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December 18, 2014

Attention: Filing Center
Public Utility Commission of Oregon
3930 Fairview Industrial Drive SE
P.O. Box 1088
Salem OR 97308-1088

Re: *In the Matter of PUBLIC UTILITY COMMISSION OF OREGON Staff Investigation into Qualifying Facility Contracting and Pricing*
PUC Docket No.: UM 1610
DOJ File No.: 330-030-GN0240-12

On behalf of the Oregon Department of Energy, enclosed for filing with the Commission in the above-captioned matter are an original and five copies of the OREGON DEPARTMENT OF ENERGY'S CLOSING BRIEF.

Sincerely,

Renee M. France
Senior Assistant Attorney General
Natural Resources Section

Enclosures
RMF:jrs/#6101606
c: UM 1610 service list

BEFORE THE PUBLIC UTILITY COMMISSION

OF OREGON

UM 1610

In the Matter of	)	
	)	
PUBLIC UTILITY COMMISSION OF OREGON,	)	OREGON DEPARTMENT OF ENERGY'S CLOSING BRIEF
	)	
Staff Investigation into Qualifying Facility Contracting and Pricing	)	SOLAR CAPACITY ADJUSTMENT

I. INTRODUCTION

This Closing Brief is filed on behalf of the Oregon Department of Energy (ODOE) pursuant to the direction from the Administrative Law Judge in Phase 2 of this UM 1610 investigation into contracting and pricing for qualifying facilities (QFs) under the Public Utilities Regulatory Policies Act of 1978. This Brief summarizes ODOE's testimony on the capacity adjustment to the avoided cost rates. The method for adjusting capacity payments to QFs that was adopted in Order No. 14-058 is flawed. ODOE recommends that the Commission adopt Staff's proposed revised method for adjusting capacity payments to QFs. While this particular proceeding is limited to the adjustment of the capacity payment to solar QFs under the renewable avoided costs, the flaw in the current method also causes incorrect capacity payments to solar and wind QFs under the standard avoided costs. Therefore, the revised approach proposed by Staff should be applied more broadly to both the standard and renewable avoided costs.

II. AVOIDED CAPACITY COSTS ATTRIBUTABLE TO THE QF ARE FIXED COSTS MEASURED IN DOLLARS-PER-KILOWATT

This proceeding addresses the method for calculating capacity costs that are avoided when power is delivered to the utility from a QF. In the utility avoided cost filings, the capacity-related costs of the avoided resource (a proxy gas combined-cycle combustion turbine for standard avoided costs and a proxy wind resource for renewable avoided costs) are estimated based on the fixed cost of a natural gas simple-cycle combustion turbine (SCCT) capacity resource.[1] That capacity cost is reported by the utility in dollars-per-kilowatt (kW) per year.

When a QF delivers capacity to the utility, the avoided capacity costs are the annual fixed costs of a new SCCT capacity resource, measured in annual dollars-per-kW. Therefore, the dollar value of the avoided capacity that is attributable to the QF must be measured in annual dollars-per-kW. It follows that any comparison of capacity costs avoided by two different resources (e.g. a solar QF and the avoided proxy wind resource) must also be measured in annual dollars-per-kW, and that capacity payments made to a QF must be designed to compensate the QF for the total annual dollars-per-kW of avoided capacity costs attributable to it.

Rather than being paid to the QF as an annual dollars-per-kW lump sum, the avoided capacity cost is instead converted to a volumetric dollars-per-MWh payment that is added to the avoided energy cost payment during on-peak hours. The rate design for converting avoided dollars-per-kW capacity costs to per-MWh capacity payments is at question in this proceeding. As explained below, the rate design

[1] *See* PAC/600, Duvall/2-3 *and* Idaho Power/600, Youngblood 6-7.

method must be revised, as Staff recommends, in order to achieve the intent of Order No. 14-058 and appropriately compensate a QF for the avoided costs attributable to it.

III. THE COMMISSION ADOPTED A CAPACITY ADJUSTMENT IN ORDER TO PRODUCE MORE ACCURATE AVOIDED COSTS

In Order No. 14-058 the Commission adopted a change to the method of calculating the capacity portion of the avoided cost rates paid to QFs. The change was intended to compensate QF resources differently based on the capacity contribution of different resource types in order to more accurately reflect actual avoided costs.[2]

Prior to Order No. 14-058, different QF resource types were already compensated for avoided capacity costs differently. A solar QF did not receive 100 percent of the avoided capacity dollars that a baseload resource did. "Instead, the solar QF received just a fraction of those capacity dollars proportional to the solar QF's on-peak capacity factor, or the ratio of energy actually delivered by the QF during on-peak hours compared to the energy the QF would have delivered if it had operated at maximum capacity during all on-peak hours."[3]

However, the timing and reliability of variable generation from wind and solar resources is not necessarily well-matched to the utility's capacity needs. Therefore, on peak-capacity *factor* is not always a good measure of how much capacity is avoided by the QF. The Commission agreed in Order No. 14-058 that the appropriate measure of avoided capacity is the capacity *contribution* of the QF

[2] Order No. 14-058 at 15.
[3] ODOE/700, Brockman/1.

resource.[4] According to PacifiCorp, "The capacity *contribution* of a generating resource takes into account the timing of the generation and how it contributes to system reliability."[5]

In cases where a wind or solar QF's capacity contribution is significantly less than its on-peak capacity factor, the historic method prior to Order No. 14-058 would have overcompensated the QF for avoided capacity. For example, in Portland General Electric's 2013 Integrated Resource Plan, there is a large discrepancy between wind's on-peak capacity *factor* (54 percent) and wind's capacity *contribution* (5 percent).[6] In order to produce more accurate avoided cost estimates, the Commission ordered a change to the method for calculating capacity payments to different QF resource types to account for the capacity contribution of those resource types.

