



1407 West North Temple, Suite 330
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November 2, 2018

***VIA ELECTRONIC FILING
AND OVERNIGHT DELIVERY***

Wyoming Public Service Commission
2515 Warren Avenue, Suite 300
Cheyenne, Wyoming 82002

Attn: Chris Petrie, Chief Counsel

Docket No. 20000-____-EA-18

Record No. _____

**RE: IN THE MATTER OF THE APPLICATION OF ROCKY MOUNTAIN POWER
FOR MODIFICATION OF AVOIDED COST METHODOLOGY AND REDUCED
CONTRACT TERM OF PURPA POWER PURCHASE AGREEMENTS WITH
QUALIFYING FACILITIES**

Dear Mr. Petrie:

In accordance with the Wyoming Public Service Commission's rules, please find enclosed for filing an original and four (4) copies of an application for modifying the avoided cost methodology and a reduction of the contract term for power purchase agreements with qualifying facilities.

Provided on the enclosed CDs are the non-confidential and confidential testimony and exhibits, and workpapers. Enclosed is the Company's filing fee check in the amount of \$5.00.

It is respectfully requested that all formal correspondence and staff requests regarding this matter be addressed to:

By E-mail (preferred): datarequest@pacificorp.com

By regular mail: Data Request Response Center
PacifiCorp
825 NE Multnomah, Suite 2000
Portland, OR 97232

with copies to: Stacy Splittstoesser
Wyoming Regulatory Affairs Manager
Rocky Mountain Power
315 West 27th Street
Cheyenne, WY 82001
Email: stacy.splittstoesser@pacificorp.com

Wyoming Public Service Commission

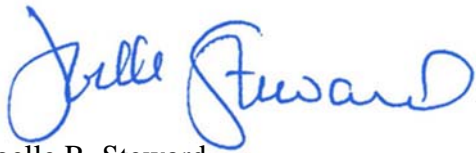
November 2, 2018

Page 2

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Email: jacob.mcdermott@pacificorp.com

Informal inquiries related to this application may be directed to Stacy Splittstoesser,
(307) 632-2677.

Sincerely,



Joelle R. Steward
Vice President, Regulation

Enclosures

cc: Wyoming Industrial Energy Consumers
Wyoming Office of Consumer Advocate
Northern Laramie Range Alliance

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Attorneys for Rocky Mountain Power

BEFORE THE WYOMING PUBLIC SERVICE COMMISSION

| | | |
|--|---|-----------------------------|
| IN THE MATTER OF THE APPLICATION OF |) | |
| ROCKY MOUNTAIN POWER FOR |) | DOCKET NO. 20000-____-EA-18 |
| MODIFICATION OF AVOIDED COST |) | |
| METHODOLOGY AND REDUCED |) | Record No. _____ |
| CONTRACT TERM OF PURPA POWER |) | |
| PURCHASE AGREEMENTS WITH |) | |
| QUALIFYING FACILITIES |) | |

PacifiCorp, doing business as Rocky Mountain Power (“Rocky Mountain Power” or “Company”), hereby respectfully requests an order from the Public Service Commission of Wyoming (“Commission”) approving a change to the maximum contract term for prospective power purchase agreements (“PPA”) with qualifying facilities (“QF”) under the Public Utility Regulatory Policies Act of 1978 (“PURPA”). The Company further requests an order approving modifications to the Company’s avoided cost methodology used for tariff Schedule 37 “Avoided Cost Purchases from Qualifying Facilities” and tariff Schedule 38 “Avoided Cost Purchases from Non-Standard Qualifying Facilities”, and approving certain clarifying changes to those tariff schedules. In support of this application (“Application”), the Company states as follows:

I. INTRODUCTION

1. Rocky Mountain Power is a division of PacifiCorp. PacifiCorp is an Oregon

corporation that provides electric service to retail customers through its Rocky Mountain Power division in the states of Wyoming, Utah, and Idaho and through its Pacific Power division in the states of Oregon, California, and Washington.

2. Rocky Mountain Power is a public utility in the state of Wyoming and is subject to the Commission's jurisdiction with respect to its prices and terms of electric service to retail customers in Wyoming. Rocky Mountain Power's principal place of business in Wyoming is 2840 E. Yellowstone Highway, Casper, Wyoming 82602.

3. This Application is filed pursuant to Wyoming Statutes § 37-2-112 and Commission Rule Chapter 3, Section 35, which provide the Commission with the authority and power to supervise and regulate public utilities subject to its jurisdiction and to establish the terms and conditions of PPAs with QFs under PURPA.

4. The Company requests that all notices, correspondence and pleadings with respect to this Application be sent to:

Stacy Splittstoesser
Wyoming Regulatory Affairs Manager
Rocky Mountain Power
315 W. 27th St.
Cheyenne, Wyoming 82001
Email: stacy.splittstoesser@pacificorp.com

Jacob A. McDermott
Senior Counsel
Rocky Mountain Power
1407 W. North Temple, Suite 320
Salt Lake City, Utah 84116
Email: jacob.mcdermott@pacificorp.com

In addition, formal correspondence and requests for additional information regarding this matter should be addressed to:

By email (preferred): datarequest@pacificorp.com

By regular mail: Data Request Response Center
PacifiCorp
825 NE Multnomah, Suite 200
Portland, Oregon 97232

Informal inquiries related to this Application should be directed to Stacy Splittstoesser, Wyoming Regulatory Affairs Manager, at (307) 632-2677.

II. BACKGROUND

5. Over four decades have passed since 1978 when Congress enacted PURPA in response to the energy crisis of the 1970's. At that time, there was concern that traditional sources of energy were "simply running out."¹ One of the main legislative goals of PURPA was to address this concern through reducing dependence on imported fuels by providing a mechanism to allow cogeneration and small power production facilities to interconnect with the utility's transmission system and to sell their power to those utilities.

6. In the many years since PURPA's passage, the nation's energy industry has experienced massive change. Instead of realizing the fears of the 1970's that the nation's traditional energy sources would face severe shortages, technological innovations have opened up new avenues for energy exploration and production, and now domestic energy supplies are abundant. At the same time, renewable energy from wind and solar generators, which were, in the 1970's, considered nontraditional sources of energy, have become increasingly less expensive. Renewable energy is now so widely utilized that it is considered by most to be a "mainstream" supply option. Since its passage four decades ago, PURPA's mandates have not been updated to account for these

¹ Jimmy Carter, "Address to the Nation on Energy," April 18, 1977, viewable at <http://www.presidency.ucsb.edu/ws/index.php?pid=7369>.

dramatic changes, with the exception of a few changes applicable only in regions covered by organized wholesale electricity markets.²

7. Section 210 of PURPA established a program of cooperative federalism, wherein Congress directed the Federal Energy Regulatory Commission (“FERC”) to establish rules “to encourage cogeneration and small power production,” in part, by establishing a “must purchase” obligation whereby electric utilities are required to purchase all electric energy made available by QFs. The state commissions are then responsible for implementing PURPA’s requirements in a manner consistent with FERC’s regulations.

8. Under PURPA and FERC’s “must purchase” obligation, rates paid to QFs by utilities must; (a) be just and reasonable to electric consumers, (b) not discriminate against QFs, and (c) not exceed “the incremental costs to the electric utility of alternative electric energy.”³ The incremental cost to the utility means the amount it would otherwise cost the utility to generate or purchase the electric energy that PURPA mandates it purchase from the QF.⁴ Congress’s intent in imposing this incremental cost standard was to ensure that a utility’s ratepayers be “at least

² See, Energy Policy Act of 2005, 42 USC § 13201 et seq. (2005).

³ 16 U.S.C. § 824a-3 provides in pertinent part:

(b) Rates for purchases by electric utilities

The rules prescribed under subsection (a) of this section shall insure that, in requiring any electric utility to offer to purchase electric energy from any qualifying cogeneration facility or qualifying small power production facility, the rates for such purchase—

- (1) shall be just and reasonable to the electric consumers of the electric utility and in the public interest, and
- (2) shall not discriminate against qualifying cogenerators or qualifying small power producers.

No such rule prescribed under subsection (a) of this section shall provide for a rate which exceeds the incremental cost to the electric utility of alternative electric energy.

⁴ 16 U.S.C. § 824a-3(d) provides the following definition of “incremental cost of alternative electric energy”:

For purposes of this section, the term “incremental cost of alternative electric energy” means, with respect to electric energy purchased from a qualifying cogenerator or qualifying small power producer, the cost to the electric utility of the electric energy which, but for the purchase from such cogenerator or small power producer, such utility would generate or purchase from another source.

indifferent” to whether power was purchased from a QF or from another utility source.⁵ This customer indifference requirement is codified in FERC’s PURPA rules under the term “avoided costs.”⁶

III. PACIFICORP’S 2015 PURPA APPLICATION

9. On August 26, 2015 the Company filed an application with the Commission to modify the contract term length of its firm QF PPAs.⁷ The Company requested that the term length for those QF PPAs be reduced from 20 years to three in order to mitigate the risks to customers of fixing prices over such a long-term, which could result in payments to QFs that are greater than avoided costs for extended periods. This risk was heightened because the Company was experiencing a surge in QF projects at the time, which has continued and intensified since the previous filing.

10. In its 2015 PURPA Application, the Company stated that the need for a shorter term length was due to several factors. First and foremost, it was due to the rapid growth of QF pricing requests on PacifiCorp’s system. With that rapid growth, the Company reasoned, came a corresponding growth in the risk to customers that the 20-year PPAs would become uneconomic if prices for electricity declined in the future. The Company also provided evidence that the must purchase obligation when coupled with intermittent renewable energy sources limited its flexibility to provide the least-cost, most reliable service.

11. In its June 23, 2016 Order on the 2015 PURPA Application the Commission denied the Company’s application to reduce the QF PPA term length.⁸ In that order, the Commission

⁵ See, e.g., *Armco Advanced Materials Corp. v. Pennsylvania Pub. Util. Comm’n*, 535 Pa. 108, 634 A.2d 207, 209 (Pa. 1993).

⁶ See 18 C.F.R. § 292.304.

⁷ See, Wyo. P.S.C., Docket No. 20000-481-EA-15, Record No. 14220 (hereinafter referred to as the “2015 PURPA Application”).

⁸ See, Wyo. P.S.C. *Memorandum Opinion, Findings of Fact, Decision and Order*, Docket No. 20000-481-EA-15, Record No. 14220, June 23, 2016. (referred to herein as the “June 2016 PURPA Order”).

found that, while many of the problems demonstrated by the Company needed to be addressed, the Company had not met its burden to show that its proposed changes, including a three-year maximum term length was the correct solution for Wyoming ratepayers. The Commission based this finding, in part, on the fact that the surge in QF applications the Company was experiencing at the time was primarily in other states where the Company operated.⁹ The Commission was also concerned that adopting the Company's proposed three-year term length would discourage QF development in Wyoming.¹⁰

12. Since the Commission's June 2016 PURPA Order, the Company has experienced a higher level of QF applications in Wyoming than in the other states in which it operates. The financial markets and their support for renewable energy have also evolved since the order, and the Company provides evidence with this Application that renewable projects can be financed with terms of less than 20 years. While this new information supports revisiting the issue of term length, many of the risks to ratepayer indifference that prompted the Company's August, 16, 2015 application continue largely unabated.

13. In its June 2016 PURPA Order, the Commission it recognized that there were problems with Wyoming's PURPA implementation. At that time, the Commission was not convinced that the Company had met its burden to show that the solutions it proposed would reasonably address those problems.¹¹ Instead, the Commission directed the Company to initiate a collaborative process with relevant stakeholders to "allow the Company to propose a solution that could be harmonized with the QF procedures in other states, as opposed the proposals in this

⁹ *Id.* at ¶¶ 50-51.

¹⁰ *Id.* at ¶ 96.

¹¹ *Id.* at ¶¶ 96-97, (concluding that, while RMP did not meet its burden to show the solutions it proposed would address the problems, if some progress was to be made it was more likely to result from negotiation).

docket, which would at best be a partial response to changes already made elsewhere in RMP's system."¹²

14. Unfortunately, the collaborative the Company was directed to initiate in the June 2016 PURPA Order failed to produce substantive changes or solutions to the problems identified by the Company and acknowledged by the Commission. In its October 25, 2017 letter terminating the collaborative the Company stated that “[d]espite best efforts to arrive at a compromise, the participants have reached an impasse in the negotiations. The Company is hereby notifying the Commission that discussions amongst the participants in the collaborative will no longer be pursued and the Company is planning to file a new application to address the PPA term length and avoided cost calculation methodology in the near future.”¹³

15. As the Company committed in its collaborative termination letter, in this Application the Company proposes solutions to many of the problems not remedied through the collaborative, the solutions include: (a) setting the maximum QF PPA term length for firm energy and capacity to seven years; (b) refinements to the Partial Displacement Differential Revenue Requirement (“PDDRR”) methodology that the Company uses to set avoided costs under Wyoming Schedule 38; (c) utilizing the PDDRR to set rates under Schedule 37; (d) revising the on-peak and off-peak definitions found in Schedule 37 to better align with the high and low cost periods that the Company experiences on its system; and (e) clarifications to both Schedule 37 and Schedule 38 to improve the pricing and PPA negotiation process.¹⁴

¹² *Id.* at ¶ 78.

¹³ *See* Docket No. 20000-481-EA-15, Record No. 14220, Company, *QF Termination Letter* (October 25, 2017).

¹⁴ *See*, Application Exhibit 1, (clean versions of the Schedules 37 and 38 tariff sheets including the changes proposed by the Company); *and see*, Application Exhibit 2 (redline versions of the Schedules 37 and 38 tariff sheets showing the changes proposed by the Company against the currently effective tariff sheets).

IV. COMMISSION AUTHORITY UNDER PURPA

16. While PURPA rules and regulations set boundaries for state implementation regarding the “must purchase” obligation, customer indifference and avoided cost, within those boundaries state regulatory commissions are afforded a “wide degree of latitude” to determine the state’s PURPA policies.¹⁵ In granting states this latitude, FERC recognized that the “economic and regulatory circumstances vary from State to State and utility to utility.”¹⁶ Therefore, states have the clear authority “within limits established by federal minimum standards, to enact and administer their own regulatory programs, structured to meet their own particular needs.”¹⁷

17. The rates a utility pays QFs must be just and reasonable to consumers and in the public interest, but also must not discriminate against QFs.¹⁸ Pursuant to Commission Rule, Chapter 3, Section 35(c), the Commission is responsible for determining a utility’s avoided cost and setting appropriate QF rates. Also, as the Commission determined in the June 2016 PURPA Order, “Federal and State law are silent on the issue of duration of the PURPA QF Contract Term. No statute or rule prescribes a minimum term for QF PPAs.”¹⁹ All that FERC’s PURPA regulations require is that QFs have the option to sell their output “over a specified term,” without dictating to states what that term must be.²⁰ Indeed, the term varies drastically even between the states in which the Company provides electric service, in Idaho, for example, it is only two years.²¹ It is worth noting that FERC has not stepped in to rule that any of these varied maximum terms violate its

¹⁵ 23 FERC P 61304, at P 6146.

¹⁶ *Order No. 69*, 45 Fed. Reg. at 12,231.

¹⁷ *FERC v. Mississippi*, 456 U.S. 742, at p. 767 (quoting from *Hodel v. Virginia Surface Mining & Recl. Assn.*, 452 U.S. 264, at 289).

¹⁸ See 16 U.S.C. § 824a-3(b); 18 C.F.R. § 292.304; *Am. Paper Inst.*, 461 U.S. at 404-05; and Commission Rule, Chapter 3, Section 35(e).

¹⁹ June 2016 PURPA Order, at ¶¶ 94-95.

²⁰ 18 C.F.R. §292.304(d).

²¹ *Order on Reconsideration, In the Matter of Idaho Power Company’s Petition to Modify Terms and Conditions of PURPA Purchase Agreements*, Case No. IPC-E-15-01, Order 33419 (Nov. 5, 2015).

PURPA regulations, which demonstrates the “wide latitude” that this Commission has in determining the appropriate ways to implement PURPA in Wyoming.

18. The contract term is a critical element of the Commission’s implementation of the Company’s Wyoming must-purchase requirement because FERC generally requires a utility to lock in forecasted avoided cost rates for the entire contract term.²² FERC has explained that it believes imperfections found in the avoided cost methodology should, if set correctly, balance out between overestimation and underestimation.²³ Again, PURPA and FERC regulations are silent as to the length of QF contracts, which leaves it to this Commission to determine what term will most likely achieve an appropriate balance for Wyoming customers. FERC has not spoken directly to the issue of setting an appropriate contract length, except for a few limited cases.²⁴

19. The Commission has stated its concern with extended contract lengths in past cases. Specifically in Docket No. 20000-388-EA-11, in its Memorandum Opinion, Findings and Order issued on November 4, 2011 at paragraph 62,

“The Commission shares RMP’s concern that the effect of allowing extended contract terms, in some cases up to 40 years, has the effect of locking ratepayers into paying set contract prices for a 40-year period, which would not be the case with a utility-owned facility. Based on this “lock-in” possibility, The Commission finds a QF contract with a term length beyond 20 years may be unwise and may expose the Company and its customers to enhanced risk.”

