CASE: UM 1802
WITNESS: BRITTANY ANDRUS

PUBLIC UTILITY COMMISSION
OF
OREGON

STAFF EXHIBIT 1802

Response Testimony

August 14, 2017

Q. Please state your name, occupation, and business address.

A. My name is Brittany Andrus. I am a Senior Utility Analyst employed in the Energy Resources and Planning Division of the Public Utility Commission of Oregon (OPUC). My business address is 201 High Street SE., Suite 100, Salem, Oregon 97301.

Q. Have you previously provided testimony in this case?

A. Yes, I provided reply testimony on May 5, 2017.

Q. What is the purpose of your testimony?

A. I respond to PacifiCorp's July 21, 2017 opening testimony.

Q. How is your testimony organized?

A. My testimony is organized as follows:

Q. Please provide a summary of Staff's positions in response to PacifiCorp's July 2017 testimony on the four issues listed above.

A. Issue 1, Docket Scope: Staff does not view this docket as the appropriate venue for addressing potential changes to policies established in Docket No. 1396[1] for determining renewable avoided costs. Staff generally supports PacifiCorp's proposal that the Commission "[m]ove consideration of the policy issues associated with the PacifiCorp's updated RPS and non-RPS avoided cost price streams to a generic investigation proceeding, beginning with the

[1] See Orders No. 10-488, 11-505.

workshops directed by the Commission at the conclusion of docket UM 1794."[2] Staff addresses the question of how to calculate nonstandard renewable avoided costs but not questions of renewable sufficiency determinations or other policy considerations.

Issue 2, Calculation of Nonstandard Renewable Prices: Staff does not support PacifiCorp's revised proposed implementation of the PDDRR methodology for reasons contained in Staff's May 2017 reply testimony, and expanded upon here. The Company's stated difficulties in calculating appropriate nonstandard renewable prices for technologies with varying capacity and energy profiles lead Staff to conclude that the reasonable approach is to return to the nonstandard pricing methodology in place prior to the opening of this docket: whereby PacifiCorp makes adjustments to standard avoided cost prices based on factors that FERC requires avoided cost calculations to take into account.

Issue 3, Market Price Floor: Staff continues to recommend that the market price floor remain in effect until such time as PacifiCorp can demonstrate that an individual proposed QF's output cannot be delivered to market or to load without displacing existing resources that cannot be delivered to market. This analysis is fact specific and cannot be done in this generic investigation.

Issue 4, QFs Included in Queue: Staff continues to oppose PacifiCorp's inclusion of all QFs that have requested indicative pricing in PacifiCorp's resource stack for purposes of calculating nonstandard avoided cost prices. Staff does see value in exploring the possibility of identifying certain milestones

[2] PAC/300, MacNeil/46.

in the contracting process that would trigger inclusion of a not-yet-operable QF in PacifiCorp's resource stack for purposes of calculating the non-standard price applicable to the QF.

ISSUE 1, DOCKET SCOPE

Q. Given PacifiCorp's July 2017 opening testimony, what is the appropriate scope for this docket in Staff's view?

A. Staff believes that the question of whether a renewable resource is procured because it is the most cost-effective, or procured to meet the RPS is out of scope in Docket No. UM 1802.

Q. What is the basis for this position?

A. Staff believes that the original purpose of this docket still stands: "an expedited investigation to examine whether PacifiCorp's nonstandard avoided cost pricing should include a renewable price option, and if so, how that renewable price option should be calculated."[3] The parties to this case have all testified that there should be a renewable price option, but do not agree on how it should be calculated. To accomplish the objective of this docket, Staff believes two issues must be addressed:

- During sufficiency, whether the market floor should be applied to sufficiency period prices; and,
- During deficiency, how to calculate the avoided cost and capacity of the deferred resource as applied to the individual QF.

The question of how to determine the demarcation of sufficiency/deficiency for renewable avoided costs is not at issue here. The Commission has identified that question, as well as other issues, that will be addressed in another docket, as explained in Order No. 17-239:

> The events in this case have served to expose important questions worthy of examination in their own right and have

[3] Order No. 16-429 p. 1.

