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DEPARTMENT OF JUSTICE
GENERAL COUNSEL DIVISION

June 30, 2016

VIA ELECTRONIC MAIL ONLY

Attention: Filing Center
Public Utility Commission of Oregon
201 High Street, Suite 100
P.O. Box 1088
Salem, OR 97308-1088

Re: *In the Matter of PUBLIC UTILITY COMMISSION OF OREGON, Investigation to
Determine the Resource Value of Solar*
OPUC Docket No.: UM 1716
DOJ File No.: 330030-GN0062-15

Filing Center:

On behalf of the Oregon Department of Energy, enclosed for filing today with the
Commission in the above-captioned matter is the following document:

June 30, 2016 Response Testimony of Diane Broad, Exhibit ODOE/100.

Sincerely,

Renee M. France (943707) fm

Renee M. France
Senior Assistant Attorney General
Natural Resources Section

Enclosures
RMF:jrs/#7501249
c: Diane Broad, ODOE

DOCKET NO. UM 1716

EXHIBIT: ODOE/100
WITNESS: DIANE BROAD

**Before the
PUBLIC UTILITY COMMISSION OF OREGON**

OREGON DEPARTMENT OF ENERGY

Response Testimony of Diane Broad

June 30, 2016

1 **Q. PLEASE STATE YOUR NAME AND ORGANIZATION.**

2 A. My name is Diane Broad. I am a Senior Policy Analyst for the Planning and
3 Innovation Division within the Oregon Department of Energy (ODOE). The
4 business address is 625 Marion St. NE, Salem, Oregon. I am testifying on
5 behalf of ODOE.

6 **Q. PLEASE SUMMARIZE YOUR QUALIFICATIONS.**

7 A. I am a policy analyst with particular expertise in electric utility
8 transmission and distribution systems and operations, renewable
9 generator interconnection standards and procedures, and integration
10 of variable energy resources. I gained this expertise through eighteen
11 years of practice as an electrical engineer in consulting, serving
12 electric utilities and renewable project developers, and in two years as
13 a policy analyst at ODOE. I am a registered Professional Engineer in
14 the State of Oregon.

15 **Q. PLEASE PROVIDE YOUR TESTIMONY.**

16 A. This testimony is in response to the Direct Testimony filed June 1, 2016, by
17 Oregon Public Utility Commission (PUC) Staff, in particular the report by Arne
18 Olson. Mr. Olson was hired by the PUC to create a methodology for the
19 Resource Value of Solar (RVOS) for Oregon.

20

1 The parties to UM 1716 identified potential “security, reliability and resiliency”
2 benefits as an element of value for distributed solar.¹ However, the consultant
3 decided not to include these benefits in the proposed RVOS model, arguing:

4 *There is one additional element, “Security, Reliability, and Resiliency”*
5 *that could potentially have value for utility ratepayers. However, this*
6 *would depend on solar being deployed in a microgrid application that*
7 *would provide electric service to utility ratepayers who do not adopt solar*
8 *PV.²*
9

10 As there are no such microgrid applications in Oregon at this time, to his
11 knowledge, “I have not incorporated any quantification of these potential
12 benefits into the RVOS Model.”³

13
14 The Department believes the decision not to include this element may
15 warrant additional research, including the consideration of scenarios such as:

- 16 1. Solar facilities installed near the end of feeders where they may provide
17 voltage support
- 18 2. Modern smart inverter improvements which broaden voltage and frequency
19 ride through capabilities
- 20 3. Storage facilities coupled with solar facilities outside of microgrid scenarios.
21 Storage may be installed for purposes other than local backup power. For
22 example, storage may be coupled with facilities that wheel power to flatten
23 the production profile and thereby reduce the capacity based fees in wheeling
24 charges.

¹ <http://edocs.puc.state.or.us/efdocs/HAC/um1716hac165740.pdf>

² Staff/200, Olson/25, lines 22-25.

³ Staff/200, Olson/26, lines 1-2.

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

2 A. Yes. The Department appreciates the work of Staff and Mr. Olson in
3 developing the RVOS model, and the opportunity to provide comments.