The Company has determined that with current market conditions and with outdated PURPA regulations, this contract term length risk should be ameliorated by setting the maximum term length to seven years.

²² See *Small Power Production and Cogeneration Facilities; Regulations Implementing Section 210 of PURPA*, 45 Fed. Reg. 12214, 12224 (1980).

²³ *Id.*

²⁴ For example, FERC has stressed a need for certainty with regard to return on investment in new technologies and for allowing for varying contract lengths based on other contract factors. See, e.g., *Cal. Pub. Util. Comm’n*, 133 FERC ¶ 61,059.

20. The Commission has the authority to ensure that the ratepayer indifference standard includes its determination of the appropriate avoided cost methodology, *and* other terms and conditions of QF PPAs. The modifications to the term length of QF PPAs proposed by the Company here, as well as its proposed modifications to the avoided cost methodology are well within the Commission's authority, and indeed are the key elements of PURPA that Congress and FERC left to Wyoming to implement to ensure that customers would be protected from excessive risks, given Wyoming's specific economic and regulatory circumstances.

21. The reasonable change to QF PPA term length and the avoided cost changes proposed by the Company in this Application are not mutually exclusive. Instead they operate as a package that, if approved, will help ensure that the Company's ratepayers do not pay more than the Company's avoided costs, while still giving QFs a fair opportunity to finance their projects and sell power to the Company. The Commission's ability to adjust the avoided cost methodology, and contract terms are the key tools FERC provided Wyoming to ensure that PURPA is implemented in a manner that remains just and reasonable, and in the public interest. Judicious use of these tools is necessary as the facts and circumstances in Wyoming change over time.

V. CHANGES TO QF PPA TERM LENGTH

22. Company witness Mark P. Tourangeau discusses the Company's proposal to set the maximum QF PPA term length to seven years. Mr. Tourangeau describes how, unlike the Company's resource planning process, the QF process does not consider whether the Company is acquiring least-cost, least-risk resources, therefore fails to fully consider the impacts QFs will have on transmission, pricing, and the Company's efficient dispatch of resources. Mr. Tourangeau goes on to demonstrate that PURPA's "must take" obligation leads to inefficient dispatch of Company resources, and may prevent full realization of the benefits that customers receive from the Energy

Imbalance Market. He also describes how these negative impacts are inconsistent with PURPA's customer indifference principle.

23. Mr. Tourangeau then describes how the market for renewable energy resources has evolved over time, such that there are now additional opportunities for renewable development through utility sponsored solicitations, and through individual customers that seek to meet 100 percent renewable energy goals. Mr. Tourangeau also extensively reviews the many options for financing that are currently available to renewable developers, including financing opportunities at PPA terms of less than 20 years. He thereby demonstrates that setting a maximum QF PPA term of seven years will continue to allow QFs reasonable opportunities to access capital from potential investors, which is wholly consistent with PURPA's requirements.

24. Finally, Mr. Tourangeau discusses how many of PURPA's central purposes have been largely achieved through PURPA's requirements, the evolution of electricity markets, federal and state policies, and technological innovations. Mr. Tourangeau then discusses how Wyoming's implementation of PURPA can be improved by adopting a seven year maximum PPA term length and striking a better balance between two of PURPA's principal requirements—ensuring customers are indifferent to the impact of QFs that enter into PPAs with the Company, and continuing to provide QFs reasonable opportunities to develop their facilities, finance them and then sell their output to the Company in Wyoming.

VI. IMPROVEMENTS TO AVOIDED COST PRICING METHODOLOGY AND TARIFF SCHEDULES 37 AND 38

25. Company witness Daniel J. MacNeil discusses the Company's proposed refinements to the PDDRR methodology used to set avoided costs in Wyoming. Mr. MacNeil discusses deferring cost-effective renewable resources identified in the Company's IRP. Specifically, Mr. MacNeil proposes that when the Company's IRP preferred portfolio includes

renewable resources to meet system load that are the same type as a QF project, the forecast of avoided capacity costs would be based on the assumed fixed costs of that next deferrable renewable resource of the same type. This change in the methodology will lead to more accurate avoided cost pricing for QFs and thereby benefit customers.

26. The Company is also proposing that the same PDDRR methodology used to develop prices for QFs under Schedule 38 be utilized to develop standard pricing under Schedule 37, rather than using a spreadsheet model with adjustments by resource type. Mr. MacNeil describes how the PDDRR methodology does a better job of capturing the specific operational characteristics of different resource types and the aggregate effects of the Company's system than the current Schedule 37 methodology. The PDDRR methodology should be adopted for Schedule 37 avoided cost pricing as more consistent with the customer indifference standard, because, as explained by Mr. MacNeil, it will more accurately reflect the Company's avoided costs.

27. The Company also proposes changes to the definitions of on-peak and off-peak hours in Schedule 37. Mr. MacNeil describes how the current definitions no longer accurately captures the high and low price periods on the Company's system. Mr. MacNeil then demonstrates how the revised definitions better capture these periods, and that the change will ensure that QFs are paid the higher on-peak avoided cost prices when their output is truly more valuable to customers, which again better meets PURPA's customer indifference principle.

28. Finally, the Company proposes several clarifying improvements to Schedules 37 and 38 to ensure transparency in avoided cost pricing requests and PPA negotiation and execution procedures. Mr. Tourangeau discusses these proposed changes to Schedule 38 in his testimony, which include (i) clarifying language that more directly states when the Company provides a pro-forma PPA it does not mean the QF is at the PPA negotiation phase; (ii) clarifying language that

the Company has the right to update pricing any time prior to execution and filing of the PPA with the Commission; (iii) adding specific tariff provisions that the QF commercial operation date (“COD”) (or the start of the delivery term of subsequent PPAs for existing QFs) must not exceed 30 months from the PPA execution date, and that a QF must provide project development security within 30 days of its PPA being filed with the Commission. These improvements to Schedule 38 will provide more information to prospective QFs, so they better understand the Company’s practices, and may help to eliminate some areas for potential dispute between QFs and the Company.²⁵

29. Mr. Tourangeau also discusses the clarifying changes to Schedule 37 including, (i) adding language so that QFs understand that, after acquiring 10 MW of Firm Power under Schedule 37, pricing for QFs larger than 100 kW will be in accordance with Schedule 38 until prices are updated and approved by the Commission, and (ii) adding language to make it clear that PPA negotiations will be carried out in accordance with the PPA negotiation requirements detailed in Schedule 38. The Company’s proposed Schedule 37 changes more explicitly state the Company’s existing practices which will provide an informational benefit to QFs, and, because the changes rely on reference to the Schedule 38 procedures, QFs will also benefit from the improvements that the Company proposes to Schedule 38.²⁶

WHEREFORE, the Company respectfully requests the Commission issue an order:

1. Approving a maximum fixed-price term for QF PPAs of seven years for any QF that qualifies under the Company’s Schedules 37 and 38;

²⁵ See, Application Exhibit 1, (clean versions of the Schedules 37 and 38 tariff sheets including the changes proposed by the Company); and see, Application Exhibit 2 (redline versions of the Schedules 37 and 38 tariff sheets showing the changes proposed by the Company against the currently effective tariff sheets).


²⁶ *Id.*

2. Approving the Company's proposed changes to its methodology for the calculation of avoided costs for qualifying facilities under Schedule 38;
3. Approving the Company's proposed changes to its methodology for the calculation of avoided costs for qualifying facilities under Schedule 37;
4. Approving the Company's proposed change to the definitions of on-peak and off-peak hours in Schedule 37;
5. Approving the Company's proposed clarifying changes to Schedules 37 and 38; and
6. Granting such other relief as the Commission deems just and appropriate.

DATED this 2nd day of November, 2018.

Respectfully submitted,

ROCKY MOUNTAIN POWER



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Exhibit 1

Revisions to Schedule 37 and Schedule 38

Clean

ROCKY MOUNTAIN POWER

Third Revision of Sheet No. 37-1
Canceling Second Revision of Sheet No. 37-1

P.S.C. Wyoming No. 16

Avoided Cost Purchases from Qualifying Facilities Schedule 37

Available

To owners of Qualifying Facilities in all territory served by the Company in the State of Wyoming.

Applicable

Applicable to the purchase by the Company of all non-firm energy produced by Qualifying Facilities over which the Commission has jurisdiction, prior to commercial operation and subject to a power sales contract. After commercial operation is achieved, Qualifying Facilities will receive firm power prices.

Applicable to firm power purchases from: 1) Qualifying Facilities with a historic or projected annual capacity factor of up to 70%, and a design capacity of up to 1 MW; 2) hydro projects with design capacity up to 5 MW; and hydro or other projects with a historic or projected annual capacity factor of greater than 70%, up to a maximum of 10 MW of average monthly capacity and associated. Owners of these Qualifying Facilities are required to enter into a written power sales contract with the Company.

Rates for Purchases

Non-firm Energy

The prices shown below are subject to change from time to time to reflect changes in the Company's determination of avoided costs. The prices applicable to a Wyoming Qualifying Facility over which the Commission has jurisdiction shall be those in effect at the time the power is delivered.

| Deliveries Year | Base Load QF Non-Firm Energy Prices | | | |
|--------------------|-------------------------------------|-----------------|------------------------|-----------------|
| | On-Peak Energy Prices | | Off-Peak Energy Prices | |
| | Winter ¢/kWh | Summer ¢/kWh | Winter ¢/kWh | Summer ¢/kWh |
| 2019 | 2.08 | 3.36 | 1.14 | 1.57 |
| 2020 | 2.10 | 3.20 | 1.16 | 1.53 |
| 2021 | 1.83 | 2.28 | 0.99 | 1.16 |
| 2022 | 1.82 | 2.39 | 0.99 | 1.21 |

(continued)

Issued by
Joelle R. Steward, Vice President, Regulation

Issued: November 2, 2018

Effective: With service rendered
on and after _____

ROCKY MOUNTAIN POWER

Second Revision of Sheet No. 37-2
Canceling First Revision of Sheet No. 37-2

P.S.C. Wyoming No. 16

Avoided Cost Purchases from Qualifying Facilities Schedule 37

Rates for Purchases

Non-firm Energy *(continued)*

| Deliveries Year | Wind QF Non-Firm Energy Prices | | | |
|--------------------|--------------------------------|-----------------|------------------------|-----------------|
| | On-Peak Energy Prices | | Off-Peak Energy Prices | |
| | Winter ¢/kWh | Summer ¢/kWh | Winter ¢/kWh | Summer ¢/kWh |
| 2019 | 1.53 | 2.46 | 0.87 | 1.14 |
| 2020 | 1.56 | 2.39 | 0.90 | 1.13 |
| 2021 | 0.82 | 1.03 | 0.47 | 0.52 |
| 2022 | 1.01 | 1.34 | 0.57 | 0.68 |

| Deliveries Year | Fixed Solar QF Non-Firm Energy Prices | | | |
|--------------------|---------------------------------------|-----------------|------------------------|-----------------|
| | On-Peak Energy Prices | | Off-Peak Energy Prices | |
| | Winter ¢/kWh | Summer ¢/kWh | Winter ¢/kWh | Summer ¢/kWh |
| 2019 | 2.23 | 3.59 | 1.20 | 1.69 |
| 2020 | 2.25 | 3.38 | 1.20 | 1.61 |
| 2021 | 1.67 | 2.07 | 0.89 | 1.06 |
| 2022 | 1.81 | 2.33 | 0.95 | 1.19 |

| Deliveries Year | Tracking Solar QF Non-Firm Energy Prices | | | |
|--------------------|--|-----------------|------------------------|-----------------|
| | On-Peak Energy Prices | | Off-Peak Energy Prices | |
| | Winter ¢/kWh | Summer ¢/kWh | Winter ¢/kWh | Summer ¢/kWh |
| 2019 | 2.41 | 3.85 | 1.24 | 1.82 |
| 2020 | 2.39 | 3.58 | 1.23 | 1.71 |
| 2021 | 1.85 | 2.28 | 0.94 | 1.16 |
| 2022 | 1.92 | 2.44 | 0.97 | 1.25 |

(continued)

Issued by
Joelle R. Steward, Vice President, Regulation

Issued: November 2, 2018

Effective: With service rendered
on and after _____

ROCKY MOUNTAIN POWER

Second Revision of Sheet No. 37-3
Canceling First Revision of Sheet No. 37-3

P.S.C. Wyoming No. 16

Avoided Cost Purchases from Qualifying Facilities Schedule 37

Firm Power Time of Delivery

The prices shown below are subject to change from time to time to reflect changes in the Company's determination of Wyoming avoided costs. The prices applicable to a Qualifying Facility over which the Commission has jurisdiction will be those in effect at the time a written contract acceptable to the Company is signed on behalf of the Qualifying Facility and received by the Company at 825 N. E. Multnomah Street, Portland, Oregon, 97232, or such other address as the Company later designates. These prices will be applied to Qualifying Facility resources over which the Commission has jurisdiction that enter into contracts with the Company until 10 megawatts of system resources are acquired. After the Company acquires those 10 megawatts of system resources, then the Company will provide prices to Qualifying Facility resources over 100 kilowatts as set forth in Schedule 38 until the Schedule 37 prices are updated and approved by the Commission.

| Deliveries Year | Base Load QF Firm Energy Prices | | | |
|--------------------|---------------------------------|-----------------|------------------------|-----------------|
| | Peak Energy Prices | | Off-Peak Energy Prices | |
| | Winter ¢/kWh | Summer ¢/kWh | Winter ¢/kWh | Summer ¢/kWh |
| 2019 | 2.08 | 3.36 | 1.14 | 1.57 |
| 2020 | 2.10 | 3.20 | 1.16 | 1.53 |
| 2021 | 1.83 | 2.28 | 0.99 | 1.16 |
| 2022 | 1.82 | 2.39 | 0.99 | 1.21 |
| 2023 | 1.91 | 2.49 | 1.04 | 1.25 |
| 2024 | 2.38 | 3.36 | 1.31 | 1.68 |
| 2025 | 2.59 | 3.84 | 1.42 | 1.94 |
| 2026 | 2.83 | 4.12 | 1.55 | 2.12 |
| 2027 | 2.84 | 4.19 | 1.55 | 2.16 |
| 2028 | 4.15 | 6.02 | 2.27 | 3.10 |
| 2029 | 4.84 | 6.95 | 2.66 | 3.60 |
| 2030 | 5.13 | 7.33 | 2.83 | 3.83 |
| 2031 | 5.35 | 7.44 | 2.95 | 3.89 |

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Second Revision of Sheet No. 37-4
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P.S.C. Wyoming No. 16

Avoided Cost Purchases from Qualifying Facilities Schedule 37

Rates for Purchases Firm Power Time of Delivery *(continued)*

| Deliveries Year | Base Load QF Firm Energy Prices | | | |
|--------------------|---------------------------------|-----------------|------------------------|-----------------|
| | Peak Energy Prices | | Off-Peak Energy Prices | |
| | Winter ¢/kWh | Summer ¢/kWh | Winter ¢/kWh | Summer ¢/kWh |
| 2032 | 5.70 | 8.00 | 3.13 | 4.20 |
| 2033 | 5.90 | 8.29 | 3.26 | 4.36 |
| 2034 | 5.89 | 8.15 | 3.25 | 4.29 |
| 2035 | 6.16 | 8.68 | 3.39 | 4.56 |
| 2036 | 6.27 | 8.92 | 3.46 | 4.71 |
| 2037 | 6.42 | 9.08 | 3.53 | 4.79 |
| 2038 | 6.58 | 9.24 | 3.62 | 4.87 |
| 2039 | 6.70 | 9.43 | 3.70 | 4.97 |
| 2040 | 6.87 | 9.55 | 3.80 | 5.04 |
| 2032 | 5.70 | 8.00 | 3.13 | 4.20 |

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Avoided Cost Purchases from Qualifying Facilities Schedule 37

Rates for Purchases

Firm Power Time of Delivery *(continued)*

| Deliveries Year | Wind QF Firm Energy Prices | | Off-Peak Energy Prices | |
|--------------------|---------------------------------------|-----------------|------------------------|-----------------|
| | Peak Energy Prices Winter ¢/kWh | Summer ¢/kWh | Winter ¢/kWh | Summer ¢/kWh |
| 2019 | 1.53 | 2.46 | 0.87 | 1.14 |
| 2020 | 1.56 | 2.39 | 0.90 | 1.13 |
| 2021 | 0.82 | 1.03 | 0.47 | 0.52 |
| 2022 | 1.01 | 1.34 | 0.57 | 0.68 |
| 2023 | 1.12 | 1.48 | 0.64 | 0.74 |
| 2024 | 1.29 | 1.81 | 0.74 | 0.91 |
| 2025 | 1.37 | 2.03 | 0.78 | 1.03 |
| 2026 | 1.53 | 2.23 | 0.87 | 1.14 |
| 2027 | 1.69 | 2.49 | 0.96 | 1.28 |
| 2028 | 3.52 | 5.12 | 2.01 | 2.62 |
| 2029 | 4.10 | 5.90 | 2.35 | 3.05 |
| 2030 | 5.66 | 8.12 | 3.26 | 4.24 |
| 2031 | 6.00 | 8.35 | 3.44 | 4.35 |
| 2032 | 6.14 | 8.67 | 3.52 | 4.54 |
| 2033 | 6.37 | 8.99 | 3.67 | 4.71 |
| 2034 | 6.40 | 8.90 | 3.67 | 4.65 |
| 2035 | 6.44 | 9.13 | 3.69 | 4.77 |
| 2036 | 6.51 | 9.31 | 3.75 | 4.89 |
| 2037 | 6.68 | 9.52 | 3.84 | 5.01 |
| 2038 | 6.83 | 9.69 | 3.92 | 5.08 |
| 2039 | 6.96 | 9.87 | 4.02 | 5.18 |
| 2040 | 7.13 | 10.00 | 4.11 | 5.24 |
| 2019 | 1.53 | 2.46 | 0.87 | 1.14 |