> caused us to review some policy gaps in how setting avoided costs is informed by our IRP and RFP processes for all utilities in OR subject to PURPA regulation. We acknowledge a need to address, among other matters:
>
> Challenges that may exist with examining a utility's resource deficiency date for avoided cost purposes, including when the deficiency date identified in the IRP is outside the action plan window or when the utility pursues a resource action or RFP without IRP acknowledgment; and
>
> The avoided cost implications where a utility is pursuing near-term capacity investments that are not driven by reliability, renewable portfolio standard (RPS), or load-service needs.
>
> To initiate that examination, we will schedule a Commission workshop to allow a broader discussion of these issues to help identify the scope of issues and the best procedural path forward to address them.

Q. Does Staff have any concerns with PacifiCorp's proposal for addressing policy issues?

A. While Staff agrees with PacifiCorp that certain policy issues should be addressed outside of this proceeding, Staff disagrees with PacifiCorp's assertion that consideration of the policy issues in a separate proceeding will not "harm QFs" because [PacifiCorp] does not have an RPS compliance shortfall until 2035.[4] PacifiCorp jumps to the conclusion that "QFs contracting with PacifiCorp in the near term would not receive the RPS price stream" because of the resource acquisition date included in its IRP.[5] Staff notes that PacifiCorp's 2017 IRP is still under consideration by the Commission; consequently there has been

[4] PAC/300, MacNeil/5.
[5] Id.

no post-IRP acknowledgment filing,[6] and no determination of a sufficiency/deficiency demarcation has been made.

[6] OAR 860-029-0040(4)(a).

ISSUE 2, CALCULATION OF NONSTANDARD RENEWABLE PRICES

Q. What changes to the PDDRR methodology does PacifiCorp address?

A. In large part, PacifiCorp repeats and expands upon the January 2017 testimony. PacifiCorp provides many examples and comparisons to demonstrate that there is not an effective way to adapt the PDDRR methodology to differing renewable technologies.

Q. What is Staff's response?

A. First, Staff does not believe that PacifiCorp has shown that it cannot value the capacity brought by a QF of a type different than the proxy resource. Calculations of the loss of load probability have been used to develop wind and solar capacity contribution values in the IRP. The Company's position that PDDRR cannot be used to value different kinds of capacity is simply not understandable to Staff. There is clearly some capacity value from incremental generation availability. It may be discounted based on location or coincidence with load or other utility resources, but it is not zero over the course of a year. Second, PacifiCorp underlies its conclusion regarding the non-adaptability of GRID with statements such as, "While the PDDRR methodology and GRID model cannot reflect a comprehensive reoptimization of PacifiCorp's resource portfolio, deferral of renewable resources of the same type has the greatest potential to maintain the least-cost, least risk characteristics of the preferred portfolio,"[7] and "Deferring like renewable resources thus ensures that a QF

[7] PAC/300, MacNeil/24.

results in a portfolio with a comparable risk profile."[8] These qualitative conclusions do not demonstrate to Staff's satisfaction that the capacity of other QF capacity types cannot be appropriately valued.

Q. Does PacifiCorp accurately characterize Staff's proposed PDDRR approach?

A. Not completely. The Company states, "Staff proposes an alternative PDDRR methodology based on deferral of energy-equivalent renewable resources, with the intent of being more consistent with RPS compliance obligations."[9] Staff proposed a methodology based on two GRID runs to determine energy costs displaced by the QF and a subsequent calculation of the value of the avoided capacity cost based on relative energy production levels of the avoided resource and the QF.[10]

Q. What other constraints on its avoided resource cost calculations does PacifiCorp propose?

A. The Company posits that not even an Oregon wind QF would defer capacity from its potential 2021 Wyoming wind resource because the Production Tax Credit for a deferred resource would be necessarily lower if constructed in a later year, and the resource is tied to a new transmission line that makes the project economic. As stated above, in this docket Staff does not address questions of which resource should or should not represent the start of a deficiency period.

