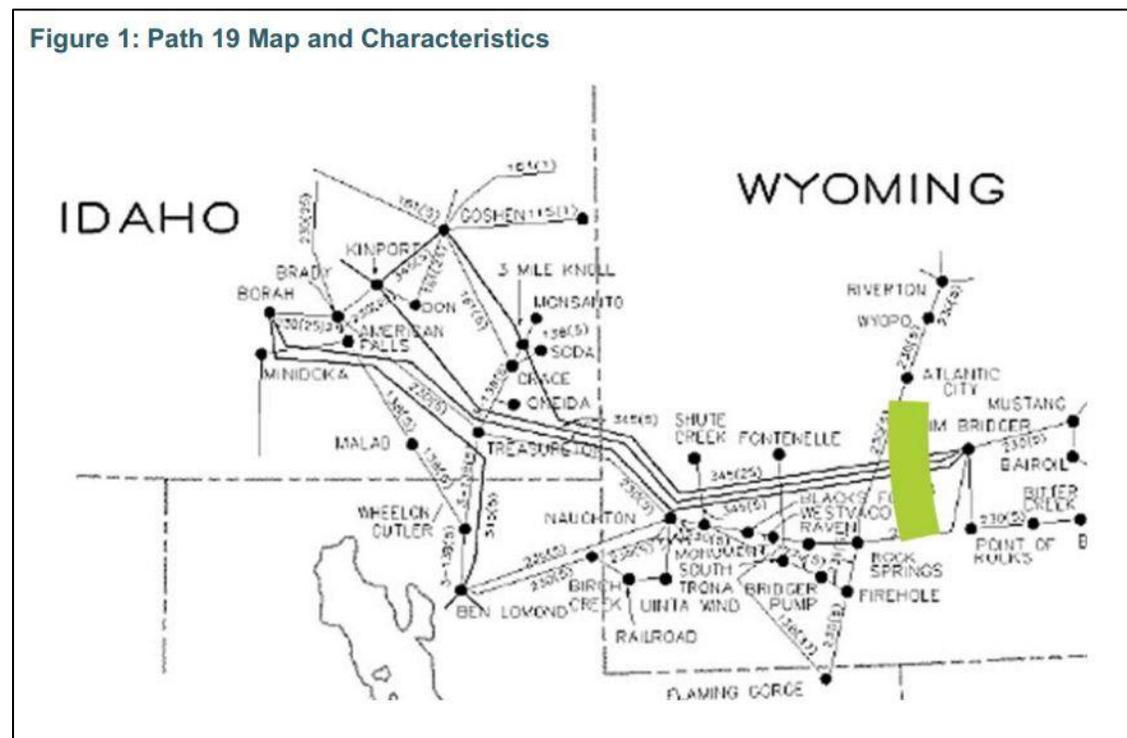


Table 5: 20 Most Congestion Paths Based on Flow U75 for All Hours in 2010

Path #	Path Name	U75 All Hours
27	IPP DC Line	76.1
10	West of Coalstrip	68.3
19	Bridger West	66.4
11	West of Crossover	66.4
9	West of Broadview	54.6
8	Montana - Northwest	42.9
75	Midpoint - Summer Lake	36.5
48	Northern New Mexico (NM2)	34.1
35	TOT 2C	22.1
1	Alberta - British Columbia	20.1
36	TOT 3	14.7
66	COI	14.7
52	Silver Peak-Control 55 kV	0.4
47	Southern New Mexico (NM1)	10.7
22	Southwest of Four Corners	9.9
23	Four Corners 345/500	9.1
65	Pacific DC Intertie	8.8
50	Cholla - Pinnacle Peak	8.5
76	Alturas Project	3.9
17	Borah - West	3.3

By design, then, all six of the highest utilization paths in the Western Interconnection, including Bridger West, were intended to export baseload coal at very high transmission utilization levels. This made sense given the economics of bringing remote generation to load several decades ago.

The consequence is that adding transmission capacity and new wind generation in central Wyoming while retaining existing coal inevitably puts upward pressure on Path 19/Bridger West and therefore promotes the development of the rest of Gateway West at a cost of billions of dollars. But that pressure will dissipate if coal is dispatched downward and/or retired.

Given the low net load growth conditions in the PacifiCorp system overall -- factoring in planned DSM as well as the potential for additional DSM and demand response -- it does not seem wise to overbuild transmission. The task ahead is to seek a change in the resource mix by decreasing coal dependence and increasing clean energy in step by step fashion, and deferring or avoiding very expensive and risky new transmission builds.

In the next IRP round, it is important to conduct new co-optimized studies of coal phaseout, new clean energy replacement resources, and optimal use of the existing grid, non-transmission alternatives and new transmission lines, including but not limited to Energy Gateway.

6. The 2017 IRP Is a Partial Step in the Right Direction

In summary, the Coalition believes a good case has been made for repowering existing wind and adding substantial new wind in the 2017 IRP. There is little risk in moving forward on these wind resources, and a strong likelihood that when coal retirement is finally addressed in full, this will be an important first step in transforming PacifiCorp's existing resource mix away from coal.

However, the case for moving forward on transmission segment D2 is not as clear, and further comparison with alternatives including non-transmission alternatives, downward dispatch and coal retirement is in order during the final stage of this IRP process.

Submitted August 24, 2017 by:

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