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Avoided Cost Purchases from Qualifying Facilities Schedule 37

Rates for Purchases

Firm Power Time of Delivery *(continued)*

| Deliveries Year | Fixed Solar QF Firm Energy Prices | | | |
|--------------------|-----------------------------------|-----------------|------------------------|-----------------|
| | Peak Energy Prices | | Off-Peak Energy Prices | |
| | Winter ¢/kWh | Summer ¢/kWh | Winter ¢/kWh | Summer ¢/kWh |
| 2019 | 2.23 | 3.59 | 1.20 | 1.69 |
| 2020 | 2.25 | 3.38 | 1.20 | 1.61 |
| 2021 | 1.67 | 2.07 | 0.89 | 1.06 |
| 2022 | 1.81 | 2.33 | 0.95 | 1.19 |
| 2023 | 1.84 | 2.32 | 0.96 | 1.18 |
| 2024 | 2.13 | 2.89 | 1.13 | 1.47 |
| 2025 | 2.31 | 3.30 | 1.22 | 1.70 |
| 2026 | 2.51 | 3.50 | 1.31 | 1.82 |
| 2027 | 2.52 | 3.57 | 1.31 | 1.86 |
| 2028 | 3.58 | 4.96 | 1.86 | 2.58 |
| 2029 | 4.25 | 5.88 | 2.24 | 3.09 |
| 2030 | 5.81 | 8.05 | 3.09 | 4.26 |
| 2031 | 6.19 | 8.32 | 3.27 | 4.40 |
| 2032 | 6.34 | 8.52 | 3.31 | 4.52 |
| 2033 | 5.78 | 7.84 | 3.06 | 4.16 |
| 2034 | 6.12 | 8.13 | 3.20 | 4.31 |
| 2035 | 6.19 | 8.34 | 3.24 | 4.42 |
| 2036 | 6.60 | 9.07 | 3.49 | 4.84 |
| 2037 | 6.90 | 9.25 | 3.57 | 4.93 |
| 2038 | 7.08 | 9.42 | 3.66 | 5.00 |
| 2039 | 7.12 | 9.62 | 3.74 | 5.12 |
| 2040 | 7.38 | 9.76 | 3.84 | 5.18 |

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Avoided Cost Purchases from Qualifying Facilities Schedule 37

Rates for Purchases

Firm Power Time of Delivery *(continued)*

| Deliveries Year | Tracking Solar QF Firm Energy Prices | | | |
|--------------------|--------------------------------------|-----------------|------------------------|-----------------|
| | Peak Energy Prices | | Off-Peak Energy Prices | |
| | Winter ¢/kWh | Summer ¢/kWh | Winter ¢/kWh | Summer ¢/kWh |
| 2019 | 2.41 | 3.85 | 1.24 | 1.82 |
| 2020 | 2.39 | 3.58 | 1.23 | 1.71 |
| 2021 | 1.85 | 2.28 | 0.94 | 1.16 |
| 2022 | 1.92 | 2.44 | 0.97 | 1.25 |
| 2023 | 1.93 | 2.40 | 0.97 | 1.22 |
| 2024 | 2.27 | 3.06 | 1.16 | 1.55 |
| 2025 | 2.57 | 3.62 | 1.30 | 1.87 |
| 2026 | 2.69 | 3.71 | 1.34 | 1.93 |
| 2027 | 2.70 | 3.78 | 1.35 | 1.97 |
| 2028 | 3.76 | 5.13 | 1.86 | 2.67 |
| 2029 | 4.38 | 6.00 | 2.22 | 3.15 |
| 2030 | 6.39 | 8.76 | 3.27 | 4.63 |
| 2031 | 6.83 | 9.07 | 3.45 | 4.79 |
| 2032 | 6.95 | 9.22 | 3.48 | 4.88 |
| 2033 | 6.39 | 8.57 | 3.24 | 4.55 |
| 2034 | 6.82 | 8.94 | 3.41 | 4.74 |
| 2035 | 6.89 | 9.15 | 3.46 | 4.85 |
| 2036 | 7.32 | 9.93 | 3.71 | 5.29 |
| 2037 | 7.66 | 10.12 | 3.80 | 5.39 |
| 2038 | 7.86 | 10.31 | 3.89 | 5.48 |
| 2039 | 7.90 | 10.54 | 3.98 | 5.60 |
| 2040 | 8.20 | 10.69 | 4.09 | 5.68 |

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Avoided Cost Purchases from Qualifying Facilities Schedule 37

Green Tags

The Company retains Green Tags for the benefit of customers without any additional payment when it buys power from a QF resource. If a qualifying facility contract ends or is terminated, the Green Tags revert to the qualifying facility project until the developer sells or transfers the Green Tags to another purchaser.

Definitions

Cogeneration Facility

A facility which produces electric energy together with steam or other forms of useful energy (such as heat) which are used for industrial, commercial, heating or cooling purposes through the sequential use of energy.

Qualifying Facilities

Qualifying cogeneration facilities or qualifying small power production facilities within the meaning of section 201 and 210 of the Public Utility Regulatory Policies Act of 1978 (PURPA), 16 U.S.C. 796 and 824a-3.

Small Power Production Facility

A facility which produces electric energy using as a primary energy source biomass, waste, renewable resources or any combination thereof and has a power production capacity which, together with other facilities located at the same site, is not greater than 80 megawatts.

Solar Facility

A facility which produces electric energy using the sun as the primary energy source. A Solar Facility may be flat mounted (Fixed Solar) or configured with a device to orient the solar panels toward the sun (Tracking Solar).

Wind Facility

A facility which produces electric energy using wind as the primary energy source.

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P.S.C. Wyoming No. 16

Avoided Cost Purchases from Qualifying Facilities Schedule 37

Definitions *(continued)*

Winter Season

The months of October through May.

Summer Season

The months of June through September.

On-Peak Hours

On-peak hours are defined as follows: Summer Season 3:00 p.m. to 10:00 p.m.; and Winter Season 5:00 a.m. to 8:00 a.m., then 5:00 p.m. to 11:00 p.m. All times are Pacific Prevailing Time Monday through Saturday, excluding NERC holidays.

Off-Peak Hours

All hours other than On-Peak hours.

Monthly Payments

The Monthly Payment is the sum of the winter and summer energy prices for Peak and Off-Peak hours. Winter and summer energy payments for Peak and Off-Peak hours are provided separately for a Base Load facility, Wind Facility, Fixed Solar Facility and a Tracking Solar Facility.

Rules

Service under this Schedule is subject to the General Rules contained in the tariff of which this Schedule is a part, and to those prescribed by the Wyoming Public Service Commission.

Negotiation Procedures

The Company will negotiate power purchase agreements under this Schedule in accordance with the procedures in the following Sections of Schedule 38: I.A, I.B.1, I.B.4 through I.B.8, and all of sections II and III.

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P.S.C. Wyoming No. 16

Avoided Cost Purchases from Non-Standard Qualifying Facilities Schedule 38

Available

To owners of Qualifying Facilities ("QF") in all territory served by the Company in the State of Wyoming.

Applicable

To owners of existing or proposed QFs who desire to make sales to the Company and exceed the limits in Schedule 37 or are not able to obtain pricing under Schedule 37 because the Schedule 37 cap has been reached (each owner meeting the foregoing requirements a "QF Owner"). Every QF Owner is required to enter into written power purchase and interconnection agreements with the Company pursuant to the procedures set forth below. QF Owners that desire to make non-firm or as-available sales to the Company may identify their desire to do so as described in I.B.2(i). Additional or different requirements may apply to Wyoming QFs seeking to make sales to third-parties or out-of-system QFs seeking to wheel power to Wyoming for sale to the Company. QF Owners should initiate requests for interconnection as early in the planning process as possible, to ensure that necessary interconnection arrangements proceed in a timely manner on a parallel track with negotiation of the power purchase agreement.

I. Process For Negotiating Power Purchase Agreements

A. Communications

All submissions, responses and notices required in this Schedule must be done in electronic or hard copy format. Requests and information may be submitted to the Company at QFrequests@pacificorp.com. QF Owners may send communications to the Company regarding QF power purchase agreements in writing, by mail, as follows:

Rocky Mountain Power
Manager - QF Contracts
825 NE Multnomah St, Suite 600
Portland, Oregon 97232

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Avoided Cost Purchases from Non-Standard Qualifying Facilities Schedule 38

I. A. Communications (continued)

The Company shall respond to all such communications in a timely manner as more fully described below.

If the Company is unable to respond on the basis of incomplete or missing information from the QF Owner, the Company will indicate what additional information is required. The Company shall respond in a timely manner following receipt of all required information as more fully described below.

B. Procedures

1. Examples of the Company's pro forma power purchase agreement may be obtained from the Company's website at www.pacificorp.com, or if a QF Owner is unable to obtain it from the website, the Company shall send a copy via mail within seven calendar days of a written request directed to the address in Part I. A. The pro forma document provided (i) does not constitute an offer to enter into or negotiate an agreement, (ii) will include general terms and conditions, and (iii) will not include pricing or project specific information. Anyone who desires to enter into a power purchase agreement with the Company must proceed in accordance with this Schedule to request indicative pricing under Section I.B.2, to request a proposed power purchase agreement under Section I.B.4, and to negotiate and execute a power purchase agreement that is executed by the Company and approved by the Commission.

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P.S.C. Wyoming No. 16

Avoided Cost Purchases from Non-Standard Qualifying Facilities Schedule 38

- I. B. **Procedures** (continued)
2. To obtain an indicative pricing proposal with respect to a proposed Project, the QF Owner shall provide in writing to the Company, general project information reasonably required for the development of indicative pricing. A Project is defined as an existing or proposed QF that desires to make sales to the Company and that can satisfy the requirements of Schedule 38. General project information shall at least include, but not be limited to:
- a) a general description of the QF project and the QF Owner, including email address and other contact information;
 - b) generation technology and other related technology applicable to the site;
 - c) design capacity (MW), station service requirements, and net amount of power to be delivered to the Company's electric system;
 - d) quantity and timing of monthly power deliveries (including Project ability to respond to dispatch orders from the Company) and an hourly generation profile (12X24 profile minimum, 8760 preferred) in Excel or other spreadsheet format with all formulae intact;
 - e) proposed site location and electrical interconnection point;
 - f) proposed on-line date (date on which deliveries of energy will commence) and outstanding permitting requirements;
 - g) demonstration of ability to obtain QF status (FERC Form 556);
 - h) fuel type(s) and source(s);
 - i) plans for fuel and transportation agreements, including plans for what party or parties will pay transmission costs (motive force plans);
 - j) proposed contract term and pricing provisions (i.e., fixed, escalating, indexed, non-firm/as-available) not to exceed the maximum length for a QF as established by the Wyoming Public Service Commission;
 - k) status of interconnection arrangements including interconnection queue number, and;
 - l) other information promptly and reasonably requested by the Company.

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Avoided Cost Purchases from Non-Standard Qualifying Facilities Schedule 38

I. B. Procedures (continued)

3. Within seven (7) days of its receipt of a request for indicative pricing and supporting materials as specified in Paragraph 2 above, the Company shall confirm its receipt of the request and notify the QF Owner whether the request includes all of the required information or, if not, what additional information is needed to complete the request. The Company is not obligated to provide indicative pricing until the QF Owner provides all information described in Paragraph 2 to the Company in writing. The Company will make reasonably diligent efforts to provide the QF Owner with an indicative pricing proposal, which may include other indicative terms and conditions, tailored to the individual characteristics of the proposed Project within 30 calendar days after the Company notifies the QF Owner that its request for indicative pricing is complete. If the Company is unable to provide an indicative pricing proposal in the allotted time period, the Company will notify the QF Owner and provide an estimate of the time needed to complete the indicative pricing proposal along with an explanation of the reasons that such additional time is required. An indicative pricing proposal may be used by the QF Owner to make determinations regarding Project planning, financing and feasibility. However, indicative pricing proposals are not final and binding. Prices and other terms and conditions are only final and binding to the extent contained in a power purchase agreement executed by both parties and accepted for filing by the Wyoming Public Service Commission, and the Company has the right to update indicative pricing at any time prior to such execution and acceptance by the Wyoming Public Service Commission. Upon request, the Company shall provide with the indicative prices a description of the methodology used to develop the prices. If the QF Owner requests back-up data for its indicative pricing, it shall either first enter into a non-disclosure agreement with the Company to protect the Company's proprietary information, or indicate to the Company that it wants a non-confidential version of such data.

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Avoided Cost Purchases from Non-Standard Qualifying Facilities Schedule 38

- I. B. Procedures** (continued)
4. If the QF Owner desires to proceed with the Project after reviewing the Company's indicative proposal, it shall request in writing that the Company prepare a draft power purchase agreement to serve as the basis for negotiations between the parties. In order for the request for a draft power purchase agreement to be considered complete, the QF Owner shall provide the Company with any additional Project information that the Company reasonably determines to be necessary for the preparation of a draft power purchase agreement, which may include, but shall not be limited to:
- a) updated information of the categories described in Paragraph B.2;
 - b) evidence of adequate control of proposed site;
 - c) identification of, and timelines for obtaining any necessary governmental permits, approvals or authorizations;
 - d) assurance of fuel supply or motive force;
 - e) anticipated timelines for completion of key Project milestones; and,
 - f) evidence that any necessary interconnection studies have been completed and assurance that the necessary interconnection arrangements are being made in accordance with Part II;
 - g) information describing the QF Owner, including name, address, and ownership organization chart; and
 - h) other information promptly and reasonably requested by the Company.
5. Within seven (7) days of its receipt of a request for a power purchase agreement and the information specified in Section I.B.5, the Company shall confirm its receipt of the request and notify the QF Owner if the request includes all of the required information or, if not, what additional information is needed to complete the request. The Company is not obligated to provide the QF Owner with a draft power purchase agreement until the QF Owner provides all information required pursuant to Paragraph 4 to the Company in writing.

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Avoided Cost Purchases from Non-Standard Qualifying Facilities Schedule 38

I. B. **Procedures** (continued)

The Company will make reasonably diligent efforts to provide the QF Owner with a draft power purchase agreement containing a comprehensive set of proposed terms and conditions, including the then current indicative pricing proposal for the project, within 45 calendar days after the Company notifies the QF Owner that its request for a draft power purchase agreement is complete. If the Company is unable to provide a draft power purchase agreement in the allotted time period, the Company will notify the QF Owner and provide an estimate of the time needed to complete the draft power purchase agreement along with an explanation of the reasons that such additional time is required. The draft power purchase agreement shall serve as the basis for subsequent negotiations between the parties and is not binding on the Company.

6. Absent Commission approval to the contrary for good cause shown, a power purchase agreement executed under this Schedule shall include the following terms and conditions, among others:
- a) For new QFs, the scheduled commercial operation date, must not be greater than thirty (30) months after the execution date of the power purchase agreement;
 - b) For QFs with a currently effective power purchase agreement, the delivery term for any subsequent power purchase agreement must not begin more than thirty (30) months after the execution date of such subsequent agreement;
 - c) The QF Developer must provide 100% of the project development security within 30 days of the date the power purchase agreement has been filed with the Commission; and
 - d) The Company will retain the Green Tags associated with a QF's output.

(continued)

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- I. **B. Procedures** (continued)
7. After reviewing the draft power purchase agreement, the QF Owner shall prepare an initial set of written comments and proposals regarding the draft power purchase agreement and shall provide such comments and proposals, or notice that it has none, to the Company. The Company is not obligated to commence negotiations with a QF Owner until the QF Owner provides an initial set of written comments and proposals. Following the Company's receipt of such comments and proposals, the QF Owner shall contact the Company to schedule contract negotiations at such times and places as are mutually agreeable to the parties. In connection with such negotiations, the Company:
- a) will not unreasonably delay negotiations and will respond in good faith to any additions, deletions or modifications to the draft power purchase agreement proposed by the QF Owner;
 - b) may request to visit the site of the proposed Project;
 - c) will update its pricing proposals at any time before the power purchase agreement is executed and accepted for filing by the Wyoming Public Service Commission to accommodate any changes to the Company's avoided-cost calculations, the proposed Project or proposed terms of the draft power purchase agreement;
 - d) may request any additional information from the QF Owner necessary to finalize the terms of the power purchase agreement and satisfy the Company's due diligence with respect to the Project; and,
 - e) shall resolve any disputes related to power purchase agreement terms consistent with Part III of this tariff.

