Oregon
Kate Brown, Governor

**Public Utility Commission**
201 High St SE Suite 100
Salem, OR 97301
**Mailing Address:** PO Box 1088
Salem, OR 97308-1088
**Consumer Services**
1-800-522-2404
Local: 503-378-6600
**Administrative Services**
503-373-7394

November 13, 2015

***Via Electronic Filing***

OREGON PUBLIC UTILITY COMMISSION
ATTENTION: FILING CENTER
PO BOX 1088
SALEM OR 97302-1088

**RE: Docket No. UM 1734 – 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.**

Enclosed for filing is Staff's Cross Response Testimony and Exhibit in UM 1734.

/s/ Kay Barnes
Utility Program
(503) 378-5763
Email: kay.barnes@state.or.us

CASE: UM 1734
WITNESS: BRITTANY ANDRUS

# PUBLIC UTILITY COMMISSION
# OF
# OREGON

## STAFF EXHIBIT 200

## Cross-Response Testimony

## November 13, 2015

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

A. My name is Brittany Andrus. My business address is 201 High St SE Suite 100, Salem, Oregon 97301.

**Q. Please describe your educational background and work experience.**

A. My Witness Qualification Statement is found in Exhibit Staff/101.

**Q. What is the purpose of your testimony?**

A. I address several issues raised in response testimony filed on October 15, 2015, and provide additional information regarding Staff's position.

**Q. Has Staff been persuaded by the response testimony to change its position regarding the term for fixed price payments to Qualifying Facilities (QFs)?**

A. No. Staff agrees with the QFs and other parties that the term of fixed cost prices in standard power purchase agreements (PPAs) should remain at 15 years.

**Q. Please recap Staff's reasoning in supporting the 15-year fixed price term.**

A. Staff supports the 15-year period because many QFs that qualify for standard PPAs and avoided cost prices must have a steady stream of revenue to satisfy financing requirements. Staff disagrees with PacifiCorp's argument that fixed prices for QFs should be fixed for three years because it mirrors the Company's hedging and risk management policies. PacifiCorp's long term resource planning in its integrated resource plan (IRP) is based on forecasts of

costs over a period of 20 years, not three years. The Commission adopted this policy in 2005,[1] and affirmed it in 2014.[2]

**Q. Has Staff been persuaded by the response testimony to change its position regarding the eligibility cap for standard power purchase agreements (PPAs) and avoided cost prices?**

A. Staff maintains its position that the eligibility cap for standard PPAs and prices, currently at ten MW, should be reduced for wind and solar QFs.

**Q. Please explain again the history of the eligibility cap.**

A. Standard avoided cost prices are intended to eliminate the barriers to entry associated with negotiating a long-term PPA. When the Federal Energy Regulatory Commission (FERC) adopted rules implementing PURPA, it required utilities to offer standard avoided cost prices to QFs 100 kW and less, and authorized states to establish a higher eligibility cap. FERC noted the downside to standard prices is that the standard prices will not take the characteristics of the individual projects into account:

> The Commission is aware that the supply characteristics of a particular facility may vary in value from the average rate set forth in the utility's standard rate required by this paragraph. However if the Commission were to require individualized rates, the transaction cost associated with administration of the program would likely render the program uneconomic for * * *[a] qualifying facility [that is 100 kW or less]. As a result, the Commission will require that standardized tariffs be implemented for facilities of 100 kW or less.[3]

[1] Order No. 05-584 at 17.
[2] Order No. 14-058 at 2.
[3] FERC Order No. 69, 45 Fed. Reg. 12214 (Feb. 25, 1980).

This Commission initially established the cap for standard avoided cost prices at 100 kW, raising it to one MW in 1991[4] and to ten MW in 2005.[5] The Commission noted that negotiating a PPA could pose a barrier to entry for QFs above and below ten MW, but decided to address the issue with standard contracts for QFs ten MW and below and with parameters for negotiation for QFs 10 MW and above.[6]

Staff continued to support the ten MW eligibility cap for standard contracts in Phase I of Docket UM 1610, conditioned on the Commission's adoption of Staff's proposal for a capacity contribution adjustment that would result in different standard avoided cost price streams for different resource types, based on the different resource types' contributions to meeting the utility's peak load.[7] The Commission adopted Staff's capacity contribution adjustment proposal and maintained the eligibility cap for standard contracts and terms at ten MW.[8]

