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November 4, 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 OPENING TESTIMONY OF KACIA BROCKMAN ON SOLAR CAPACITY ADJUSTMENT TO RENEWABLE AVOIDED COST PRICES.

Sincerely,

Renee M France
Senior Assistant Attorney General
Natural Resources Section

Enclosures
RMF:jrs/#5969288
c: UM 1610 service list

DOCKET NO. UM 1610
EXHIBIT: ODOE/600
WITNESS: KACIA BROCKMAN

**Before the
PUBLIC UTILITY COMMISSION OF OREGON**

OREGON DEPARTMENT OF ENERGY

**Opening testimony of Kacia Brockman
On Solar Capacity Adjustment to
Renewable Avoided Cost Prices**

November 4, 2014

1 **Q. PLEASE STATE YOUR NAME, OCCUPATION AND BUSINESS ADDRESS.**

2 A. My name is Kacia Brockman. I am a Policy Analyst for the Planning, Policy and
3 Technical Analysis Division within Oregon Department of Energy (ODOE). The
4 business address is 625 Marion St. NE, Salem, Oregon.

5 **Q: PLEASE PROVIDE A BRIEF DESCRIPTION OF YOUR EDUCATION AND**
6 **EMPLOYMENT BACKGROUND**

7 A. I received a BS in Engineering Physics from the University of Colorado in 1991.
8 From 1991 until 2001 I worked as a network engineer designing least cost/least
9 risk infrastructure upgrades to wireless telecommunications networks. From
10 2003 until 2013 I worked for Energy Trust of Oregon designing and
11 implementing an incentive program to encourage development of solar electric
12 generation projects by removing market barriers. Since February 2013, I have
13 been working at ODOE, where I specialize in rules administration and
14 regulatory affairs.

15 **Q. WHAT IS THE PURPOSE OF THIS OPENING TESTIMONY?**

16 A. I will discuss three issues regarding the method for adjusting the capacity
17 component in avoided cost prices that was adopted in Order No. 14-058.

18 1) The method adopted in Order No. 14-058 causes an unintended double-
19 discounting of a solar qualifying facility's (QF) capacity payment that must
20 be corrected.

21 2) Staff's proposed revised method for adjusting the capacity component of the
22 renewable avoided costs for solar QFs corrects the double-discounting error
23 and should replace the method adopted in Order No. 14-058.

1 3) A similar double discounting occurs for both wind and solar QFs under the
2 standard avoided costs and must be corrected in Phase II of UM 1610.

3 **Q: DOES THE METHOD ADOPTED IN ORDER NO. 14-084 RESULT IN AN**
4 **INAPPROPRIATE DOUBLE-DISCOUNTING OF THE RENEWABLE**
5 **AVOIDED COST PRICES FOR A SOLAR QF?**

6 A: Yes. Obsidian Renewables LLC (Obsidian) correctly identified the problem in
7 its Motion for Clarification dated April 24, 2014. The mistake in the method
8 adopted in Order No. 14-058 occurs in the manner in which the avoided
9 capacity costs are allocated to on-peak hours as a per-MWh payment.

10 In the adopted method, the total fixed cost of a proxy simple-cycle combustion
11 turbine (SCCT) capacity resource is converted to a per-MWh volumetric rate
12 *before* being adjusted for the incremental capacity contribution of the solar QF
13 resource relative to the avoided wind resource. This creates double
14 discounting.

15 The first discount inadvertently occurs when the total annual fixed cost of the
16 avoided proxy SCCT capacity resource is converted to a per-MWh capacity
17 payment. The per-MWh capacity payment is established by dividing the total
18 annual fixed costs (per kW of nameplate capacity) of the proxy SCCT by the
19 number of annual on-peak MWh expected to be generated (per kW of
20 nameplate capacity) by a baseload resource.¹ Therefore, over the course of a
21 year, a baseload QF will receive capacity payments that equal the total annual

¹ The per-MWh capacity amount in column C of the tables in Staff/103, Bless/1-3 is the "Capital Cost Allocated to Capacity (On-Peak Hours)" from the utilities' avoided cost filings. This value represents the total fixed costs of a proxy SCCT spread across the expected annual on-peak generation of the avoided proxy combined-cycle combustion turbine (CCCT).