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P.S.C. Wyoming No. 16

Avoided Cost Purchases from Non-Standard Qualifying Facilities Schedule 38

- I. **B. Procedures** (continued)
8. The Company is not obligated to prepare and forward a final executable version of the power purchase agreement until both parties are in full agreement with all terms and conditions of the draft power purchase agreement. The Company will prepare and forward a final executable version of the power purchase agreement to the QF Owner within 45 calendar days after the date the parties indicate full agreement to all terms and conditions of the draft power purchase agreement. The Company reserves the right to condition execution of the power purchase agreement upon simultaneous execution of an interconnection agreement between the QF Owner and the Company's power delivery function, as discussed in Part II. Prices and other terms and conditions in the power purchase agreement are not final and binding until the power purchase agreement is executed by both parties and accepted for filing by the Wyoming Public Service Commission.

II. **Process for Negotiating Interconnection Agreements**

In addition to negotiating a power purchase agreement, QF Owners intending to make sales to the Company are required to enter into an interconnection agreement that governs the physical interconnection of the Project to the Company's transmission or distribution system. The Company is not obligated to make purchases from a QF Owner until that QF Owner consummates all necessary interconnection arrangements required under this Section.

QF Owners should initiate requests for interconnection as early in the planning process as possible, to ensure that necessary interconnection arrangements proceed in a timely manner on a parallel track with negotiation of the power purchase agreement.

Because of functional separation requirements mandated by the Federal Energy Regulatory Commission, interconnection requests are handled by a different function within the Company than power purchase agreements are.

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II. Process for Negotiating Interconnection Agreements *(continued)*

Interconnection agreements (both transmission and distribution level voltages) are handled by the Company's power delivery function. Because the power delivery function employees are generally prohibited by law from communicating with the employees that negotiate power purchase agreements about another company's interconnection requests, and the law requires that their files systems and work spaces also be separate, QF Owners must independently request QF interconnection service from the power delivery function as set forth in Section II.A below.

A. Communications

Initial communications regarding interconnection agreements should be directed to the Company in writing as follows:

PacifiCorp Transmission
Transmission Account Management
825 NE Multnomah St, Suite 1600
Portland, Oregon 97232

Based on the Project size and other characteristics, the Company shall direct the QF Owner to the appropriate individual within the Company's power delivery function responsible for negotiating the interconnection agreement with the QF Owner. Thereafter, the QF Owner should direct all communications regarding interconnection agreements to the designated individual, with a copy of any written communications to the address set forth above.

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II. Process for Negotiating Interconnection Agreements *(continued)*

B. Procedures

Generally, the interconnection process involves (1) initiating a request for interconnection, (2) completion of studies to determine the system impacts associated with the interconnection and the design, cost, and schedules for constructing any necessary interconnection facilities, (3) execution of an Interconnection Facilities Agreement to address facility construction, testing and acceptance, and (4) execution of an Interconnection Operation and Maintenance Agreement to address ownership and operation and maintenance issues.

For interconnections that impact the Company's Transmission System, the Company shall process the interconnection application through PacifiCorp Transmission Services following the procedures for studying the generation interconnection described in the latest version of the Company's Open Access Transmission Tariff, PacifiCorp FERC Electric Tariff, Volume No. 11 Open Access Transmission Tariff (OATT) on file with the Federal Energy Regulatory Commission. A copy of the OATT is available on-line at:
<http://www.oasis.oati.com/ppw>.

For interconnections that only impact the Company's Distribution System, the Company will process the interconnection application through the Manager – QF Contracts at the address shown in Part I. A.

III. Process for Filing a Complaint with the Commission on Contract Terms

Before filing a complaint with the Wyoming Public Service Commission on any specific power purchase agreement term not agreed upon between the QF Owner and the Company, the QF Owner must provide the Company 60 days advanced notice in writing that it cannot reach agreement on a specific term to allow the parties time to attempt to negotiate a potential resolution on the disputed term. This includes but is not limited to any disputes that are not resolved through the procedures set forth in Part I. B. 6.

(continued)

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ROCKY MOUNTAIN POWER

Original Sheet No. 38-11

P.S.C. Wyoming No. 16

Avoided Cost Purchases from Non-Standard Qualifying Facilities Schedule 38

IV. Transmission Capacity and Avoided Costs Pricing

If a QF project is located in a geographic location that is transmission constrained or in which transmission capacity is physically available, but contractually constrained or unavailable, a QF project has two options regarding how proposed but not yet in-service transmission projects are treated in the calculation of avoided costs pricing:

- 1) The QF Owner may elect to receive avoided cost pricing that contains two price streams: one stream that assumes proposed transmission projects are not completed, and a second price stream that assumes proposed transmission projects are completed. If this election is made, the first price stream that assumes proposed transmission projects are not completed will be in effect unless and until proposed transmission projects are energized and placed into service and the resulting incremental transmission capacity eliminates the QF deliverability restrictions.
- 2) The QF Owner may elect to receive an avoided cost price based on transmission availability at the time indicative pricing is requested, which means the price assumes proposed transmission projects are not completed.

At the time a pricing request is made under Section I.B.2., the QF Owner shall inform the Company as to which option it desires. If no selection is made by the QF Owner, the Company will provide pricing based on option 2.

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Exhibit 2

Revisions to Schedule 37 and Schedule 38

Redline

ROCKY MOUNTAIN POWER

~~Second-Third~~ Revision of Sheet No. 37-1
 Canceling ~~First-Second~~ Revision of Sheet No. 37-1

P.S.C. Wyoming No. 16

Avoided Cost Purchases from Qualifying Facilities Schedule 37

Available

To owners of Qualifying Facilities in all territory served by the Company in the State of Wyoming.

Applicable

Applicable to the purchase by the Company of all non-firm energy produced by Qualifying Facilities over which the Commission has jurisdiction, prior to commercial operation and subject to a power sales contract. After commercial operation is achieved, Qualifying Facilities will receive firm power prices.

~~For Applicable to~~ firm power purchases from: ~~1) all~~ Qualifying Facilities ~~over which the Commission has jurisdiction~~ with a historic or projected annual capacity factor of up to seventy percent~~70% or below, and a design capacity of~~ up to 1 MW; ~~design capacity or;~~ 2) for hydro projects with design capacity up to 5 MW design capacity, or; and hydro or other projects with a historic or projected annual capacity factor of greater than 70%, up to a maximum of 10 MW of average monthly capacity and associated ~~energy when the historic or projected annual capacity factor is greater than seventy percent.~~ Owners of these Qualifying Facilities shall be required to enter into a written power sales contract with the Company.

Rates for Purchases

Non-firm Energy

The prices shown below are subject to change from time to time to reflect changes in the Company's determination of avoided costs. The prices applicable to a Wyoming Qualifying Facility over which the Commission has jurisdiction shall be those in effect at the time the power is delivered.

| Deliveries Year | Base Load QF Non-Firm Energy Prices | | | |
|----------------------|-------------------------------------|----------------------|------------------------|----------------------|
| | On-Peak Energy Prices | | Off-Peak Energy Prices | |
| | Winter ¢/kWh | Summer ¢/kWh | Winter ¢/kWh | Summer ¢/kWh |
| 2019 2017 | 2.08 1.27 | 3.36 1.54 | 1.14 1.15 | 1.57 1.13 |
| 2020 2018 | 2.10 1.30 | 3.20 1.81 | 1.16 1.17 | 1.53 1.37 |

(continued)

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ROCKY MOUNTAIN POWER

~~Second-Third~~ Revision of Sheet No. 37-1
Canceling ~~First-Second~~ Revision of Sheet No. 37-1

P.S.C. Wyoming No. 16

Avoided Cost Purchases from Qualifying Facilities Schedule 37

| | | | | |
|----------------------|---------------------|---------------------|---------------------|---------------------|
| 2021 2019 | 1.831.27 | 2.281.92 | 0.991.12 | 1.161.31 |
| 2022 2020 | 1.821.53 | 2.392.03 | 0.991.34 | 1.211.34 |

(continued)

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ROCKY MOUNTAIN POWER

~~First~~ Second Revision of Sheet No. 37-2
Canceling ~~Original~~ First Revision of Sheet No. 37-2

P.S.C. Wyoming No. 16

Avoided Cost Purchases from Qualifying Facilities Schedule 37

Rates for Purchases
Non-firm Energy (continued)

| Wind QF Non-Firm Energy Prices | | | | |
|--------------------------------|-------------------------------|----------------------|------------------------|----------------------|
| Deliveries Year | <u>On</u> -Peak Energy Prices | | Off-Peak Energy Prices | |
| | Winter ¢/kWh | Summer ¢/kWh | Winter ¢/kWh | Summer ¢/kWh |
| 2019 2017 | 1.53 1.24 | 2.46 1.46 | 0.87 1.09 | 1.14 1.08 |
| 2020 2018 | 1.56 1.24 | 2.39 1.75 | 0.90 1.11 | 1.13 1.31 |
| 2021 2019 | 0.82 1.21 | 1.03 1.86 | 0.47 1.06 | 0.52 1.25 |
| 2022 2020 | 1.01 1.46 | 1.34 1.97 | 0.57 1.28 | 0.68 1.28 |

| Fixed Solar QF Non-Firm Energy Prices | | | | |
|---------------------------------------|-------------------------------|----------------------|------------------------|----------------------|
| Deliveries Year | <u>On</u> -Peak Energy Prices | | Off-Peak Energy Prices | |
| | Winter ¢/kWh | Summer ¢/kWh | Winter ¢/kWh | Summer ¢/kWh |
| 2019 2017 | 2.23 1.24 | 3.59 1.45 | 1.20 1.09 | 1.69 1.08 |
| 2020 2018 | 2.25 1.24 | 3.38 1.74 | 1.20 1.11 | 1.61 1.31 |
| 2021 2019 | 1.67 1.21 | 2.07 1.85 | 0.89 1.05 | 1.06 1.25 |
| 2022 2020 | 1.81 1.46 | 2.33 1.97 | 0.95 1.27 | 1.19 1.28 |

| Tracking Solar QF Non-Firm Energy Prices | | | | |
|--|-------------------------------|----------------------|------------------------|----------------------|
| Deliveries Year | <u>On</u> -Peak Energy Prices | | Off-Peak Energy Prices | |
| | Winter ¢/kWh | Summer ¢/kWh | Winter ¢/kWh | Summer ¢/kWh |
| 2019 2017 | 2.41 1.24 | 3.85 1.45 | 1.24 1.09 | 1.82 1.08 |
| 2020 2018 | 2.39 1.24 | 3.58 1.74 | 1.23 1.11 | 1.71 1.31 |
| 2021 2019 | 1.85 1.21 | 2.28 1.85 | 0.94 1.05 | 1.16 1.25 |
| 2022 2020 | 1.92 1.46 | 2.44 1.97 | 0.97 1.27 | 1.25 1.28 |

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ROCKY MOUNTAIN POWER

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P.S.C. Wyoming No. 16

Avoided Cost Purchases from Qualifying Facilities Schedule 37

Firm Power Time of Delivery

The prices shown below are subject to change from time to time to reflect changes in the Company's determination of Wyoming avoided costs. ~~The~~ prices applicable to a Qualifying Facility over which the Commission has jurisdiction ~~shall~~ will be those in effect at the time a written contract acceptable to the Company is signed on behalf of the Qualifying Facility and received by the Company at 825 N. E. Multnomah Street, Portland, Oregon, 97232, or such other address as the Company ~~shall~~ later designates. ~~These~~ prices will ~~only~~ be applied to Qualifying Facility resources over which the Commission has jurisdiction that enter into contracts with the Company until 10 megawatts of system resources are acquired. After the Company acquires those 10 megawatts of system resources, then the Company will provide prices to Qualifying Facility resources over 100 kilowatts as set forth in Schedule 38 until the Schedule 37 prices are updated and approved by the Commission.

| Deliveries Year | Base Load QF Firm Energy Prices | | | |
|----------------------|---------------------------------|----------------------|------------------------|----------------------|
| | Peak Energy Prices | | Off-Peak Energy Prices | |
| | Winter ¢/kWh | Summer ¢/kWh | Winter ¢/kWh | Summer ¢/kWh |
| 2019 2017 | 2.08 1.27 | 3.36 1.54 | 1.14 1.15 | 1.57 1.13 |
| 2020 2018 | 2.10 1.30 | 3.20 1.81 | 1.16 1.17 | 1.53 1.37 |
| 2021 2019 | 1.83 1.27 | 2.28 1.92 | 0.99 1.12 | 1.16 1.31 |
| 2022 2020 | 1.82 1.53 | 2.39 2.03 | 0.99 1.34 | 1.21 1.34 |
| 2023 2021 | 1.91 0.88 | 2.49 1.94 | 1.04 0.78 | 1.25 1.31 |
| 2024 2022 | 2.38 1.07 | 3.36 2.10 | 1.31 0.97 | 1.68 1.51 |
| 2025 2023 | 2.59 1.48 | 3.84 2.23 | 1.42 1.09 | 1.94 1.74 |
| 2026 2024 | 2.83 1.24 | 4.12 2.45 | 1.55 1.14 | 2.12 2.05 |
| 2027 2025 | 2.84 1.31 | 4.19 2.52 | 1.55 1.20 | 2.16 2.09 |
| 2028 2026 | 4.15 1.62 | 6.02 2.64 | 2.27 1.49 | 3.10 2.19 |
| 2029 2027 | 4.84 1.60 | 6.95 2.78 | 2.66 1.48 | 3.60 2.34 |
| 2030 2028 | 5.13 3.14 | 7.33 3.69 | 2.83 2.90 | 3.83 3.13 |
| 2031 2029 | 5.35 6.78 | 7.44 6.78 | 2.95 3.99 | 3.89 3.99 |

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ROCKY MOUNTAIN POWER

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P.S.C. Wyoming No. 16

Avoided Cost Purchases from Qualifying Facilities Schedule 37

Rates for Purchases Firm Power Time of Delivery (continued)

| Deliveries Year | Base Load QF Firm Energy Prices | | | |
|--------------------|---------------------------------|-----------------|------------------------|-----------------|
| | Peak Energy Prices | | Off-Peak Energy Prices | |
| | Winter ¢/kWh | Summer ¢/kWh | Winter ¢/kWh | Summer ¢/kWh |
| <u>20322030</u> | <u>5.707.11</u> | <u>8.007.11</u> | <u>3.134.26</u> | <u>4.204.26</u> |
| <u>20332031</u> | <u>5.907.35</u> | <u>8.297.35</u> | <u>3.264.43</u> | <u>4.364.43</u> |
| <u>20342032</u> | <u>5.897.62</u> | <u>8.157.62</u> | <u>3.254.63</u> | <u>4.294.63</u> |
| <u>20352033</u> | <u>6.167.97</u> | <u>8.687.97</u> | <u>3.394.90</u> | <u>4.564.90</u> |
| <u>20362034</u> | <u>6.278.24</u> | <u>8.928.24</u> | <u>3.465.10</u> | <u>4.715.10</u> |
| <u>20372035</u> | <u>6.428.52</u> | <u>9.088.52</u> | <u>3.535.30</u> | <u>4.795.30</u> |
| <u>20382036</u> | <u>6.588.95</u> | <u>9.248.95</u> | <u>3.625.66</u> | <u>4.875.66</u> |
| <u>20392037</u> | <u>6.709.23</u> | <u>9.439.23</u> | <u>3.705.85</u> | <u>4.975.85</u> |
| <u>20402038</u> | <u>6.879.60</u> | <u>9.559.60</u> | <u>3.806.15</u> | <u>5.046.15</u> |
| <u>20322039</u> | <u>5.709.94</u> | <u>8.009.94</u> | <u>3.136.37</u> | <u>4.206.37</u> |

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Avoided Cost Purchases from Qualifying Facilities Schedule 37