**Q. Why has Staff changed its position on maintaining the eligibility cap for standard contracts at ten MW?**

A. For a combination of reasons, but primarily because Staff believes the ten MW cap is not serving the purpose for which it is intended. Since Staff filed testimony in Phase I of UM 1610 in April 2013, Staff has observed that QFs that do not need protection from market barriers appear to be seeking standard

[4] Order No. 81-319 at 4.
[5] Order No. 91-1605 at 2.
[6] Order No. 05-584 at 16-17.
[7] Order No. 14-058 at 15.
[8] Order No. 14-058 at 7.

avoided cost prices. Because standard prices are based on a proxy resource, they do not account for the operating characteristics of the specific QF resource. FERC's policy is that QF pricing may be adjusted for certain factors[9] to account for these characteristics for nonstandard contracts. The risk of inaccurate standard avoided cost prices increases with the size of the project. The Commission noted this in 2005:

> [W]e recognize a need to balance our interest in reducing these market barriers with our goal of ensuring that a utility pays a QF no more than its avoided costs for the purchase of energy. With standard contracts, project characteristics that cause the utility's cost savings to differ from its actual avoided costs are ignored. No party presented evidence in this docket that the special characteristics of larger projects do not need to be considered in order to achieve rates that reflect actual avoided costs. Furthermore, the risk customers face because avoided costs in the future may be different from the prices paid under a standard contract (through the Fixed-Price Method, for example) is greater for a large QF than a small one.[10]

Staff's recommendation for the lower cap attempts to balance the need to provide a standard contract and pricing option for QFs without the resources to overcome those barriers, while ensuring that large projects are priced according to their specific characteristics and their impacts to the utility's system and ratepayers via a negotiated PPA.

Staff notes that QF technologies have changed in recent years with the advent of wind and solar; hydropower, biomass, biogas and combined heat and power projects were predominant in earlier years. Given the increased

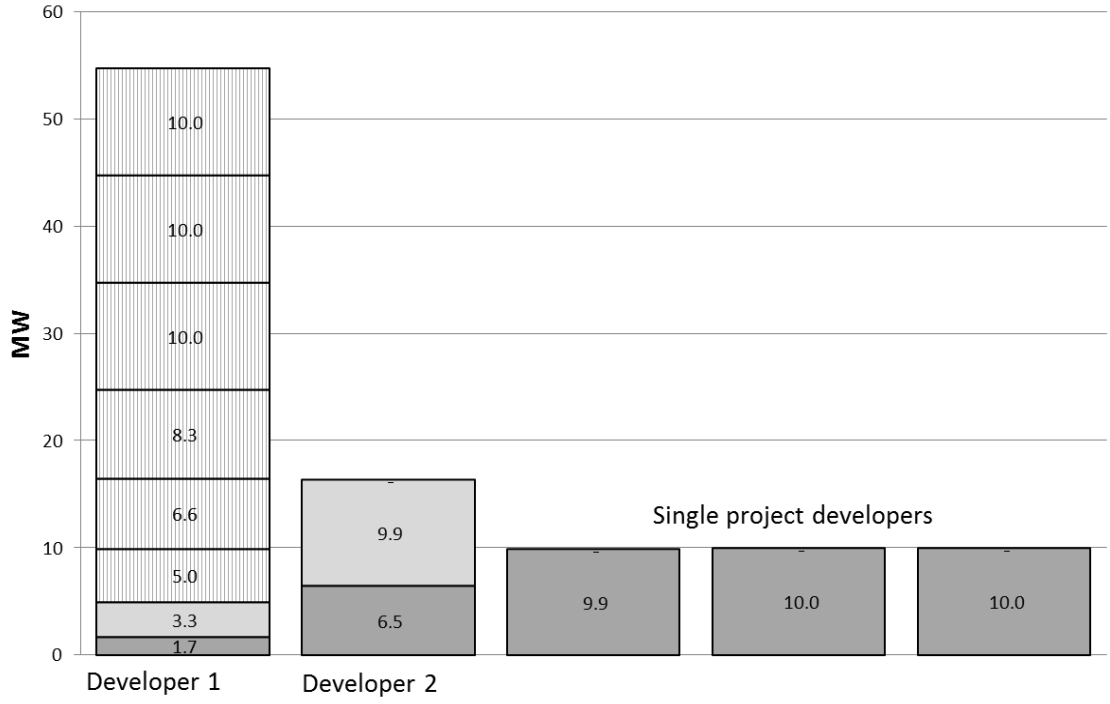
[9] 18 C.F.R. § 292.304(b).
[10] Order No. 05-584 at 16.

variability of these newer technologies, it is even more important to price these QFs based on their specific generation profiles.