1 fixed costs of the avoided SCCT. A solar QF will, however, receive just a
2 fraction of those total fixed costs because a solar resource generates
3 significantly fewer annual on-peak MWh per kW of nameplate capacity than a
4 baseload resource.

5 The second discount occurs when that capacity payment is multiplied by the
6 incremental capacity value of the solar QF resource relative to the avoided wind
7 resource. This discount should be applied to the total fixed cost of the avoided
8 SCCT capacity resource, but it is instead applied to the fraction of those total
9 fixed costs received by the solar QF after the first discount is applied.

10 **Q: WAS THE DOUBLE-DISCOUNTING INTENDED BY THE COMMISSION?**

11 A: No. In designing the approved method, Staff correctly intended to “multiply this
12 incremental [capacity] contribution by the dollar value of capacity (column C) to
13 arrive at the avoided capacity cost included in the on-peak price.”² Staff’s error
14 was in using the per-MWh capacity payment amount to represent the “dollar
15 value of capacity (column C)” rather than the total per-kW annual fixed costs of
16 the proxy SCCT capacity resource.

17 In Order No. 14-058 the Commission stated, “We agree on the need to adjust
18 for capacity contribution of each resource type,” citing the reasons provided by
19 parties: “[t]o produce more accurate avoided cost estimates” and “to capture
20 the expected capacity contribution of each QF resource type.”³ The double-
21 discounting in the current methodology does not accurately capture the

² Staff/103, Bless/4.

³ Order No. 14-058 at 15.

1 expected capacity contribution of wind and solar QFs and therefore does not
2 produce more accurate avoided costs.

3 **Q: WHAT IS THE CORRECT METHOD FOR ADJUSTING THE RENEWABLE**
4 **AVOIDED COSTS FOR THE CAPACITY CONTRIBUTION OF A SOLAR QF**
5 **RELATIVE TO THE CAPACITY CONTRIBUTION OF THE AVOIDED WIND**
6 **RESOURCE?**

7 A: Staff's proposed revised methodology is correct and should be adopted by the
8 Commission.

9 The incremental capacity value of the solar QF resource relative to the
10 avoided wind resource must be multiplied by the *total annual fixed cost* (per kW
11 of nameplate capacity) of the proxy SCCT capacity resource. That would
12 correctly establish the dollar value of the incremental capacity contributed by
13 the solar QF. That dollar value must then be converted to a per-MWh capacity
14 payment based on the expected annual on-peak MWh generation *of a solar*
15 *resource* in order to ensure that the solar QF receives the full dollar value of its
16 capacity contribution.

17 **Q: DOES THE DOUBLE-DISCOUNTING OCCUR IN THE CAPACITY**
18 **ADJUSTMENT TO THE RENEWABLE AVOIDED COST PRICES FOR**
19 **BASELOAD QFS?**

20 A: No. In the approved method, the per-MWh capacity payments were
21 established based on the expected annual on-peak MWh generation of a
22 baseload resource, so a baseload QF resource will receive the full dollar value
23 of its capacity contribution over the course of a year.

1 **Q: DOES THE DOUBLE-DISCOUNTING OCCUR IN THE CAPACITY**
2 **ADJUSTMENT TO THE STANDARD AVOIDED COST PRICES?**

3 A: Yes. Although Obsidian's Motion for Clarification was limited to the capacity
4 adjustment for solar QFs under the renewable avoided cost prices, the double
5 discounting is also occurring for both wind and solar QFs under the standard
6 avoided cost pricing.

7 ODOE is proposing in Phase II of this UM 1610 proceeding to make similar
8 corrections to the capacity adjustment to the standard avoided cost prices.

9 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

10 A. Yes.

CERTIFICATE OF SERVICE

I hereby certify that on November 4, 2014, I served the foregoing OPENING TESTIMONY OF KACIA BROCKMAN ON SOLAR CAPACITY ADJUSTMENT TO RENEWABLE AVOIDED COST PRICES upon all parties of record in this proceeding by electronic mail as all parties have waived paper service.

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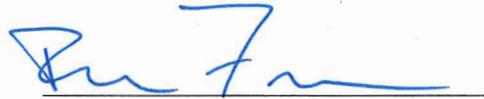
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DATED this 4TH day of November, 2014.



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