Rates for Purchases

Firm Power Time of Delivery (continued)

| Deliveries Year | Wind QF Firm Energy Prices | | | |
|-------------------------|----------------------------|------------------|------------------------|-----------------|
| | Peak Energy Prices | | Off-Peak Energy Prices | |
| | Winter ¢/kWh | Summer ¢/kWh | Winter ¢/kWh | Summer ¢/kWh |
| <u>2019</u> <u>2017</u> | <u>1.531.24</u> | <u>2.461.46</u> | <u>0.871.09</u> | <u>1.141.08</u> |
| <u>2020</u> <u>2018</u> | <u>1.561.24</u> | <u>2.391.75</u> | <u>0.901.11</u> | <u>1.131.31</u> |
| <u>2021</u> <u>2019</u> | <u>0.821.24</u> | <u>1.031.86</u> | <u>0.471.06</u> | <u>0.521.25</u> |
| <u>2022</u> <u>2020</u> | <u>1.011.46</u> | <u>1.341.97</u> | <u>0.571.28</u> | <u>0.681.28</u> |
| <u>2023</u> <u>2021</u> | <u>1.120.84</u> | <u>1.481.88</u> | <u>0.640.71</u> | <u>0.741.25</u> |
| <u>2024</u> <u>2022</u> | <u>1.291.00</u> | <u>1.812.04</u> | <u>0.740.90</u> | <u>0.911.44</u> |
| <u>2025</u> <u>2023</u> | <u>1.371.12</u> | <u>2.032.16</u> | <u>0.781.03</u> | <u>1.031.67</u> |
| <u>2026</u> <u>2024</u> | <u>1.531.17</u> | <u>2.232.38</u> | <u>0.871.07</u> | <u>1.141.98</u> |
| <u>2027</u> <u>2025</u> | <u>1.691.24</u> | <u>2.492.45</u> | <u>0.961.13</u> | <u>1.282.02</u> |
| <u>2028</u> <u>2026</u> | <u>3.521.55</u> | <u>5.122.57</u> | <u>2.011.42</u> | <u>2.622.12</u> |
| <u>2029</u> <u>2027</u> | <u>4.101.53</u> | <u>5.902.71</u> | <u>2.351.40</u> | <u>3.052.26</u> |
| <u>2030</u> <u>2028</u> | <u>5.663.07</u> | <u>8.123.62</u> | <u>3.262.83</u> | <u>4.243.05</u> |
| <u>2031</u> <u>2029</u> | <u>6.004.36</u> | <u>8.354.36</u> | <u>3.443.92</u> | <u>4.353.92</u> |
| <u>2032</u> <u>2030</u> | <u>6.144.63</u> | <u>8.674.63</u> | <u>3.524.18</u> | <u>4.544.18</u> |
| <u>2033</u> <u>2031</u> | <u>6.374.84</u> | <u>8.994.84</u> | <u>3.674.35</u> | <u>4.714.35</u> |
| <u>2034</u> <u>2032</u> | <u>6.405.02</u> | <u>8.905.02</u> | <u>3.674.55</u> | <u>4.654.55</u> |
| <u>2035</u> <u>2033</u> | <u>6.445.30</u> | <u>9.135.30</u> | <u>3.694.82</u> | <u>4.774.82</u> |
| <u>2036</u> <u>2034</u> | <u>6.515.51</u> | <u>9.315.51</u> | <u>3.755.01</u> | <u>4.895.01</u> |
| <u>2037</u> <u>2035</u> | <u>6.685.72</u> | <u>9.525.72</u> | <u>3.845.22</u> | <u>5.015.22</u> |
| <u>2038</u> <u>2036</u> | <u>6.836.09</u> | <u>9.696.09</u> | <u>3.925.57</u> | <u>5.085.57</u> |
| <u>2039</u> <u>2037</u> | <u>6.966.29</u> | <u>9.876.29</u> | <u>4.025.76</u> | <u>5.185.76</u> |
| <u>2040</u> <u>2038</u> | <u>7.136.60</u> | <u>10.006.60</u> | <u>4.116.05</u> | <u>5.246.05</u> |
| <u>2019</u> <u>2039</u> | <u>1.536.83</u> | <u>2.466.83</u> | <u>0.876.27</u> | <u>1.146.27</u> |

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Avoided Cost Purchases from Qualifying Facilities Schedule 37

Rates for Purchases

Firm Power Time of Delivery (*continued*)

| Deliveries Year | Fixed Solar QF Firm Energy Prices | | | |
|-----------------------------|-----------------------------------|-----------------|------------------------|-----------------|
| | Peak Energy Prices | | Off-Peak Energy Prices | |
| | Winter ¢/kWh | Summer ¢/kWh | Winter ¢/kWh | Summer ¢/kWh |
| <u>2019</u> 2017 | <u>2.231.24</u> | <u>3.591.45</u> | <u>1.201.09</u> | <u>1.691.08</u> |
| <u>2020</u> 2018 | <u>2.251.24</u> | <u>3.381.74</u> | <u>1.201.11</u> | <u>1.611.31</u> |
| <u>2021</u> 2019 | <u>1.671.24</u> | <u>2.071.85</u> | <u>0.891.05</u> | <u>1.061.25</u> |
| <u>2022</u> 2020 | <u>1.811.46</u> | <u>2.331.97</u> | <u>0.951.27</u> | <u>1.191.28</u> |
| <u>2023</u> 2021 | <u>1.840.84</u> | <u>2.321.88</u> | <u>0.960.74</u> | <u>1.181.24</u> |
| <u>2024</u> 2022 | <u>2.131.00</u> | <u>2.892.03</u> | <u>1.130.90</u> | <u>1.471.44</u> |
| <u>2025</u> 2023 | <u>2.311.11</u> | <u>3.302.16</u> | <u>1.221.02</u> | <u>1.701.67</u> |
| <u>2026</u> 2024 | <u>2.511.17</u> | <u>3.502.38</u> | <u>1.311.06</u> | <u>1.821.98</u> |
| <u>2027</u> 2025 | <u>2.521.23</u> | <u>3.572.45</u> | <u>1.311.12</u> | <u>1.862.01</u> |
| <u>2028</u> 2026 | <u>3.581.55</u> | <u>4.962.56</u> | <u>1.861.41</u> | <u>2.582.12</u> |
| <u>2029</u> 2027 | <u>4.251.52</u> | <u>5.882.70</u> | <u>2.241.40</u> | <u>3.092.26</u> |
| <u>2030</u> 2028 | <u>5.813.06</u> | <u>8.053.64</u> | <u>3.092.82</u> | <u>4.263.05</u> |
| <u>2031</u> 2029 | <u>6.194.97</u> | <u>8.324.97</u> | <u>3.273.91</u> | <u>4.403.91</u> |
| <u>2032</u> 2030 | <u>6.345.26</u> | <u>8.525.26</u> | <u>3.314.17</u> | <u>4.524.17</u> |
| <u>2033</u> 2031 | <u>5.785.45</u> | <u>7.845.45</u> | <u>3.064.35</u> | <u>4.164.35</u> |
| <u>2034</u> 2032 | <u>6.125.68</u> | <u>8.135.68</u> | <u>3.204.55</u> | <u>4.314.55</u> |
| <u>2035</u> 2033 | <u>6.195.98</u> | <u>8.345.98</u> | <u>3.244.82</u> | <u>4.424.82</u> |
| <u>2036</u> 2034 | <u>6.606.20</u> | <u>9.076.20</u> | <u>3.495.01</u> | <u>4.845.01</u> |
| <u>2037</u> 2035 | <u>6.906.43</u> | <u>9.256.43</u> | <u>3.575.21</u> | <u>4.935.21</u> |
| <u>2038</u> 2036 | <u>7.086.81</u> | <u>9.426.81</u> | <u>3.665.57</u> | <u>5.005.57</u> |
| <u>2039</u> 2037 | <u>7.127.03</u> | <u>9.627.03</u> | <u>3.745.76</u> | <u>5.125.76</u> |
| <u>2040</u> 2038 | <u>7.387.36</u> | <u>9.767.36</u> | <u>3.846.05</u> | <u>5.186.05</u> |

(*continued*)

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Avoided Cost Purchases from Qualifying Facilities Schedule 37

Rates for Purchases

Firm Power Time of Delivery (continued)

| Deliveries Year | Tracking Solar QF Firm Energy Prices | | Off-Peak Energy Prices | |
|-------------------------|---------------------------------------|------------------|------------------------|-----------------|
| | Peak Energy Prices Winter ¢/kWh | Summer ¢/kWh | Winter ¢/kWh | Summer ¢/kWh |
| <u>2019</u> <u>2017</u> | <u>2.411.24</u> | <u>3.851.45</u> | <u>1.241.09</u> | <u>1.821.08</u> |
| <u>2020</u> <u>2018</u> | <u>2.391.24</u> | <u>3.581.74</u> | <u>1.231.11</u> | <u>1.711.31</u> |
| <u>2021</u> <u>2019</u> | <u>1.851.24</u> | <u>2.281.85</u> | <u>0.941.05</u> | <u>1.161.25</u> |
| <u>2022</u> <u>2020</u> | <u>1.921.46</u> | <u>2.441.97</u> | <u>0.971.27</u> | <u>1.251.28</u> |
| <u>2023</u> <u>2021</u> | <u>1.930.84</u> | <u>2.401.88</u> | <u>0.970.71</u> | <u>1.221.24</u> |
| <u>2024</u> <u>2022</u> | <u>2.271.00</u> | <u>3.062.03</u> | <u>1.160.90</u> | <u>1.551.44</u> |
| <u>2025</u> <u>2023</u> | <u>2.571.11</u> | <u>3.622.16</u> | <u>1.301.02</u> | <u>1.871.67</u> |
| <u>2026</u> <u>2024</u> | <u>2.691.17</u> | <u>3.712.38</u> | <u>1.341.06</u> | <u>1.931.98</u> |
| <u>2027</u> <u>2025</u> | <u>2.701.23</u> | <u>3.782.45</u> | <u>1.351.12</u> | <u>1.972.01</u> |
| <u>2028</u> <u>2026</u> | <u>3.761.55</u> | <u>5.132.56</u> | <u>1.861.41</u> | <u>2.672.12</u> |
| <u>2029</u> <u>2027</u> | <u>4.381.52</u> | <u>6.002.70</u> | <u>2.221.40</u> | <u>3.152.26</u> |
| <u>2030</u> <u>2028</u> | <u>6.393.06</u> | <u>8.763.61</u> | <u>3.272.83</u> | <u>4.633.05</u> |
| <u>2031</u> <u>2029</u> | <u>6.835.58</u> | <u>9.075.58</u> | <u>3.453.91</u> | <u>4.793.91</u> |
| <u>2032</u> <u>2030</u> | <u>6.955.88</u> | <u>9.225.88</u> | <u>3.484.17</u> | <u>4.884.17</u> |
| <u>2033</u> <u>2031</u> | <u>6.396.09</u> | <u>8.576.09</u> | <u>3.244.35</u> | <u>4.554.35</u> |
| <u>2034</u> <u>2032</u> | <u>6.826.33</u> | <u>8.946.33</u> | <u>3.414.55</u> | <u>4.744.55</u> |
| <u>2035</u> <u>2033</u> | <u>6.896.64</u> | <u>9.156.64</u> | <u>3.464.82</u> | <u>4.854.82</u> |
| <u>2036</u> <u>2034</u> | <u>7.326.88</u> | <u>9.936.88</u> | <u>3.715.01</u> | <u>5.295.01</u> |
| <u>2037</u> <u>2035</u> | <u>7.667.13</u> | <u>10.127.13</u> | <u>3.805.21</u> | <u>5.395.21</u> |
| <u>2038</u> <u>2036</u> | <u>7.867.53</u> | <u>10.317.53</u> | <u>3.895.57</u> | <u>5.485.57</u> |
| <u>2039</u> <u>2037</u> | <u>7.907.77</u> | <u>10.547.77</u> | <u>3.985.76</u> | <u>5.605.76</u> |
| <u>2040</u> <u>2038</u> | <u>8.208.11</u> | <u>10.698.11</u> | <u>4.096.05</u> | <u>5.686.05</u> |

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ROCKY MOUNTAIN POWER

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Avoided Cost Purchases from Qualifying Facilities Schedule 37

Green Tags

The Company retains Green Tags for the benefit of customers without any additional payment when it buys power from a QF resource. ~~In the event~~ if a qualifying facility contract ends or is terminated, the Green Tags revert to the qualifying facility project until the developer sells or transfers the Green Tags to another purchaser.

Definitions

Cogeneration Facility

A facility which produces electric energy together with steam or other forms of useful energy (such as heat) which are used for industrial, commercial, heating or cooling purposes through the sequential use of energy.

Qualifying Facilities

Qualifying cogeneration facilities or qualifying small power production facilities within the meaning of section 201 and 210 of the Public Utility Regulatory Policies Act of 1978 (PURPA), 16 U.S.C. 796 and 824a-3.

Small Power Production Facility

A facility which produces electric energy using as a primary energy source biomass, waste, renewable resources or any combination thereof and has a power production capacity which, together with other facilities located at the same site, is not greater than 80 megawatts.

Solar Facility

A facility which produces electric energy using the sun as the primary energy source. A Solar Facility may be flat mounted (Fixed Solar) or configured with a device to orient the solar panels toward the sun (Tracking Solar).

Wind Facility

A facility which produces electric energy using wind as the primary energy source.

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Avoided Cost Purchases from Qualifying Facilities Schedule 37

Definitions *(continued)*

Winter Season

The months of ~~November through April~~ October through May.

Summer Season

The months of ~~May through October~~ June through September.

On-Peak Hours

On-peak hours are defined as follows: Summer Season 3:00 p.m. 6:00 a.m. to 10:00 p.m.; and Winter Season 5:00 a.m. to 8:00 a.m., then 5:00 p.m. to 11:00 p.m. All times are Pacific Prevailing Time Monday through Saturday, excluding NERC holidays.

Off-Peak Hours

All hours other than On-Peak hours.

Monthly Payments

The Monthly Payment ~~shall be~~ the sum of the winter and summer energy prices for Peak and Off-Peak hours. Winter and summer energy payments for Peak and Off-Peak hours are provided separately for a Base Load facility, Wind Facility, Fixed Solar Facility and a Tracking Solar Facility.

Rules

Service under this Schedule is subject to the General Rules contained in the tariff of which this Schedule is a part, and to those prescribed by the Wyoming Public Service Commission.

Negotiation Procedures

The Company will negotiate power purchase agreements under this Schedule in accordance with the procedures in the following Sections of Schedule 38: I.A, I.B.1, I.B.4 through I.B.8, and all of sections II and III.

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Avoided Cost Purchases from Non-Standard Qualifying Facilities Schedule 38

Available

To owners of Qualifying Facilities ("QF") in all territory served by the Company in the State of Wyoming.

Applicable

To owners of existing or proposed QFs who desire to make sales to the Company and ~~exceed the limits in Schedule 37 or are not able to obtain pricing under Schedule 37 because the Schedule 37 cap has been reached~~ who: (1) ~~have a design capacity greater than 1,000 kW and a historic or projected annual capacity factor of seventy percent or below, or (2) have an average monthly capacity and associated energy of greater than 10,000 kW and a historic or projected annual capacity factor of greater than seventy percent~~ (each owner meeting the foregoing requirements a "QF Owner"). ~~Every QF Owner is~~ Such owners shall be required to enter into written power purchase and interconnection agreements with the Company pursuant to the procedures set forth below. ~~QF Owners that desire to make non-firm or as-available sales to the Company may identify their desire to do so as described in I.B.2(i).~~ Additional or different requirements may apply to Wyoming QFs seeking to make sales to third-parties or out-of-system QFs seeking to wheel power to Wyoming for sale to the Company. ~~QF Owners should initiate requests for interconnection as early in the planning process as possible, to ensure that necessary interconnection arrangements proceed in a timely manner on a parallel track with negotiation of the power purchase agreement.~~

I. Process For Negotiating Power Purchase Agreements

A. Communications

~~All submissions, responses and notices required in this Schedule must be done in electronic or hard copy format. Requests and information may be submitted to the Company at QFrequests@pacificorp.com. Unless otherwise directed by the Company, QF Owners all may send communications to the Company regarding QF power purchase agreements shall be directed~~ in writing, by mail, as follows:

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Avoided Cost Purchases from Non-Standard Qualifying Facilities Schedule 38

Rocky Mountain Power
Manager - QF Contracts
825 NE Multnomah St, Suite 600
Portland, Oregon 97232

~~Any requirement for written notice in this tariff shall be via mail unless the parties agree by mutual consent to an alternative form.~~ The Company shall respond to all such communications in a timely manner as more fully described below.

(continued)

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Avoided Cost Purchases from Non-Standard Qualifying Facilities Schedule 38

I. A. Communications (continued)

The Company shall respond to all such communications in a timely manner as more fully described below.

If the Company is unable to respond on the basis of incomplete or missing information from the QF ~~Q~~owner, the Company ~~shall~~will indicate what additional information is required. ~~Thereafter, T~~he Company shall respond in a timely manner following receipt of all required information as more fully described below.

B. Procedures

1. Examples of the Company's ~~typical-generic~~pro forma power purchase agreement may be obtained from the Company's website at www.pacificorp.com, or if ~~the a~~ QF ~~e~~owner is unable to obtain it from the website, the Company shall send a copy via mail within seven calendar days of a written request directed to the address in Part I. A. The pro forma document provided (i) does not constitute an offer to enter into or negotiate an agreement, (ii) will include general terms and conditions, and (iii) will not include pricing or project specific information. Anyone who desires to enter into a power purchase agreement with the Company must proceed in accordance with this Schedule to request indicative pricing under Section I.B.2, to request a proposed power purchase agreement under Section I.B.4, and to negotiate and execute a power purchase agreement that is executed by the Company and approved by the Commission.
2. To obtain an indicative pricing proposal with respect to a proposed Project, the ~~QF e~~owner shall provide in writing to the Company, general project information reasonably required for the development of indicative pricing. A Project is defined as an existing or proposed QF that desires to make sales to the Company and that can satisfy the

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Avoided Cost Purchases from Non-Standard Qualifying Facilities Schedule 38

requirements of Schedule 38. General project information shall at least include, but not be limited to:

a) a general description of the QF project and the QF Owner, including email address and other contact information;

a)b) _____ generation technology and other related technology applicable to the site;

b)c) _____ design capacity (MW), station service requirements, and net amount of power to be delivered to the Company's electric system;

e)d) _____ quantity and timing of monthly power deliveries (including Project ability to respond to dispatch orders from the Company) and an hourly generation profile (12X24 profile minimum, 8760 preferred) in Excel or other spreadsheet format with all formulae intact;

d)e) _____ proposed site location and electrical interconnection point;

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Avoided Cost Purchases from Non-Standard Qualifying Facilities Schedule 38

- I. B. **Procedures** (continued)
2. To obtain an indicative pricing proposal with respect to a proposed Project, the QF Owner shall provide in writing to the Company, general project information reasonably required for the development of indicative pricing. A Project is defined as an existing or proposed QF that desires to make sales to the Company and that can satisfy the requirements of Schedule 38. General project information shall at least include, but not be limited to:
- a) a general description of the QF project and the QF Owner, including email address and other contact information;
 - b) generation technology and other related technology applicable to the site;
 - c) design capacity (MW), station service requirements, and net amount of power to be delivered to the Company's electric system;
 - d) quantity and timing of monthly power deliveries (including Project ability to respond to dispatch orders from the Company) and an hourly generation profile (12X24 profile minimum, 8760 preferred) in Excel or other spreadsheet format with all formulae intact;
 - e) proposed site location and electrical interconnection point;
 - a)f) proposed on-line date (date on which deliveries of energy will commence) and outstanding permitting requirements;
 - b)g) _____ demonstration of ability to obtain QF status (FERC Form 556);
 - e)h) _____ fuel type(s) and source(s);
 - d)i) plans for fuel and transportation agreements, including plans for what party or parties will pay transmission costs (motive force plans);
 - e)j) proposed contract term and pricing provisions (i.e., fixed, escalating, indexed, non-firm/as-available); not to exceed the maximum length for a QF as established by the Wyoming Public Service Commission; and,
 - k) status of interconnection arrangements including interconnection queue number, and;

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P.S.C. Wyoming No. 16

Avoided Cost Purchases from Non-Standard Qualifying Facilities Schedule 38

f) other information promptly and reasonably requested by the Company.