**Q. Please discuss Staff's observations regarding QFs that are selecting standard avoided cost prices.**

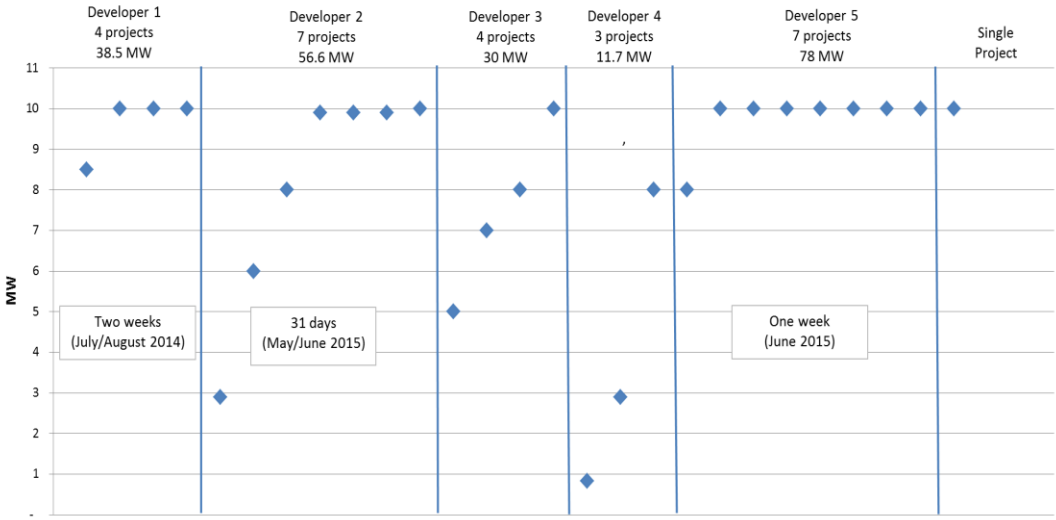
A. Staff has observed patterns of QF development that show developers seeking multiple standard PPAs at or near ten MW within a short time frame. Staff has focused on the development of solar QFs because that is the technology that is currently showing the fastest growth; however, the same pattern of multiple ten MW QF projects by a single developer holds true for wind as well, as illustrated in Figure 1 below.

**Figure 1. PacifiCorp Oregon Wind QF Contracts and MW by Developer, 2008 to 2014.**



With respect to solar facilities, all of PacifiCorp's solar QF PPAs have been executed within the past 18 months, as shown on Exhibit 201.[11] Figure 2 below graphically depicts the solar contracts listed on Exhibit 201, showing the number of projects and their respective MW capacity, grouped by developer. For those with multiple projects at or very near the eligibility cap (9.9 MW), Staff includes the time window within which the PPAs were executed.

**Figure 2. PacifiCorp Oregon Solar QF Contract and MW by Developer.**




**Q. Please explain more the data in Figure 2 above.**

A. Figure 2 shows that 16 out of the 27 solar QF PPAs for PacifiCorp are at or within one percent (9.9 MW) of the ten MW eligibility cap. Three developers have executed multiple contracts for projects at that MW capacity within time periods less than one month. Of these, one developer executed seven PPAs for 78 MW in less than one week.

[11] Staff/201; CREA DR 1.1 Supp 1.

**Q. What is the significance of this pattern of QF development?**

A. Developers that have financial resources to develop a project sized as large as 30 to 70 MW are instead entering contracts for multiple projects that are sized small enough to qualify for standard PPAs and prices. Developers with the resources to develop projects of this size do not need the protection from transaction costs or barriers that are provided by standard contracts.

**Q. What action does Staff recommend?**

A. Staff recommends that the Commission set the eligibility cap for standard contracts for PacifiCorp at a level that is low enough to discourage disaggregation, but not so low as to exclude from the market the QF developers that may not have the resources to negotiate a long-term PPA with the utility.