[8] PAC/300, MacNeil/21.
[9] Staff/100, Andrus 16.
[10] Staff/100, Andrus 14-16.

Staff believes that the determination of a specific avoided resource for purpose of calculating QF avoided costs is outside the scope of this docket and should be addressed in a post-IRP acknowledgment avoided cost filing.

Q. What does Staff recommend?

A. If PDDRR modeling cannot be used to value the system contributions of a variety of QF types and locations, it is not an effective tool for determining avoided costs and should be abandoned. Staff initially supported the use of PDDRR for determining non-standard prices because it would provide increased accuracy relative to a price consisting of adjustments to a proxy resource cost.[11] Here, PacifiCorp argues that PDDRR modeling *cannot* be used to capture the value of individual QFs with differing shapes and characteristics, i.e., QFs of a range of different technologies and profiles. Because PacifiCorp argues that PDDRR cannot be used to effectively determine the system contributions of renewable resources different from those resources adopted as part of its IRP, Staff believes that Commission should adopt the option Staff included in prior testimony, and again here: revert to the method of making QF-specific adjustments to the standard avoided costs. Alternatively, PacifiCorp can propose a model-based method of pricing that does not start with the standard avoided cost, but that does incorporate the ability to price resource types other than those in the IRP. Staff is concerned,

[11] Docket No. UM 1610, Staff/600, Andrus 21-22: "Staff agrees with PacifiCorp that the current method of adjusting the standard avoided cost prices ignores the interdependencies across the seven FERC factors, and therefore recommends that utilities be conditionally allowed to use a computer based model to calculate negotiated avoided costs. Staff believes 3 that an accurate accounting for the impacts on individual utility systems can be 4 achieved through the use of the production cost models…"

however, about adding further delay to the resolution of the questions in this docket, so Staff sees this alternative as less desirable.

ISSUE 3, MARKET PRICE FLOOR

Q. In updated testimony, PacifiCorp witness MacNeil presents additional analysis and argues for elimination of the market price floor for QF pricing. Does this additional analysis change Staff's position regarding the market price floor?

A. No. To the contrary, the additional analysis supports the validity of the Commission's decision to require that a utility specifically demonstrate that a QF created a constraint that results in the failure of displaced thermal power to reach market.[12] Witness MacNeil's July 2017 testimony demonstrates that the determinative factor in PacifiCorp's modeling of QF avoided costs relative to market pricing is transmission access. Accordingly, this analysis supports the Commission's current position that before the market floor can be lifted, transmission constraints that prevent power from reaching market must be demonstrated in the context of an individual proposal.

Q. How does PacifiCorp's analysis show that transmission constraints are determinative to avoided cost?

A. Mr. MacNeil's testimony and analysis demonstrates that the size of the queue used in the analysis artificially creates transmission constraints that prevent a modeled QF or a resource displaced by the QF from reaching market. PacifiCorp includes a table purportedly showing the impact of the market price floor on calculation of avoided cost prices for QFs that have asked for indicative

[12] Order No. 16-337, p. 6.

pricing.[13] The table reflects that utilizing a full queue of Oregon QF capacity produces model-derived avoided cost for "Solar QF 293" of $21.96, a price 60 percent lower than PacifiCorp's market floor.[14] In stark contrast, when PacifiCorp derived the prices utilizing no potential QF queue, avoided cost prices without the floor were only eight percent lower than the market floor.[15] Accordingly, this indicates that even within PacifiCorp's own modeling, transmission constraints are the determinative factor that produces modeling results that differ based on the amount of available transmission to move QF power or displaced thermal power to market. It also indicates that assuming for argument PacifiCorp's PDDRR can accurately model QF integration, the market floor represents an appropriate price. This reaffirms the Commission's current position and policy; the market floor is appropriate until it is demonstrated that an individual QF is causing a constraint that prevents access to market.