2-3. Within seven (7) days of its receipt of a request for indicative pricing and supporting materials as specified in Paragraph 2 above, the Company shall confirm its receipt of the request and notify the QF Owner whether the request includes all of the required information or, if not, what additional information is needed to complete the request. The Company is not obligated to provide indicative pricing until the QF Owner provides all information described in Paragraph 2 to the Company in writing. The Company shall not be obligated to provide an indicative pricing proposal until all information described in Paragraph 2 has been received in writing from the QF owner. Within 30 calendar days following receipt of all information required in Paragraph 2, the Company will make reasonably diligent efforts to shall provide the QF Owner with an indicative pricing proposal, which may include other indicative terms and conditions, tailored to the individual characteristics of the proposed Project within 30 calendar days after the Company notifies the QF Owner that its request for indicative pricing is complete. If the Company is unable to provide an indicative pricing proposal in the allotted time period, the Company will notify the QF Owner and provide an estimate of the time needed to complete the indicative pricing proposal along with an explanation of the reasons that such additional time is required. An indicative pricing Such proposal may be used by the QF Owner to make determinations regarding Project planning, financing and feasibility. —However, indicative pricing proposals such prices are merely indicative and are not final and binding. Prices and other terms and conditions are only final and binding to the extent contained in a power purchase agreement executed by both parties and accepted for filing by the Wyoming Public Service Commission, and the Company has the right to update indicative pricing at any time prior to such execution and acceptance by the Wyoming Public Service Commission. —Upon request, the Company shall provide with the indicative prices a description of the methodology used to develop the prices. If the QF

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Avoided Cost Purchases from Non-Standard Qualifying Facilities Schedule 38

Owner requests back-up data for its indicative pricing, it shall either first enter into a non-disclosure agreement with the Company to protect the Company's proprietary information, or indicate to the Company that it wants a non-confidential version of such data.

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Avoided Cost Purchases from Non-Standard Qualifying Facilities Schedule 38

I. B. Procedures (continued)

3. _____ Within seven (7) days of its receipt of a request for indicative pricing and supporting materials as specified in Paragraph 2 above, the Company shall confirm its receipt of the request and notify the QF Owner whether the request includes all of the required information or, if not, what additional information is needed to complete the request. The Company is not obligated to provide indicative pricing until the QF Owner provides all information described in Paragraph 2 to the Company in writing. The Company will make reasonably diligent efforts to provide the QF Owner with an indicative pricing proposal, which may include other indicative terms and conditions, tailored to the individual characteristics of the proposed Project within 30 calendar days after the Company notifies the QF Owner that its request for indicative pricing is complete. If the Company is unable to provide an indicative pricing proposal in the allotted time period, the Company will notify the QF Owner and provide an estimate of the time needed to complete the indicative pricing proposal along with an explanation of the reasons that such additional time is required. An indicative pricing proposal may be used by the QF Owner to make determinations regarding Project planning, financing and feasibility. However, indicative pricing proposals are not final and binding. Prices and other terms and conditions are only final and binding to the extent contained in a power purchase agreement executed by both parties and accepted for filing by the Wyoming Public Service Commission, and the Company has the right to update indicative pricing at any time prior to such execution and acceptance by the Wyoming Public Service Commission. Upon request, the Company shall provide with the indicative prices a description of the methodology used to develop the prices. If the QF Owner requests back-up data for its indicative pricing, it shall either first enter into a non-disclosure agreement with the Company to protect the Company's proprietary information, or indicate to the Company that it wants a non-confidential version of such data.

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4. If the QF Owner desires to proceed with the Project after reviewing the Company's indicative proposal, it shall request in writing that the Company prepare a draft power purchase agreement to serve as the basis for negotiations between the parties. In order for the request for a draft power purchase agreement to be considered complete,~~in connection with such request,~~ the QF Owner shall provide the Company with any additional Project information that the Company reasonably determines to be necessary for the preparation of a draft power purchase agreement, which may include, but shall not be limited to:
- a) updated information of the categories described in Paragraph B.2;
 - b) evidence of adequate control of proposed site;
 - c) identification of, and timelines for obtaining any necessary governmental permits, approvals or authorizations;
 - d) assurance of fuel supply or motive force;
 - e) anticipated timelines for completion of key Project milestones; and,
 - f) evidence that any necessary interconnection studies have been completed and assurance that the necessary interconnection arrangements are being made in accordance with Part II-;
 - g) information describing the QF Owner, including name, address, and ownership organization chart; and
 - h) other information promptly and reasonably requested by the Company.
5. Within seven (7) days of its receipt of a request for a power purchase agreement and the information specified in Section I.B.5, the Company shall confirm its receipt of the request and notify the QF Owner if the request includes all of the required information or, if not, what additional information is needed to complete the request. The Company shall is not be obligated to provide the QF Owner with a draft power purchase agreement until the QF Owner provides all

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information required pursuant to Paragraph 4 ~~has been received by~~ the Company in writing. ~~Within 45 calendar days following receipt of all information required pursuant to Paragraph 4,~~ the Company will make reasonably diligent efforts to ~~shall~~ provide the QF oOwner with a draft power purchase agreement containing a comprehensive set of proposed terms and conditions, including ~~the then current indicative~~ specific pricing proposal ~~for purchases from the P~~for the project, within 45 calendar days after the Company notifies the QF Owner that its request for a draft power purchase agreement is complete. If the Company is unable to provide a draft power purchase agreement in the allotted time period, the Company will notify the QF Owner and provide an estimate of the time needed to complete the draft power purchase agreement along with an explanation of the reasons that such additional time is required. ~~Such~~ The draft power purchase agreement shall serve as the basis for subsequent negotiations between the parties and, ~~unless clearly indicated, shall is~~ is not ~~be construed as a binding proposal by~~ on the Company.

6. Absent Commission approval to the contrary for good cause shown, a power purchase agreement executed under this Schedule shall include the following terms and conditions, among others:
- a) For new QFs, the scheduled commercial operation date, must not be greater than thirty (30) months after the execution date of the power purchase agreement;
 - b) For QFs with a currently effective power purchase agreement, the delivery term for any subsequent power purchase agreement must not begin more than thirty (30) months after the execution date of such subsequent agreement;
 - c) The QF Developer must provide 100% of the project development security within 30 days of the date the power purchase agreement has been filed with the Commission; and
 - d) The Company will retain the Green Tags associated with a QF's output.

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- I. B. **Procedures** (continued)
4. If the QF Owner desires to proceed with the Project after reviewing the Company's indicative proposal, it shall request in writing that the Company prepare a draft power purchase agreement to serve as the basis for negotiations between the parties. In order for the request for a draft power purchase agreement to be considered complete, the QF Owner shall provide the Company with any additional Project information that the Company reasonably determines to be necessary for the preparation of a draft power purchase agreement, which may include, but shall not be limited to:
- a) updated information of the categories described in Paragraph B.2;
 - b) evidence of adequate control of proposed site;
 - c) identification of, and timelines for obtaining any necessary governmental permits, approvals or authorizations;
 - d) assurance of fuel supply or motive force;
 - e) anticipated timelines for completion of key Project milestones; and,
 - f) evidence that any necessary interconnection studies have been completed and assurance that the necessary interconnection arrangements are being made in accordance with Part II;
 - g) information describing the QF Owner, including name, address, and ownership organization chart; and
 - h) other information promptly and reasonably requested by the Company.
5. Within seven (7) days of its receipt of a request for a power purchase agreement and the information specified in Section I.B.5, the Company shall confirm its receipt of the request and notify the QF Owner if the request includes all of the required information or, if not, what additional information is needed to complete the request. The Company is not obligated to provide the QF Owner with a draft power purchase agreement until the QF Owner provides all information required pursuant to Paragraph 4 to the Company in writing.

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67. After reviewing the draft power purchase agreement, the QF eOwner shall prepare an initial set of written comments and proposals regarding the draft power purchase agreement and shall provide such comments and proposals, or notice that it has none, to the Company. The Company ~~shall is~~ not ~~be~~ obligated to commence negotiations with a QF eOwner until the ~~Company has received~~ QF Owner provides an initial set of written comments and proposals ~~from the QF owner~~. Following the Company's receipt of such comments and proposals, the QF eOwner shall contact the Company to schedule contract negotiations at such times and places as are mutually agreeable to the parties. In connection with such negotiations, the Company:
- a) ~~shall will~~ not unreasonably delay negotiations and ~~shall will~~ respond in good faith to any additions, deletions or modifications to the draft power purchase agreement ~~that are~~ proposed by the QF eOwner;
 - b) may request to visit the site of the proposed Project ~~if such a visit has not previously occurred~~;
 - c) ~~shall will~~ update its pricing proposals at any time before the power purchase agreement is executed and accepted for filing by the Wyoming Public Service Commission ~~appropriate intervals~~ to accommodate any changes to the Company's avoided-cost calculations, the proposed Project or proposed terms of the draft power purchase agreement;
 - d) may request any additional information from the QF eOwner necessary to finalize the terms of the power purchase agreement and satisfy the Company's due diligence with respect to the Project; and,
 - e) shall resolve any disputes related to power purchase agreement terms consistent with Part III of this tariff.

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I. B. Procedures (continued)

The Company will make reasonably diligent efforts to provide the QF Owner with a draft power purchase agreement containing a comprehensive set of proposed terms and conditions, including the then current indicative pricing proposal for the project, within 45 calendar days after the Company notifies the QF Owner that its request for a draft power purchase agreement is complete. If the Company is unable to provide a draft power purchase agreement in the allotted time period, the Company will notify the QF Owner and provide an estimate of the time needed to complete the draft power purchase agreement along with an explanation of the reasons that such additional time is required. The draft power purchase agreement shall serve as the basis for subsequent negotiations between the parties and is not binding on the Company.

6. Absent Commission approval to the contrary for good cause shown, a power purchase agreement executed under this Schedule shall include the following terms and conditions, among others:

- a) For new QFs, the scheduled commercial operation date, must not be greater than thirty (30) months after the execution date of the power purchase agreement;
- b) For QFs with a currently effective power purchase agreement, the delivery term for any subsequent power purchase agreement must not begin more than thirty (30) months after the execution date of such subsequent agreement;
- c) The QF Developer must provide 100% of the project development security within 30 days of the date the power purchase agreement has been filed with the Commission; and
- d) The Company will retain the Green Tags associated with a QF's output.

78. The Company is not obligated to prepare and forward a final

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~~Jeffrey K. Larsen~~ Joelle R. Steward, Vice President, Regulation

Issued: ~~December 28, 2015~~ November 2, 2018

Effective: With service rendered

on and after January 1, 2016

ROCKY MOUNTAIN POWER

First Revision of Sheet No. 38-6
Canceling Original Sheet No. 38-6

P.S.C. Wyoming No. 16

Avoided Cost Purchases from Non-Standard Qualifying Facilities Schedule 38

~~executable version of the power purchase agreement until~~ When both parties are in full agreement ~~as to~~with all terms and conditions of the draft power purchase agreement, ~~T~~he Company ~~shall~~ will prepare and forward a final executable version of the power purchase agreement to the QF ~~o~~Owner within 45 calendar days after the date the parties indicate full agreement to all terms and conditions of the draft power purchase agreement ~~a final, executable version of the agreement~~. The Company reserves the right to condition execution of the power purchase agreement upon simultaneous execution of an interconnection agreement between the QF ~~o~~Owner and the Company's power delivery function, as discussed in Part II. Prices and other terms and conditions in the power purchase agreement ~~shall not be~~ are not final and binding until the power purchase agreement ~~has been~~ is executed by both parties and accepted for filing by the Wyoming Public Service Commission ~~accepts the agreement for filing~~.

II. Process for Negotiating Interconnection Agreements

In addition to negotiating a power purchase agreement, QF Owners intending to make sales to the Company are ~~also~~ required to enter into an interconnection agreement that governs the physical interconnection of the Project to the Company's transmission or distribution system. The Company's ~~is not obligation obligated~~ is not obligated to make purchases from a QF Owner until that QF Owner is conditioned upon the consummation ~~consummates~~ of all necessary interconnection arrangements required under this Section.

~~It is recommended that the owner~~ QF Owners should initiate ~~its~~ requests for interconnection as early in the planning process as possible, to ensure that necessary interconnection arrangements proceed in a timely manner on a parallel track with negotiation of the power purchase agreement.

Because of functional separation requirements mandated by the Federal Energy Regulatory Commission, interconnection ~~and power purchase~~

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P.S.C. Wyoming No. 16

Avoided Cost Purchases from Non-Standard Qualifying Facilities Schedule 38

agreements requests are handled by a different functions within the Company than power purchase agreements are. Interconnection agreements (both transmission and distribution level voltages) are handled by the Company's power delivery function. Because the power delivery function employees are generally prohibited by law from communicating with the employees that negotiate power purchase agreements about another company's interconnection requests, and the law requires that their files systems and work spaces also be separate, QF Owners must independently request QF interconnection service from the power delivery function as set forth in Section II.A below.

(continued)

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ROCKY MOUNTAIN POWER

First Revision of Sheet No. 38-7
Canceling Original Sheet No. 38-7

P.S.C. Wyoming No. 16

Avoided Cost Purchases from Non-Standard Qualifying Facilities Schedule 38

I. B. Procedures (continued)

7. After reviewing the draft power purchase agreement, the QF Owner shall prepare an initial set of written comments and proposals regarding the draft power purchase agreement and shall provide such comments and proposals, or notice that it has none, to the Company. The Company is not obligated to commence negotiations with a QF Owner until the QF Owner provides an initial set of written comments and proposals. Following the Company's receipt of such comments and proposals, the QF Owner shall contact the Company to schedule contract negotiations at such times and places as are mutually agreeable to the parties. In connection with such negotiations, the Company:

- a) will not unreasonably delay negotiations and will respond in good faith to any additions, deletions or modifications to the draft power purchase agreement proposed by the QF Owner;
- b) may request to visit the site of the proposed Project;
- c) will update its pricing proposals at any time before the power purchase agreement is executed and accepted for filing by the Wyoming Public Service Commission to accommodate any changes to the Company's avoided-cost calculations, the proposed Project or proposed terms of the draft power purchase agreement;
- d) may request any additional information from the QF Owner necessary to finalize the terms of the power purchase agreement and satisfy the Company's due diligence with respect to the Project; and,
- e) shall resolve any disputes related to power purchase agreement terms consistent with Part III of this tariff.

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P.S.C. Wyoming No. 16

Avoided Cost Purchases from Non-Standard Qualifying Facilities Schedule 38

II. A. Communications

Initial communications regarding interconnection agreements should be directed to the Company in writing as follows:

PacifiCorp Transmission
Transmission Account Management
825 NE Multnomah St, Suite 1600
Portland, Oregon 97232

Based on the Project size and other characteristics, the Company shall direct the QF ~~owner~~Owner to the appropriate individual within the Company's power delivery function responsible for negotiating the interconnection agreement with the QF ~~owner~~Owner. Thereafter, the QF ~~owner~~Owner should direct all communications regarding interconnection agreements to the designated individual, with a copy of any written communications to the address set forth above.

B. Procedures

Generally, the interconnection process involves (1) initiating a request for interconnection, (2) completion of studies to determine the system impacts associated with the interconnection and the design, cost, and schedules for constructing any necessary interconnection facilities, (3) execution of an Interconnection Facilities Agreement to address facility construction, testing and acceptance, and (4) execution of an Interconnection Operation and Maintenance Agreement to address ownership and operation and maintenance issues.