**Q. Does Staff's recommendation apply to all QFs in PacifiCorp territory?**

A. No. Staff's recommendation is only for PPAs offered to solar and wind QFs because of the relative ease with which these types of resources can be disaggregated.

**Q. What is Staff's recommendation regarding the standard contract eligibility cap for wind and solar resources?**

A. Staff recommends that the Commission establish a cap somewhere between two and four MWs.

**Q. Does Staff believe that QF developers will continue to disaggregate their projects in order to sign multiple standard PPAs at the lower cap?**

A. Staff does not know, given the fact that solar and wind projects can be divided into smaller projects, whereas many QF technologies cannot. A developer that will sign PPAs for six, ten MW QF projects in order to meet the current eligibility cap may divide into 20 individual three-MW projects, or 30 individual two-MW projects. However, to be eligible for the standard PPA and prices, the total nameplate capacity of each QF cannot exceed the eligibility cap at the same site, defined as a five-mile radius.[12] Given this requirement, QF developers may face incremental costs of dividing projects, such as electrical infrastructure and permitting, that would be avoided by consolidating into a single project and negotiating a nonstandard contract.

**Q. How did Staff arrive at the two to four MW recommendation?**

A. First, Staff concluded that the current ten MW eligibility cap should be lowered, for the reasons explained above. Second, Staff did not want to recommend an eligibility cap that would preclude a larger single-turbine wind project from qualifying for a standard PPA. The majority of wind turbines currently operating in the U.S. are between 1.8 MW and 2.3 MW.[13] Third, given Staff's concern about the current practice of disaggregation of projects, Staff concluded that the eligibility cap should be at the lower end of the two- to ten-MW range to discourage disaggregation because the incremental costs of

[12] Order No. 06-586, Appendix B, Exhibit A.
[13] Energy Information Administration, Form 860; http://www.eia.gov/electricity/data/eia860/.

disaggregating a large project will increase as the cap is lowered and more sites are required. These considerations led Staff to the recommended eligibility cap of two to four MW.

**Q. What impact on QF development does Staff anticipate if a lower cap of two, three, or four MW is adopted?**

A. A lower cap should encourage developers currently seeking to build multiple individual projects at the ten MW cap, such as those seen in recent months, to consolidate into a single project and negotiate a PPA and a price with PacifiCorp. With respect to the smaller QF developers that the Commission considered when it established the previous eligibility caps, they will continue to be able to build QF projects and benefit from 15 years of fixed avoided cost prices.

**Q. Several QFs provided testimony stating that negotiated contracts are costly and difficult to execute. What is Staff's response?**

A. Staff agrees that negotiated PPAs are more complex to negotiate. However, as stated in response testimony, the Commission has implemented a dispute resolution process for disputes arising during negotiation of a non-standard PURPA contract.

Staff also reviewed QF eligibility caps in other western states, and determined that despite lower caps, some large QFs have negotiated nonstandard contracts. For example, the eligibility cap in Utah is three MW,[14]

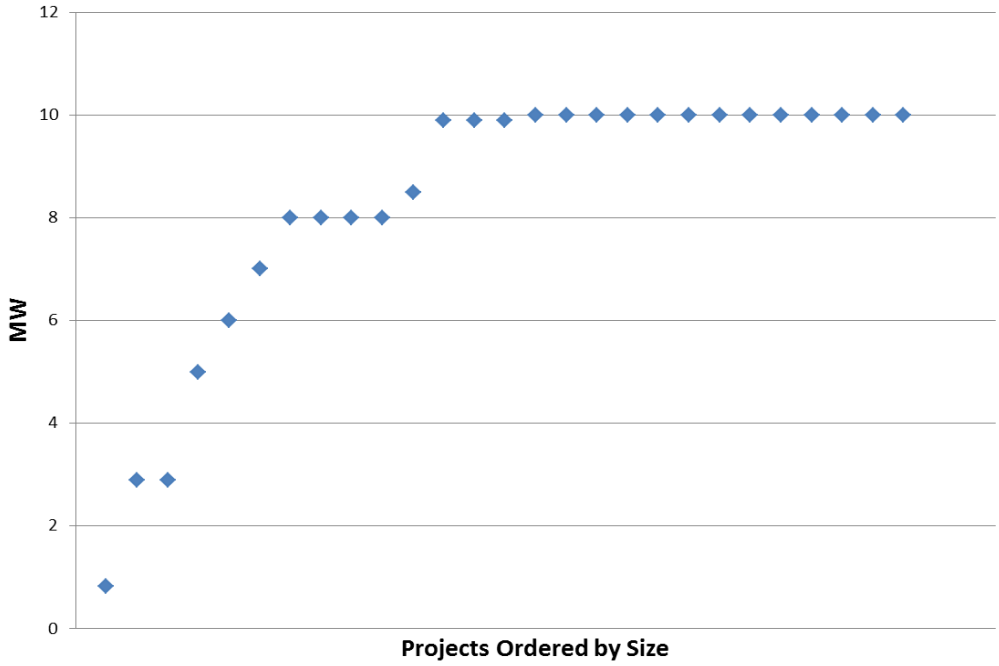
[14] Rocky Mountain Power, Schedule 37, Avoided Cost Purchases from Qualifying Facilities, Sheet No. 37.1.