Q. If a QF or thermal resource displaced by a QF can reach market, will market dynamics result in a lower or higher price paid for the QF or displaced thermal power?

A. On average, if PacifiCorp's market price forecast is accurate, then market dynamics such as those discussed by Mr. MacNeil (i.e., market depth and price volatility) are accounted for.[16] These factors are traditionally part of market forecast development.

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[13] PAC/300, MacNeil/37.
[14] Id.
[15] Id. at 39.
[16] Id. at 35.

Additionally, PacifiCorp's modeled results of market dynamics are irrelevant, unless applied to an individual project. The operating assumption is that power that can reach a market can be sold at that market. The price paid for that power cannot be known, which is why the Commission relies on PacifiCorp's market forecast estimate. The relative volume of power that may be sold at the market in question may be estimated based on historical data for a specific path, time, etc., but such an analysis is only probative in the context of an individual QF, with its unique dynamics.

Q. Does PacifiCorp's analysis suggest that the PDDRR model is operating consistently with the Company's market price forecast?

A. No. Mr. MacNeil's testimony has changed in its emphasis. In its opening testimony, Mr. MacNeil testified that PacifiCorp does not have adequate transmission for the increasing amount of QF power coming on-line, which means that PacifiCorp anticipates backing down its thermal generation rather than making incremental market sales when it has a generation surplus.[17] Mr. MacNeil asserted that in this situation, compensating QFs at market prices would overcompensate QFs.[18] PacifiCorp reiterates this argument in its reply testimony, but now makes a modeling based argument that implies that PacifiCorp's market price forecasts may not be accurately developed.[19] If market price forecasts are substantially higher than the actual prices that PacifiCorp thermal power or QF power is expected to receive at market, then it

[17] PAC/100, MacNeil/11.
[18] Id.
[19] PAC/300, MacNeil/34-36.

is upon PacifiCorp to adjust its market price forecast. If modeling indicates that QF power or displaced thermal power consistently receives a lower market price than the forecast, this is a strong indication that PacifiCorp's market price forecast is inaccurate. However, such an issue is not an appropriate one for review in this case. If modeling produces this result, it is incumbent upon PacifiCorp to review its market forecast in detail and propose an update.

Q. Does PacifiCorp's analysis demonstrate that the market floor should be lifted?

A. No. PacifiCorp's testimony fails to establish the key threshold question that the Commission established as its standard for a re-evaluation of the market floor issue in Docket No. UM 1610:

> We acknowledge arguments that certain transmission constraints could exist that prevent otherwise economic market sales of low cost energy, but note that PacifiCorp previously indicated that such transmission conditions do not exist in Oregon. We encourage utilities to notify us when such conditions actually exist in Oregon.[20]

These questions are subject to analysis and determination, but only in the context of an individual QF development proposal. Elimination of the market floor absent a review of these specific conditions for an individual QF is premature; it must be analyzed in the context of an individual proposal which would be subject to a detailed, real-world review of transmission constraints and market access.

[20] Order No. 16-337, p 6.

ISSUE 4, QFS INCLUDED IN QUEUE

Q. Has PacifiCorp changed its position that all QFs that have requested indicative pricing should be included when calculating the next QFs avoided cost?

A. No. However, the Company adds information about its nonstandard contracting process in Utah, where proposed QFs must meet certain milestones and adhere to restrictions on changes to their project proposals.

Q. How does this impact the QF queue issue?

A. PacifiCorp describes a process in which the QF signs a "final execution" version of a contract, and then the calculation of final prices would include only signed QFs, as opposed to all QFs that have requested indicative pricing. The QF would then have the opportunity to terminate within 30 days if the price change was not acceptable.

Q. What is Staff's response to this concept?

A. Staff recognizes that there is uncertainty regarding nonstandard contract negotiation timelines that impact the value of the next QF contract. Staff continues to believe that only signed QF contracts should be included in the QF's pricing, and that changes to the nonstandard contracting process should not be considered until the issues of resource sufficiency have been settled.

Q. Does this conclude your testimony?

A. Yes.