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Avoided Cost Purchases from Non-Standard Qualifying Facilities Schedule 38

(continued)

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ROCKY MOUNTAIN POWER

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Canceling ~~Original~~ First Revision of Sheet No. 38-8

P.S.C. Wyoming No. 16

Avoided Cost Purchases from Non-Standard Qualifying Facilities Schedule 38

I. B. Procedures (continued)

8. The Company is not obligated to prepare and forward a final executable version of the power purchase agreement until both parties are in full agreement with all terms and conditions of the draft power purchase agreement. The Company will prepare and forward a final executable version of the power purchase agreement to the QF Owner within 45 calendar days after the date the parties indicate full agreement to all terms and conditions of the draft power purchase agreement. The Company reserves the right to condition execution of the power purchase agreement upon simultaneous execution of an interconnection agreement between the QF Owner and the Company's power delivery function, as discussed in Part II. Prices and other terms and conditions in the power purchase agreement are not final and binding until the power purchase agreement is executed by both parties and accepted for filing by the Wyoming Public Service Commission.

II. Process for Negotiating Interconnection Agreements

In addition to negotiating a power purchase agreement, QF Owners intending to make sales to the Company are required to enter into an interconnection agreement that governs the physical interconnection of the Project to the Company's transmission or distribution system. The Company is not obligated to make purchases from a QF Owner until that QF Owner consummates all necessary interconnection arrangements required under this Section.

QF Owners should initiate requests for interconnection as early in the planning process as possible, to ensure that necessary interconnection arrangements proceed in a timely manner on a parallel track with negotiation of the power purchase agreement.

Because of functional separation requirements mandated by the Federal Energy Regulatory Commission, interconnection requests are handled by a

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ROCKY MOUNTAIN POWER

~~First~~ Second Revision of Sheet No. 38-8
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P.S.C. Wyoming No. 16

Avoided Cost Purchases from Non-Standard Qualifying Facilities Schedule 38

different function within the Company than power purchase agreements are.

II. B. Procedures (continued)

For interconnections ~~impacting—that impact~~ the Company's Transmission System, the Company shall process the interconnection application through PacifiCorp Transmission Services following the procedures for studying the generation interconnection described in the latest version of the Company's Open Access Transmission Tariff, PacifiCorp FERC Electric Tariff, Volume No. 11 Open Access Transmission Tariff (OATT) on file with the Federal Energy Regulatory Commission. A copy of the OATT is available on-line at: <http://www.oasis.oati.com/ppw>.

For interconnections ~~impacting—that only impact~~ the Company's Distribution System ~~only~~, the Company will process the interconnection application through the Manager – QF Contracts at the address shown in Part I. A.

III. Process for Filing a Complaint with the Commission on Contract Terms

Before filing a complaint with the Wyoming Public Service Commission on any specific power purchase agreement term not agreed upon between the ~~counterparty~~ QF Owner and the Company, ~~a counterparty~~ the QF Owner must ~~wait 60 calendar days from the date it notifies~~ provide the Company 60 days advanced notice in writing that it cannot reach agreement on a specific term to allow the parties time to attempt to negotiate a potential resolution on the disputed term. This includes but is not limited to any disputes that are not resolved through the procedures set forth in Part I. B. 6.

(continued)

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~~Jeffrey K. Larsen~~ Joelle R. Steward, Vice President, Regulation

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Avoided Cost Purchases from Non-Standard Qualifying Facilities Schedule 38

II. Process for Negotiating Interconnection Agreements (continued)

Interconnection agreements (both transmission and distribution level voltages) are handled by the Company's power delivery function. Because the power delivery function employees are generally prohibited by law from communicating with the employees that negotiate power purchase agreements about another company's interconnection requests, and the law requires that their files systems and work spaces also be separate, QF Owners must independently request QF interconnection service from the power delivery function as set forth in Section II.A below.

A. Communications

Initial communications regarding interconnection agreements should be directed to the Company in writing as follows:

PacifiCorp Transmission
Transmission Account Management
825 NE Multnomah St, Suite 1600
Portland, Oregon 97232

Based on the Project size and other characteristics, the Company shall direct the QF Owner to the appropriate individual within the Company's power delivery function responsible for negotiating the interconnection agreement with the QF Owner. Thereafter, the QF Owner should direct all communications regarding interconnection agreements to the designated individual, with a copy of any written communications to the address set forth above.

IV. Transmission Capacity and Avoided Costs Pricing (continued)

If a QF project is located in a geographic location that is transmission constrained or in which transmission capacity is physically available, but

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Avoided Cost Purchases from Non-Standard Qualifying Facilities Schedule 38

contractually constrained or unavailable, a QF project has two options regarding how proposed but not yet in-service transmission projects are treated in the calculation of avoided costs pricing:

- 1) The QF Owner may elect to receive avoided cost pricing that contains two price streams: one stream that assumes proposed transmission projects are not completed, and a second price stream that assumes proposed transmission projects are completed. If this election is made, the first price stream that assumes proposed transmission projects are not completed will be in effect unless and until proposed transmission projects are energized and placed into service and the resulting incremental transmission capacity eliminates the QF deliverability restrictions.
- 2) The QF Owner may elect to receive an avoided cost price based on transmission availability at the time indicative pricing is requested, which means the price assumes proposed transmission projects are not completed.

At the time a pricing request is made under Section I.B.2, the QF Owner shall inform the Company as to which option it desires. If no selection is made by the QF Owner, the Company will provide pricing based on option 2.

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ROCKY MOUNTAIN POWER

Original Sheet No. 38-10

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Avoided Cost Purchases from Non-Standard Qualifying Facilities Schedule 38

II. Process for Negotiating Interconnection Agreements (continued)

B. Procedures

Generally, the interconnection process involves (1) initiating a request for interconnection, (2) completion of studies to determine the system impacts associated with the interconnection and the design, cost, and schedules for constructing any necessary interconnection facilities, (3) execution of an Interconnection Facilities Agreement to address facility construction, testing and acceptance, and (4) execution of an Interconnection Operation and Maintenance Agreement to address ownership and operation and maintenance issues.

For interconnections that impact the Company's Transmission System, the Company shall process the interconnection application through PacifiCorp Transmission Services following the procedures for studying the generation interconnection described in the latest version of the Company's Open Access Transmission Tariff, PacifiCorp FERC Electric Tariff, Volume No. 11 Open Access Transmission Tariff (OATT) on file with the Federal Energy Regulatory Commission. A copy of the OATT is available on-line at: <http://www.oasis.oati.com/ppw>.

For interconnections that only impact the Company's Distribution System, the Company will process the interconnection application through the Manager – QF Contracts at the address shown in Part I. A.

III. Process for Filing a Complaint with the Commission on Contract Terms

Before filing a complaint with the Wyoming Public Service Commission on any specific power purchase agreement term not agreed upon between the QF Owner and the Company, the QF Owner must provide the Company 60 days advanced notice in writing that it cannot reach agreement on a specific term to allow the parties time to attempt to negotiate a potential resolution on the disputed term. This includes but is not limited to any disputes that are not resolved through the procedures set forth in Part I. B. 6.

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Avoided Cost Purchases from Non-Standard Qualifying Facilities Schedule 38

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Dkt. No. 20000-____-EA-18

ROCKY MOUNTAIN POWER

Original Sheet No. 38-11

P.S.C. Wyoming No. 16

Avoided Cost Purchases from Non-Standard Qualifying Facilities Schedule 38

IV. Transmission Capacity and Avoided Costs Pricing

If a QF project is located in a geographic location that is transmission constrained or in which transmission capacity is physically available, but contractually constrained or unavailable, a QF project has two options regarding how proposed but not yet in-service transmission projects are treated in the calculation of avoided costs pricing:

- 1) The QF Owner may elect to receive avoided cost pricing that contains two price streams: one stream that assumes proposed transmission projects are not completed, and a second price stream that assumes proposed transmission projects are completed. If this election is made, the first price stream that assumes proposed transmission projects are not completed will be in effect unless and until proposed transmission projects are energized and placed into service and the resulting incremental transmission capacity eliminates the QF deliverability restrictions.
- 2) The QF Owner may elect to receive an avoided cost price based on transmission availability at the time indicative pricing is requested, which means the price assumes proposed transmission projects are not completed.

At the time a pricing request is made under Section I.B.2., the QF Owner shall inform the Company as to which option it desires. If no selection is made by the QF Owner, the Company will provide pricing based on option 2.

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Dkt. No. 20000-____-EA-18

R. Jeff Richards
Jacob A. McDermott
Rocky Mountain Power
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Facsimile: (801) 220-3299
Email: jeff.richards@pacificorp.com
jacob.mcdermott@pacificorp.com

Attorneys for Rocky Mountain Power

BEFORE THE WYOMING PUBLIC SERVICE COMMISSION

| | | |
|---|---|----------------------------------|
| IN THE MATTER OF THE APPLICATION |) | DOCKET NO. 20000-___-EA-18 |
| OF ROCKY MOUNTAIN POWER FOR |) | (Record No. _____) |
| MODIFICATION OF AVOIDED COST |) | |
| METHODOLOGY AND REDUCED |) | |
| CONTRACT TERM OF PURPA POWER |) | PETITION FOR CONFIDENTIAL |
| PURCHASE AGREEMENTS WITH |) | TREATMENT AND PROTECTIVE |
| QUALIFYING FACILITIES |) | ORDER |

Rocky Mountain Power (“Rocky Mountain Power” or “Company”), pursuant to Chapter 2, Section 30 of the Wyoming Public Service Commission’s Rules and Rule 26 of the Wyoming Rules of Civil Procedure, hereby requests that the Commission approve the Company’s “confidential” designation of certain workpapers accompanying the Application in the above captioned matter, based on the explanations set forth below. The workpapers are properly labeled as “confidential” and were provided electronically to the Commission. The Company anticipates that there will be additional data requests from the parties and/or Commission staff that will request confidential information, and potentially, confidential testimony and exhibits filed by the intervening parties or the Company.

In addition, the Company files with this Petition, as required by Chapter 2, Section 30(d) of the Rules, a proposed Protective Order, attached hereto, with the appropriate form to be signed

by parties who wish to use information that is designated, and approved by the Commission to be treated, as “confidential,” including confidential information that is subsequently designated as “confidential” during the course of the above-captioned case.

Support for “Confidentiality” Designation

1. The confidential workpapers of Company witness Mr. Daniel J. MacNeil with the Application contain confidential information, including avoided cost pricing modeling, contracts, reports, and other terms that could be misappropriated by parties for their commercial benefit and to the Company’s and its customers’ detriment if not treated as confidential pursuant to the Commission’s protective order.

2. Accordingly, the Company has designated portions of each of the above designated workpapers as “confidential” and respectfully requests that the Commission approve such designation.

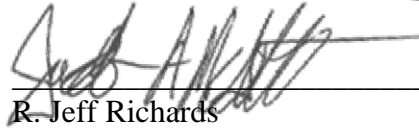
WHEREFORE, Rocky Mountain Power respectfully requests the following:

1. That the Commission approve Rocky Mountain Power’s Petition.
2. That the Commission designate the indicated portions of the workpapers of Company witness Daniel J. MacNeil as “confidential” and provide that the use of such confidential information must be made pursuant to the protective order.
3. That the Commission issue a protective order in substantially the same form as the proposed protective order attached hereto.

DATED this 2nd day of November, 2018.

Respectfully submitted,

ROCKY MOUNTAIN POWER

A handwritten signature in black ink, appearing to read "R. Jeff Richards", is written over a solid horizontal line. Above this line is a dashed horizontal line.

R. Jeff Richards

Jacob A. McDermott

Attorneys for Rocky Mountain Power

PUBLIC SERVICE COMMISSION OF WYOMING

IN THE MATTER OF THE APPLICATION OF) Docket No. 20000-____-EA-18
ROCKY MOUNTAIN POWER FOR) Record No. _____
MODIFICATION OF AVOIDED COST)
METHODOLOGY AND REDUCED CONTRACT)
TERM OF PURPA POWER PURCHASE)
AGREEMENTS WITH QUALIFYING)
FACILITIES)

PROTECTIVE ORDER
(Issued November __, 2018)

This matter is before the Wyoming Public Service Commission (Commission) upon Rocky Mountain Power’s (Rocky Mountain or the Company) *Petition for Confidential Treatment and Protective Order (Petition)* in the above-captioned matter. The Commission, having reviewed the *Petition*, Rocky Mountain Power’s application, its files regarding Rocky Mountain, applicable Wyoming utility law, and otherwise being fully advised in the premises, FINDS and CONCLUDES:

1. Rocky Mountain Power is a public utility as defined by W.S. § 37-1-101(a)(vi)(C) and, as such, is subject to the Commission’s jurisdiction under W.S. § 37-2-112.

2. On November __, 2018, Rocky Mountain filed a *Petition for Confidential Treatment and Protective Order*, in support whereof it alleged that certain testimony and exhibits in this matter contain confidential information and that parties to this matter might, during discovery, seek the production of trade secrets, commercially sensitive or confidential business information, or information that is otherwise so sensitive in nature that disclosure would jeopardize the interests of the party that has been requested to disclose the information, and the unlimited disclosure of which could result in economic harm to the disclosing party. The Company also asserted that a protective order would facilitate a full and timely review of the above-captioned application.

3. Rocky Mountain’s *Petition* was heard by the Commission pursuant to due notice at its open meeting of _____, 2018. Commission Advisory Staff recommended the Commission approve Rocky Mountain’s *Petition* as being generally compliant with Chapter 2, Section 30 of the Commission’s Rules. We find there exists a potential body of information which is of such a sensitive nature that its unlimited disclosure could result in economic harm to Rocky Mountain or another disclosing party but which should be shared with the parties to this proceeding. The Commission finds and concludes that Rocky Mountain has supported its request for confidential treatment of such documents and information under Rule Chapter 2, Section 30. The Commission also finds and concludes that the proposed documents offered by Rocky Mountain, suitably expressing the Commission’s prerogatives in the matter and ensuring the necessary references to Rule Chapter 2, Section 30 of the Commission’s Rules, should be approved in the public interest as a useful and efficient method of dealing with confidential information in this case. The

Commission finds that sufficient grounds exist for entry of a protective order under Chapter 2, Section 30 of the Commission's Rules, generally as sought by Rocky Mountain in its *Petition*.

IT IS THEREFORE ORDERED THAT:

1. Pursuant to open meeting action taken on _____, 2018, Rocky Mountain Power's *Petition for Confidential Treatment and Protective Order* is granted.

2. The confidential information in this proceeding shall be dealt with according to the terms of the ensuing paragraphs 3 through 16.

3. The parties to this proceeding shall allow each of the authorized parties, under Chapter 2, Section 30 of the Commission's Rules and the terms of this *Protective Order*, to have access to and to review data and information claimed by each to be of a confidential nature. The parties have designated or may in the future designate documents filed with the Commission or produced in discovery as confidential for the reason that such documents contain confidential information, trade secrets, proprietary information or commercially sensitive information.

4. Definitions. For purposes of this *Protective Order*, the following terms shall mean:

a. "Documents" shall mean and include all written, recorded or electronic graphic matters of any kind or nature whatsoever, within the meaning of Rule 34(a) W.R.C.P., or Rule 1001 W.R.E., and shall extend to any subsequent compilation, summary, quotation, or reproduction thereof prepared at any subsequent time in any subsequent form or proceeding, in whole or in part and shall include computer software, computer models and information generated by computer software and models. The reference to "Rule 1001 W.R.E." is for definitional purposes only and is not intended to suggest that the Wyoming Rules of Evidence are applicable to Commission proceedings. Further the reference to W.R.C.P. is not intended to suggest that any of the Wyoming Rules of Civil Procedure are applicable to Commission proceedings, except those specifically made applicable to Commission proceedings by the Wyoming Administrative Procedure Act.

b. "Confidential Information" shall mean and include any Documents and all contents thereof which are marked "CONFIDENTIAL" by the party producing the information ("Producing Party"), including information prepared, presented, typed or copied on yellow paper.

c. "Authorized Person(s)" shall mean and be limited to the employees, attorneys and expert witnesses or consultants of the party receiving the information ("Receiving Party") who are necessary to assist counsel in preparation for the proceedings in this docket. "Authorized Person(s)" shall not include individuals responsible for marketing or other competitive activities or who could use the information in the normal course of their employment to the competitive disadvantage of the Producing Party except upon prior approval of the Commission. No person, with the exception of the Commissioners, members of the Commission Staff and the Wyoming Office of Consumer Advocate, shall be considered an Authorized Person under this *Protective Order* unless such person is qualified as such under paragraph 5 below.

d. “Authorized Use” shall mean and be limited to use only for purposes of this docket in addressing the issues arising in this proceeding over which the Commission has jurisdiction.

e. “Disclose”, “make disclosure of”, or “disclosure” shall mean and include the dissemination to any person, firm, corporation or other entity of the contents of a Document, whether that dissemination is by means of the transmittal or transfer of the original or a copy of that document or any verbal or other dissemination of the contents of the Document.