and PacifiCorp has ten solar QF projects averaging 71 MW apiece under contract.[15]

**Q. Is there any other information Staff considered in recommending the two to four MW cap?**

A. In addition to looking at the consolidation of projects and developers, Staff looked at the overall distribution of project sizes, as shown below in Figure 3.

**Figure 3. PacifiCorp Oregon Solar QF Contracts 2014 and 2015 (partial).**




Staff does not believe that this data points to a definitive answer for what the cap should be. However, the capacity distribution of solar QF projects may be useful information for the Commission as it considers the question of whether the cap should remain at ten MW, and if it is lowered, to what level.

[15] Sierra Club data request 1.16 response.

**Q. Does Staff have any other alternatives to the recommended lower cap?**

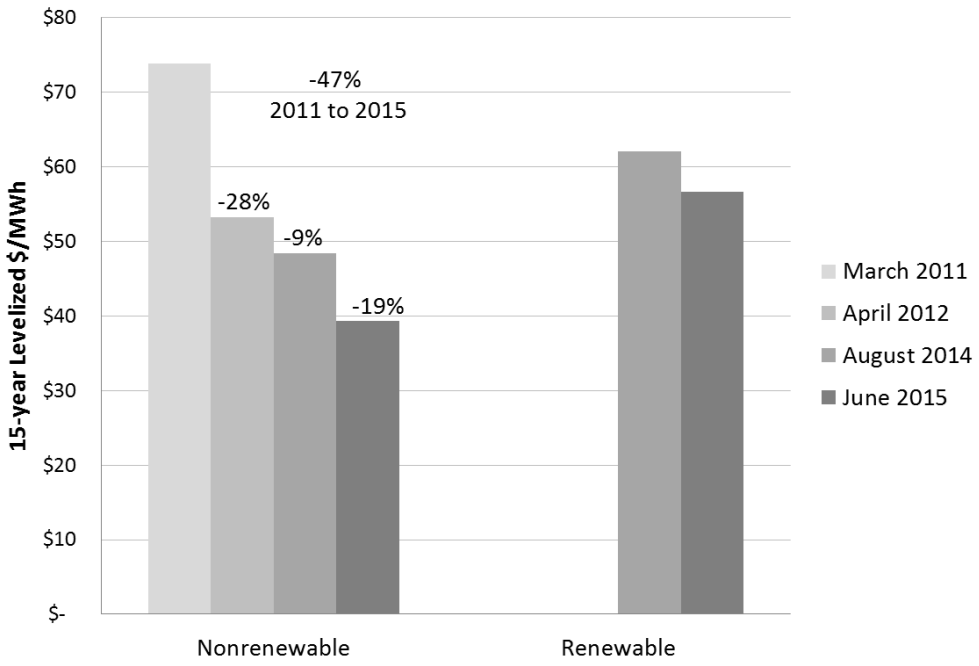
A. Staff believes that the recommended eligibility cap of two to four MWs achieves a balance between the need to eliminate barriers for small QFs and the need for avoided cost prices that reflect individual QFs' characteristics, given the nature of QF development in PacifiCorp's service territory. However, one alternative for the Commission would be to retain the 10 MW eligibility cap until the Commission sees evidence that recent and upcoming reductions to avoided cost prices, mentioned in Staff's earlier testimony, will not prove to be a significant impediment to QF development.

**Q. Please explain.**

A. PacifiCorp's avoided cost prices have declined substantially in recent years, as shown in Figure 4 below.[16] Standard nonrenewable avoided costs for baseload resources declined 47 percent from 2011 to 2015.

