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November 13, 2015

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 PACIFICORP, dba PACIFIC POWER's Application to Reduce the
Qualifying Facility Contract Term and Lower the Qualifying Facility Standard Contract
Eligibility Cap*
OPUC Docket No.: UM 1734
DOJ File No.: 330030-GN0193-15

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:

November 13, 2015 Cross-Response Testimony of Diane Broad and Philip Carver,
Exhibit ODOE/200.

Sincerely,

A handwritten signature in blue ink, appearing to read "Renee M. France".

Renee M. France
Senior Assistant Attorney General
Natural Resources Section

Enclosures
RMF:jrs/#6941350

DOCKET NO. UM 1734
EXHIBIT: ODOE/200
WITNESSES: BROAD AND CARVER

Before the
PUBLIC UTILITY COMMISSION OF OREGON

OREGON DEPARTMENT OF ENERGY

**Cross-Response Testimony of DIANE BROAD
AND PHILIP CARVER**

November 13, 2015

1 **Q. Please state your name and organization.**

2 A. Diane Broad and Philip Carver, both testifying for the Oregon Department of
3 Energy (Department).

4 **Q. Please summarize your qualifications.**

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

12
13 **Philip Carver:** I have a bachelor's degree in economics from the
14 University of California, San Diego (1972) and a Ph.D. in natural
15 resource and utility economics from the Johns Hopkins University
16 (1978).

17 From 1978 to 1980, I was an assistant professor at Dartmouth College.

18 From 1980 until 2008, I worked for the ODOE. During that time I testified
19 in a number of Oregon Public Utility Commission (OPUC) dockets,
20 including UM 1129, a previous docket related to implementing Section
21 210 of the federal Public Utility Regulatory Policies Act (PURPA) of
22 1978.

1 From November 2008 to July 2009, I was the lead OPUC staff on the
2 Renewable Portfolio standards rulemaking (AR 518). From May 2010 to
3 December 2012, I was a half-time senior policy analyst with the OPUC.
4 Since then I have worked half-time for ODOE as a senior policy analyst.
5 This work focuses on removing key barriers to generating more
6 renewable power and reducing energy use.

7 **Q. What is the purpose of this testimony?**

8 A. Our testimony responds to PacifiCorp's Application to Reduce the Qualifying
9 Facility (QF) Contract Term and Lower the QF Standard Contract Eligibility
10 Cap, filed on May 21, 2015, and supported by the testimony of Mr. Bruce
11 Griswold. Our testimony supports the position taken by Oregon Public Utility
12 Commission Staff (Staff) on retaining the current contract length, but expresses
13 a differing viewpoint on eligibility caps for wind and solar QFs.

14 **Q. Please summarize your testimony.**

15 A. The Department supports the position taken by Oregon Public Utility
16 Commission Staff (Staff) that the Commission should retain the current contract
17 term of 20 years, with the first 15 years at fixed prices.¹ The Department differs
18 with Staff with regard to lowering the eligibility cap, however, recommending
19 that the Commission retain a 10 MW cap for wind projects but consider a lower
20 eligibility cap for solar projects.

¹ Staff/100, Andrus/7, lines 4-6.

1 **Q. What is the Department's position with regard to PacifiCorp's application**
2 **to reduce the fixed price term for standard QF contracts?**

3 A. The Department opposes PacifiCorp's application to reduce the fixed price term
4 for standard QF contracts from 15 years to three years. As outlined by witness
5 John Hobbs in the Department's opening testimony, PacifiCorp's proposed
6 reduction in contract length would introduce several repricing events into the
7 term of a loan for a QF project, raising the price risk beyond the tolerance of
8 most commercial lenders.²

9 The Department agrees with Staff's conclusion that although technological
10 changes present new risks for utilities,

11 *The need for QFs to have a reasonable ability to access financing still*
12 *exists. To the extent the changing environment increases the risk that*
13 *avoided cost prices will diverge from the utility's costs over time, this*
14 *risk should not be addressed in a way that could significantly impair*
15 *QF's ability to obtain financing and inhibit QF development in Oregon.*³

16 **Q. What is the Department's position with regard to PacifiCorp's application**
17 **to reduce the eligibility cap for standard QF contracts?**

18 A. The Department recommends the Commission retain the 10 MW eligibility cap
19 for QF projects that utilize renewable resources other than solar (including wind
20 energy), but consider a lower eligibility cap for solar QF projects.

21 **Q. What is the Department's reasoning for retaining the 10 MW eligibility cap**
22 **for wind QF projects?**

² ODOE/100, Hobbs/2, lines 14-23.

³ Staff/100, Andrus/9, lines 11-15.

1 A. Wind resources vary more widely within small geographic areas than solar
2 resources do, as a general rule. Wind resources can vary significantly due to
3 topography such as ridge lines and changes in land use patterns that affect
4 ground cover. Requiring a five-mile minimum distance between projects with
5 the same owners is much more likely to affect developers' ability to site multiple
6 wind projects than it would affect the ability to site multiple solar projects.

7 In its Draft Seventh Plan, the Northwest Power and Conservation Council uses
8 a wind power reference plant consisting of arrays of conventional 2.5 MW wind
9 turbine generators.⁴ Assuming a 2.5 MW wind turbine as the standard, a 10 MW
10 wind QF project would consist of four turbines. This is a feasible size for a small
11 project owner, such as a family farm, irrigation district, municipality or school
12 district. With the working assumption that the developer of a wind QF is not
13 executing multiple projects of similar characteristics across the state, a project
14 of two, three or four turbines allows for economies of scale that are crucial for
15 these small developers. The cost of interconnection studies and negotiating the
16 interconnection agreement, for example, would be nearly the same for a 2.5
17 MW project as for a 10 MW project.

18 Even if the Commission lowers the cap for new wind QFs, renewing wind QFs
19 up to 10 MW should still be eligible for standard contract pricing.

⁴ Northwest Power and Conservation Council, "Draft Seventh Northwest Conservation and Electric Power Plan," Chapter 13, page 28, https://www.nwcouncil.org/media/7149663/7thplandraft_chap13_genres_20151020.pdf, 2015) (October 20, 2015).

1 **Q. Why should the Commission consider a lower eligibility cap for solar QF**
2 **projects compared to wind QFs?**

3 A. The solar resource does not vary as widely within small geographic areas
4 compared to wind resources. This makes it easier for a developer to site
5 multiple small projects while maintaining compliance with the five-mile minimum
6 distance requirement between projects.

7 In opening testimony, Staff recommended the Commission consider a range of
8 two to four MW for the eligibility cap for wind and solar QF projects.⁵ While the
9 Department does not agree with Staff's recommendation to reduce the cap for
10 wind projects as described above, the Department believes this range is
11 reasonable for solar QF projects.

12 The Department offers a three MW threshold for consideration. According to the
13 interconnection standard for Oregon⁶, projects having a nameplate capacity
14 greater than or equal to three MW are responsible for installing more complex
15 communications and telemetry equipment so the system operator can monitor
16 real-time generation. This requirement points to three MW as a logical break
17 point for solar.

18 **Q. Does this conclude your testimony?**

19 A. Yes.

⁵ Staff/100, Andrus/19, lines 18-19.

⁶ Oregon Administrative Rules, OAR 860-082-0070(2) and (3).