IV. ADOPTED METHOD CONTAINS ERROR AND DOES NOT ACHIEVE INTENT

The method for adjusting the avoided capacity cost payments based on the QF resource type that was originally recommended by Staff and approved by the Commission in Order No. 14-058 contained and error and therefore does not achieve its intent to produce more accurate avoided cost estimates.

In the method that was adopted, Staff intended to multiply the capacity contribution of the QF resource "by the dollar value of capacity ... to arrive at the avoided capacity cost included in the on-peak price."[7] Staff's error was in using the

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[4] *See* Order No. 14-058 at 15. Capacity adjustment will use "input estimates derived from the utility's acknowledged IRP."
[5] PAC/600, Duvall4.
[6] PGE 2013 IRP at 174.
[7] Staff/103, Bless/4.

per-MWh capacity payment amount to represent the "dollar value of capacity" rather than the annual dollars-per-kW fixed cost of the avoided SCCT resource.[8]

It is inappropriate to use the per-MWh capacity payment amount to represent the "dollar value of capacity" because the utility does not incur capacity costs on a per-MWh basis. The utility incurs capacity costs on a per-kW basis. A QF avoids a portion of the fixed cost of a new SCCT capacity resource proportional to the QF resource's capacity contribution. The correct way to determine the avoided capacity cost attributable to a QF is to multiply the capacity contribution of the QF resource type by the utility's annual per-kW capacity cost. Once the avoided capacity cost attributable to the QF is determined, the amount and timing of the per-MWh payments must be established such that the QF receives the full "dollar value of capacity" each year, assuming the QF generates as much energy during on-peak hours as should be expected for that resource type.

The result of the error in the adopted method is that the capacity payments to the QF are now doubly discounted and the QF is severely undercompensated for avoided capacity. As explained earlier, prior to Order No. 14-058 the QF was compensated for avoided capacity proportional to the QF resource's on-peak capacity factor. That is the first discount and it still applies under the current method. The second discount, in which the capacity payment is multiplied by the QF resource type's capacity contribution percentage, further reduces the value of the capacity payment to well below actual avoided cost.

[8] ODOE/600, Brockman/3.

The on-peak capacity factor and the capacity contribution are two different ways to estimate the portion of capacity resource costs that are avoided by a QF resource. Combining the two, as the adopted method does, creates inappropriate double discounting.[9]

To eliminate the double discounting and to accurately reflect actual avoided costs, the capacity payments must *recalculated* (not just further reduced) based on the capacity contribution of the QF resource type.

V. STAFF'S REVISED METHOD IS CORRECT AND SHOULD BE ADOPTED

Staff's proposed revised methodology for adjusting capacity payments to a solar QF based on the relative capacity contribution of the solar QF to that of the avoided wind resource[10] is correct and should be adopted.

The double discounting error occurs in the capacity payment adjustments adopted by Order No. 14-058 for both the renewable and standard avoided costs. The scope of Staff's recommendation is limited to the renewable avoided costs, but the same approach can and should be applied to the standard avoided costs, too.

Staff's revised method includes two steps. First, determine the incremental avoided capacity cost in annual dollars-per-kW that is attributable to the solar QF relative to the avoided wind resource. This is done by multiplying the incremental capacity contribution of a solar resource compared to that of the avoided wind resource by the utility's annual cost-per-kW of an SCCT capacity resource. Second, convert that incremental solar capacity contribution from an annual dollars-per-kW amount into a per-MWh payment rate based on the expected annual generation of

[9] ODOE/700, Brockman/3.
[10] *See* Exhibit Staff/302.

the solar resource, such that the solar QF will be compensated for its incremental annual avoided capacity costs each year, subject to the QF delivering as much on-peak energy as expected.

This two-step approach proposed by Staff is effectively the same two-step method currently used by Idaho Power to establish capacity payments when negotiating avoided cost rates for large wind and solar QFs. Idaho Power's two-step method establishes a *negotiated* per-MWh capacity payment amount based on the capacity contribution and the expected on-peak energy deliveries of the *specific QF project.*[11] Similarly, Staff's proposed two-step method establishes a *standard (non-negotiated)* per-MWh capacity payment amount based on the capacity contribution and the expected on-peak energy deliveries of a representative *proxy QF resource type.*

VI. CONCLUSION

ODOE appreciates the opportunity to participate in this docket and respectfully recommends that the Commission:

1) Find that the method adopted in Order No. 14-058 to adjust capacity payments to QFs based on the relative capacity contribution of the QF to that of the avoided resource contained an error resulting in unintentional double discounting of the capacity payments to QFs using variable resources;

[11] Idaho Power/600, Youngblood/10.

2) Replace the method adopted in Order No. 14-058 for adjusting capacity payments to solar QFs under the renewable avoided costs with Staff's revised method; and

3) In Phase 2 of UM 1610, apply Staff's revised method more broadly to correct the double discounting error in the capacity payment adjustment under standard avoided costs.

Dated this 18TH day of December, 2014.

Respectfully submitted,

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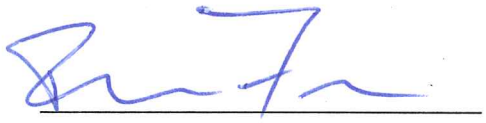
Attorney General



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CERTIFICATE OF SERVICE

I hearby certify that on December 18, 2014, I served the foregoing OREGON DEPARTMENT OF ENERGY'S CLOSING BRIEF upon all parties of record in this proceeding by electronic mail as all parties have waived paper service.

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