[16] PacifiCorp's renewable avoided costs first approved August 19, 2014; Order No. 14-295.

**Figure 4. PacifiCorp Avoided Costs for Baseload Resources.**




**Q. What is the potential downside of leaving the current eligibility cap unchanged?**

A. Other factors could counterbalance the disincentive of lower avoided cost prices, in which case, the current problem might not be mitigated. For example, the investment tax credit could be extended at 30 percent beyond 2016 rather than lowering to ten percent; equipment costs for solar development could decline by a larger share than expected; technology efficiency could improve more rapidly than anticipated. All of these factors, and possibly others, could reduce the impact of lower avoided costs on the pace of QF development. This would leave the door open to larger QF developers continuing to leverage multiple projects receiving payments at the standard avoided cost prices, which leaves ratepayers exposed to increased risk.

**Q. Please summarize Staff's position.**

A. Staff supports QF contracts that include 15 years of fixed avoided cost prices. Staff believes that the current eligibility cap is being taken advantage of by developers of large QFs that should be negotiating prices specific to their entire project, and therefore the cap should be lowered, to a capacity limit of between two and four MW. Staff's recommendation for the lower cap attempts to balance the need to provide a standard contracts and pricing option for QFs without the resources to overcome those barriers, while ensuring that large projects are priced according to their specific characteristics and their impacts on the utility and ratepayers via a negotiated PPA. Alternately, Staff notes that the impact on QF development of the recently reduced avoided cost prices is still largely unknown, and that the Commission would also be justified in retaining the 10 MW eligibility cap.

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

A. Yes.

CREA 1.1 1st Supplemental

Note: Data request response spreadsheet is filtered by Staff for wind and solar QF technologies, and includes columns pertinent to Staff's testimony (sorted by PPA execution date).

| Project Name | Project Owner | Name | Project Type and Fuel Source | Nameplate Capacity (kW) | Date of execution of PPA (Some PPAs are renewals) | Standard or Negotiated PPA |
|---|---|---|---|---|---|---|
| Big Top LLC | Exelon Wind | Richard S. Free | Wind | 1,650 | December 19, 2008 | Standard Contract / Public |
| Butter Creek Power LLC | Exelon Wind | Richard S. Free | Wind | 4,950 | December 19, 2008 | Standard Contract / Public |
| Oregon Trail Windfarm LLC | Oregon Trail Windfarm, LLC | Maurice Miller | Wind | 6,500 | December 19, 2008 | Standard Contract / Public |
| Pacific Canyon Windfarm LLC | Exelon Wind | Richard S. Free | Wind | 8,250 | December 19, 2008 | Standard Contract / Public |
| Sand Ranch Windfarm LLC | Oregon Trail Windfarm, LLC | Maurice Miller | Wind | 9,900 | December 19, 2008 | Standard Contract / Public |
| Wagon Trail LLC | Exelon Wind | Richard S. Free | Wind | 3,300 | December 19, 2008 | Standard Contract / Public |
| Ward Butte Windfarm LLC | Exelon Wind | Richard S. Free | Wind | 6,600 | December 19, 2008 | Standard Contract / Public |
| Four Corners Windfarm LLC | Exelon Wind | Richard S. Free | Wind | 10,000 | June 16, 2009 | Standard Contract / Public |
| Four Mile Canyon Windfarm LLC | Exelon Wind | Richard S. Free | Wind | 10,000 | June 16, 2009 | Standard Contract / Public |
| Threemile Canyon Wind I LLC | Exelon Wind | Richard S. Free | Wind | 10,000 | June 19, 2009 | Standard Contract / Public |
| Mariah Wind | Mariah Wind LLC | Chris Mason | Wind | 10,000 | April 1, 2014 | Standard Contract / Public |
| Orem Family Wind | Orem Family Wind LLC | Eric Orem | Wind | 9,900 | April 1, 2014 | Standard Contract / Public |
| Chopin Wind, LLC | BayWa r.e. | Florian Zerhusen | Wind | 10,000 | May 5, 2014 | Standard Contract / Public |
| Bly Solar Center, LLC | Bly Solar Center, LLC | Andrew Foukal | Solar | 8,500 | July 24, 2014 | Standard Contract / Public |
| Obsidian Renewables LLC - Black Cap Solar II | Obsidian Renewables, LLC | David Brown | Solar | 8,000 | July 24, 2014 | Standard Contract / Public |
| Obsidian Renewables LLC - Ivory Pine Solar | Obsidian Renewables, LLC | David Brown | Solar | 10,000 | July 30, 2014 | Standard Contract / Public |
| Obsidian Renewables LLC - Sprague River Solar | Obsidian Renewables, LLC | David Brown | Solar | 7,000 | July 30, 2014 | Standard Contract / Public |
| Adams Solar Center, LLC | Coronal Energy | Andrew Foukal | Solar | 10,000 | August 7, 2014 | Standard Contract / Public |
| Elbe Solar Center, LLC | Coronal Energy | Andrew Foukal | Solar | 10,000 | August 7, 2014 | Standard Contract / Public |
| Ewauna Solar LLC | OneEnergy Renewables | Bill Eddie | Solar | 825 | August 8, 2014 | Standard Contract / Public |
| Obsidian Renewables LLC - Beatty Solar | Obsidian Renewables, LLC | David Brown | Solar | 5,000 | August 18, 2014 | Standard Contract / Public |
| Norwest Energy 12 LLC (Falvey) | Cypress Creek Renewables | | Solar | 8,000 | May 29, 2015 | Standard Contract / Public |
| Norwest Energy 2 LLC (Neff) | Cypress Creek Renewables | | Solar | 9,900 | May 29, 2015 | Standard Contract / Public |
| Norwest Energy 4 LLC (Bonanza) | Cypress Creek Renewables | | Solar | 6,000 | May 29, 2015 | Standard Contract / Public |
| Norwest Energy 5 LLC (Arlington) | Cypress Creek Renewables | | Solar | 2,900 | May 29, 2015 | Standard Contract / Public |
| Norwest Energy 9 LLC (Pendleton) | Cypress Creek Renewables | | Solar | 9,900 | May 29, 2015 | Standard Contract / Public |
| Ewanua Solar 2 LLC | OneEnergy Renewables | Bill Eddie | Solar | 2,900 | June 5, 2015 | Standard Contract / Public |
| Woodline Solar LLC | Woodline Solar, LLC | William M. Eddie | Solar | 8,000 | June 5, 2015 | Standard Contract / Public |
| OR Solar 1 (Sprague River Solar) | Origis Energy LLC | Samir Verstyn | Solar | 10,000 | June 11, 2015 | Standard Contract / Public |
| OR Solar 2 (Agate Bay Solar) | Origis Energy LLC | Samir Verstyn | Solar | 10,000 | June 11, 2015 | Standard Contract / Public |
| OR Solar 3 (Turkey Hill Solar) | Origis Energy LLC | Samir Verstyn | Solar | 10,000 | June 11, 2015 | Standard Contract / Public |
| OR Solar 4 (Bly Solar) | Origis Energy LLC | Samir Verstyn | Solar | 10,000 | June 11, 2015 | Standard Contract / Public |
| OR Solar 5 (Merrill) | Origis Energy LLC | Samir Verstyn | Solar | 8,000 | June 17, 2015 | Standard Contract / Public |
| OR Solar 6 (Lakeview) | Origis Energy LLC | Samir Verstyn | Solar | 10,000 | June 17, 2015 | Standard Contract / Public |
| OR Solar 7 (Jacksonville) | Origis Energy LLC | Samir Verstyn | Solar | 10,000 | June 17, 2015 | Standard Contract / Public |
| OR Solar 8 (Dairy) | Origis Energy LLC | Samir Verstyn | Solar | 10,000 | June 17, 2015 | Standard Contract / Public |
| Merrill Solar, LLC | Cypress Creek Renewables | | Solar | 10,000 | June 29, 2015 | Standard Contract / Public |
| Norwest Energy 7 LLC (Eagle Point) | Cypress Creek Renewables | | Solar | 9,900 | June 29, 2015 | Standard Contract / Public |
| OSLH - Collier Solar | Oregon Solar Land Holdings, LLC | Troy Snyder | Solar | 10,000 | June 29, 2015 | Standard Contract / Public |
| Bear Creek Solar Center, LLC | Coronal Energy | Andrew Foukal | Solar | 10,000 | August 7, 2015 * | Standard Contract / Public |

*Contract dated August 7, 2014; see Docket RE 142, August 26, 2014 filing.