5. Restrictions on Disclosure of Confidential Information. All Confidential Information and the disclosure thereof shall be subject to the following restrictions:

a. A Producing Party or Receiving Party may submit Confidential Information to the Commission, the Commission Staff, and the staff of the Wyoming Office of Consumer Advocate for the purposes of this proceeding, provided that the information is submitted, identified and maintained as Confidential Information subject to Chapter 2, Section 30 of the Commission’s Rules. Other than the disclosures described in the previous sentence, the Receiving Party shall not disclose any Confidential Information to anyone other than its Authorized Person(s) for the sole purpose of the Receiving Party’s review and analysis of this filing.

b. Whether Confidential Information has been produced in hard copy or in some other form, the Receiving Party shall make no copies or reproductions of any kind or nature whatsoever of the Confidential Information so supplied, except that copies or reproductions may be made when necessary for use by Authorized Persons in preparation for the proceedings on the filing or the presentation of the party’s case.

c. The foregoing notwithstanding and with the exception of the Commission, Commission Staff, or the staff of the Wyoming Office of Consumer Advocate, the Receiving Party may not receive Confidential Information until they have signed a Nondisclosure Agreement in the form attached hereto, marked as “Exhibit A” and incorporated herein by reference. Upon execution of “Exhibit A”, the signed originals shall be furnished to counsel of record for the Producing Party and copies thereof shall be filed with the Commission. Furthermore, a Receiving Party may not disclose Confidential Information to an Authorized Person unless, prior to the disclosure of such Confidential Information, the Authorized Person has signed and furnished an “Exhibit A” Nondisclosure Agreement as required above.

d. Counsel for the Receiving Party shall be responsible for designating Authorized Persons to whom disclosure of Confidential Information is deemed necessary to assist counsel in the preparation for proceedings in this docket. The names of authorized persons shall be provided to the Producing Party at least five (5) business days prior to any disclosure to enable the Producing Party to challenge the right of an individual to review Confidential Information for any reason prior to disclosure to that individual, unless the Producing Party waives this right. In the event the Parties cannot resolve a challenge between themselves, the challenge will be resolved by the Commission. During the pendency of the challenge, no disclosure shall be made to the individual in question and the Commission shall retain its specific authority to extend or adjust deadlines as, in its opinion, justice may require due to delays caused by the exercise of rights under

this provision or otherwise.

6. Protective measures for Highly Sensitive Confidential Information. A Producing Party may claim that additional protective measures, beyond those otherwise required under this *Protective Order*, are warranted for certain Confidential Information referred to as Highly Sensitive Confidential Information. A Producing Party making such a claim shall identify such Highly Sensitive Confidential Information and shall inform the Receiving Party of their claimed highly sensitive nature as soon as possible.

a. General procedure. As to documents designated as Highly Sensitive Confidential Information, the Producing Party shall have the right, at its option, not to provide copies thereof to other parties, their counsel, experts or other representatives. In the event a Producing Party does not provide copies of Highly Sensitive Confidential Information, such Highly Sensitive Confidential Information, if discoverable, may be made available for inspection and review by counsel or experts for the Receiving Party at a mutually agreed upon place and time. Inspection may occur at all times during normal business hours upon request made not later than fifteen (15) business days before inspection is to occur, and within such time as is allowed by the Commission under its Rules or the Wyoming Rules of Civil Procedure applicable to responses to discovery requests under the Wyoming Administrative Procedure Act. Failure of the Producing Party to make information available for inspection at the agreed place after timely request has been made shall constitute a waiver of the restrictions contained in this subparagraph and the Receiving Party may demand and shall be provided a copy of the information, subject to Chapter 2, Section 30 of the Commission's Rules and the other terms of this *Protective Order*. Where copies are not provided, counsel and experts reviewing the Highly Sensitive Confidential Information may make notes regarding the highly sensitive Confidential Information for reference purposes only. Such notes shall not consist of a verbatim or substantive transcript of the highly sensitive Confidential Information and shall be themselves Confidential Information subject to Chapter 2, Section 30 of the Commission's Rules and the terms of this *Protective Order*.

b. Additional protection. In the event that any party believes a different level of protection than that provided for above in this paragraph is appropriate for any Highly Sensitive Confidential Information, the parties shall first attempt to reach agreement on the appropriate level of protection. If agreement cannot be reached, any party may request that the Commission resolve the disagreement. The concerned party may petition the Commission for an order granting additional protective measures which the petitioner believes are warranted for the claimed Highly Sensitive Confidential Information that is to be produced. The petition shall set forth the particular basis for: the claim, the specific additional protective measures requested, the need therefore, and the reasonableness of the requested additional protection. A party who would otherwise receive the documents and information under the terms of this *Protective Order* may respond to the petition and oppose or propose alternative protective measures to those requested by the provider of the claimed Highly Sensitive Confidential Information. In disputes brought to the Commission for resolution under this subparagraph, the petitioning party shall have the burden to prove that the additional protections it proposes should be approved.

7. Disputes in general. In the event the Receiving Party objects to the Producing Party's designation of a document or its contents as Confidential Information, the materials shall

be treated as Confidential Information until a contrary ruling by the Commission, or, if appropriate, a court of competent jurisdiction. Prior to the time any objection to a designation of Confidential Information is brought before the Commission or, if appropriate, a court of competent jurisdiction, for resolution, the parties shall attempt to resolve the objection by agreement. If the parties are unable to reach an agreement, then either of them may bring the objection before the Commission or, if appropriate, a court of competent jurisdiction in accordance with the applicable rules of that forum. In disputes brought to the Commission for resolution under this paragraph, the Producing Party shall have the burden under Chapter 2, Section 30 of the Commission's Rules to prove that the protections it proposes should be approved. The parties recognize that the Commission has the authority to extend or adjust deadlines as, in its opinion, justice may require due to delays caused by the exercise of rights under this provision or otherwise. For purposes of resolving disputes concerning Highly Sensitive Confidential Information, references in this paragraph to Confidential Information shall include Highly Sensitive Confidential Information. All resolutions shall be made by order of the Commission.

8. General procedures for the use of Confidential Information.

a. Receipt into Evidence. Confidential Information may be received into evidence in this proceeding under seal. Unless the Commission requires or allows a different time period, at least ten (10) days prior to the use of, or substantive reference to any Confidential Information as evidence, the party intending to use such Confidential Information shall provide notice of that intention to the counsel for the Producing Party. The Requesting Party and the Producing Party shall make a good faith effort to reach an agreement so that the information can be used in a manner which will not reveal Confidential Information. If such efforts fail, the concerned parties shall within five (5) days, unless the Commission requires or allows a different time period, designate which portions, if any, of the documents to be offered, or referred to on the record contain Confidential Information. The portions of the documents so designated shall be placed in the sealed record. Only one (1) copy of documents designated by the Producing Party to be placed in the sealed record shall be made and only for that purpose. Any required additional copies of the record shall receive the same treatment. Otherwise, parties shall make only general references to Confidential Information in these proceedings, except as may be provided for in subparagraph c below. Notwithstanding the foregoing, the Commission may make and retain such copies of this Confidential Information as it sees fit for the efficient disposition of the proceeding.

b. Seal. While in the custody of the Commission or any member of its staff, these materials shall be marked "CONFIDENTIAL-SUBJECT TO PROTECTIVE ORDER IN DOCKET NO. 20000-_____", and shall be immediately entitled to be treated as Confidential Information under Chapter 2, Section 30 of the Commission's Rules, pending any further order of the Commission.

c. In Camera Hearing. Any Confidential Information which must be orally disclosed by any person shall be part of the sealed record in this proceeding and shall be offered only in an *in camera* hearing, attended only by persons authorized to have access to the Confidential Information under Chapter 2, Section 30 of the Commission's rules and this *Protective Order*. Similarly, cross-examination on, or substantive references to, Confidential Information, as well as that portion of the record containing references thereto, shall be marked

and treated as provided herein.

d. Appeal. Sealed portions of the record in this proceeding may be forwarded to any court of competent jurisdiction on appeal in accordance with applicable rules and regulations, but under seal as designated herein, for the information and use of the court only.

e. Return. Unless otherwise ordered, Confidential Information, including transcripts of any depositions to which a claim of confidentiality is made, shall remain under seal, shall continue to be subject to the protection of Chapter 2, Section 30 of the Commission's Rules and the requirements of this *Protective Order*, and shall, within 30 days after final settlement, or other conclusion of this matter, including any administrative or judicial review thereof, be either [i] returned to counsel for the Producing Party or [ii] destroyed by the Receiving Party. Compliance with this paragraph shall be evidenced by an affidavit of counsel for the Receiving Party in the form attached hereto as Exhibit B. The Commission may retain such Confidential Information as it deems necessary subject to Chapter 2, Section 30 of its Rules. Counsel who are provided access to Confidential Information pursuant to the terms of this *Protective Order* may retain their notes, work papers or other documents that would be considered the attorneys' work product created with respect to their use and access to Confidential Information in this docket. An expert witness, accorded access to Confidential Information pursuant to this *Protective Order*, shall provide to counsel for the party on whose behalf the expert was retained or employed, the expert's notes, work papers or other documents pertaining or relating to any Confidential Information. Counsel shall retain these expert's documents with counsel's documents.

f. Redacted public versions of Confidential Information. It is the Commission's policy that its proceedings be as open and transparent as possible, so members of the public may have the greatest possible access to and understanding thereof. Therefore, whenever only a portion of a Document is considered Confidential Information hereunder, the confidential portion shall be clearly identified and treated as such in accordance with this *Protective Order*. However, the Producing Party shall restrict its designation of confidential status to the end that as much of the Document as possible shall remain nonconfidential and open to public inspection. When a Producing Party submits such a partially confidential Document, it shall simultaneously submit a redacted version thereof with the Confidential Information blacked out or otherwise rendered indecipherable. The identification of Confidential Information in any partially confidential Document shall be restricted to those portions thereof which are actually confidential (e.g., if only two pages of a Document contain Confidential Information, only those pages should be reproduced on yellow paper). The public redacted version of any such document shall be clearly marked on its face "Redacted Nonconfidential Public Version".

9. Use by Parties. Where reference to Confidential Information in the sealed record is required in pleadings, cross-examinations, briefs, argument, motions or otherwise, it shall be, to the extent possible, only by citation or title, or exhibit number, or by some other non-confidential description. Any other use of, or substantive references to, Confidential Information, shall be placed in a separate section of the pleading or brief and submitted to the Commission under seal, on yellow paper, and identified as provided for in paragraph 8b above. This sealed section shall be served only on counsel of record (one copy each), who have signed a Nondisclosure Agreement (Exhibit A). All the protections afforded by this *Protective Order*, the Commission's Rules and its

orders with respect thereto shall apply to materials prepared and distributed under this paragraph.

10. Use in Decisions and Orders. The Commission will attempt to refer to Confidential Information in only a general or conclusory manner and will avoid reproduction in any decision of Confidential Information to the greatest possible extent. If the Commission deems it necessary to discuss Confidential Information specifically, it will treat the Confidential Information in a manner consistent with the treatment of Confidential Information in paragraph 9 above.

11. Removal of confidential status.

a. Voluntary disclosure. Nothing in this *Protective Order* shall preclude a Producing Party from using or disclosing any of its own Confidential Information for any purpose or to any person. If any information for which Confidential Information status is sought in this case has been previously filed by a party as public information with a court or any federal or state agency, the party seeking to have the designation continue to apply thereto shall petition the Commission for such a designation.

b. Petition for removal of confidential status. Any party at any time upon ten (10) days prior notice may seek by appropriate pleading to the Commission to have documents that have been designated as Confidential Information or Highly Sensitive Confidential Information, or which were accepted into the sealed record in accordance with this *Protective Order*, removed from the protective requirements of this *Protective Order*, or from the sealed record and placed in the public record. If the confidential nature of such information is challenged, the Commission will resolve the issue in an *in camera* hearing at which only those persons duly authorized hereunder to have access to such Confidential Information or Highly Sensitive Confidential Information shall be present. If the Commission finds that no party would be prejudiced thereby and the case continues to proceed in an orderly manner, it may provide in such order that its decision will not take effect for a period of ten (10) days or such other time period as may be deemed advisable by the Commission to protect the rights of parties to seek further relief and to provide for the efficient and orderly conduct of the case.

12. Limitations. Nothing in this *Protective Order* shall prohibit or limit any party as to any objections it may otherwise have to the disclosure of any Confidential Information to which this *Protective Order* applies.

13. Filing of Discovery Requests and Responses. In dealing with Confidential Information, the parties are reminded of Chapter 2, Section 17 of the Commission's Rules regarding discovery-related filings which states:

(a) The taking of depositions and discovery shall be in accordance with Wyoming Statute § 16-3-107(g).

(b) Unless the hearing officer or adjudicative agency orders otherwise, parties shall not file discovery requests, answers, and deposition notices with the hearing officer or adjudicative agency.

14. Protection to survive after end of proceeding. The provisions of this *Protective*

Order, insofar as they restrict the disclosure and use of Confidential Information governed by this *Protective Order*, shall, without the written agreement of the parties or further order of the Commission, or if appropriate, a court of competent jurisdiction, continue to be binding after the conclusion of the case.

15. Commission authority retained. This *Protective Order* does not diminish or limit the Commission’s authority to deal with Confidential Information in this case under applicable Wyoming laws and rules, including, without limitation, Chapter 2, Section 30 of the Commission’s Rules. Nothing in this *Protective Order* shall prevent a party from placing before the Commission its desire for relief with respect to any issue arising with regard to any information alleged to be covered by this *Protective Order*, including disputes arising in the event that information is not disclosed to a party under this *Protective Order*.

16. Commission jurisdiction not limited hereby. Nothing in this *Protective Order* shall be construed as limiting the Commission’s jurisdiction in this case or the prerogatives of the Commission regarding the orderly governance and disposition of this case, the use and disposition of Confidential Information or its prerogatives to make and enter all orders it deems necessary in the public interest, giving careful regard to the interests of the parties and the commercially sensitive nature of the information involved.

17. This *Protective Order* is effective immediately.

MADE and ENTERED at Cheyenne, Wyoming, on _____, 2018.

PUBLIC SERVICE COMMISSION OF WYOMING

(SEAL)

Attest:

EXHIBIT A TO PROTECTIVE ORDER

NONDISCLOSURE AGREEMENT:

IN THE MATTER OF THE APPLICATION OF ROCKY MOUNTAIN POWER FOR
MODIFICATION OF AVOIDED COST METHODOLOGY AND REDUCED CONTRACT
TERM OF PURPA POWER PURCHASE AGREEMENTS WITH QUALIFYING FACILITIES
– DOCKET NO. 20000-_____

I hereby agree that I have been furnished a copy of and have read and understand the *Protective Order* issued by the Wyoming Public Service Commission in Docket No. 20000-_____ with respect to the review and use of Confidential Information. I understand the *Protective Order* and the definition of Confidential Information contained herein, and agree to comply with the terms and conditions of the *Protective Order* with respect to all Confidential Information covered thereby. I also have read, understand and agree to be bound by and to comply with Chapter 2, Section 30 of the Commission’s Rules, a copy of which is attached hereto.

Name

Employer or Firm

Business Address

Party With Whom Associated

Date

Signature

ATTACHMENT TO EXHIBIT A -- NONDISCLOSURE AGREEMENT:
IN THE MATTER OF THE APPLICATION OF ROCKY MOUNTAIN POWER FOR
MODIFICATION OF AVOIDED COST METHODOLOGY AND REDUCED CONTRACT TERM
OF PURPA POWER PURCHASE AGREEMENTS WITH QUALIFYING FACILITIES – DOCKET
NO. 20000-_____

Commission Rule Chapter 2, Section 30: Confidentiality of Information.

(a) Upon petition, and for good cause shown, the Commission shall deem confidential any information filed with the Commission or in the custody of the Commission or staff which is shown to be of the nature described in Wyoming Statute § 16-4-203(a), (b), (d) or (g). All information for which confidential treatment is requested shall be treated as confidential until the Commission rules whether, and to what extent, the information shall be given confidential treatment.

(b) Any person requesting confidential treatment of information (except as directed by the Commission in investigative and discovery matters) shall file a petition that includes the following information:

(i) The assigned docket, if applicable.

(ii) Title the filing as: Petition for Confidential Treatment of
_____.

(iii) Numbered listings and explanations in adequate detail to support why confidentiality should be authorized for each item, category, page, document or testimony. Each item, category or page of proposed confidential information shall be attached to the Petition and numbered in the right hand margin so that numbering corresponds with the numbering and detailed explanation(s) in the Petition. If only part of a page, or intermittent parts of pages, are requested to be kept confidential, these should be set off by brackets identified with an item number or numbers. Each page containing information for which confidential treatment is requested shall be printed on yellow paper and marked or stamped at the top in capital letters: CONFIDENTIAL INFORMATION.

(iv) A request for return or other final disposition of the information.

(c) All information deemed confidential under this Rule shall be retained in secure areas of the Commission's offices.

(d) If the person petitioning for confidential treatment of information intends that parties in a case have access thereto, upon signing a statement that the information shall be treated as confidential, the petitioner shall prepare a proposed protective order for the Commission's approval with an attached form to be signed by the parties and made part of the Commission's permanent case file.

(e) Information in the Commission's confidential files shall be retained for the period determined by the Commission. On an appeal of a Commission final order, any confidential information included in the record shall be sealed and delivered to the court pursuant to the W.A.P.A.

(f) The Commission may consider oral petitions for confidential treatment of information when the public interest requires.

EXHIBIT B TO PROTECTIVE ORDER

AFFIDAVIT OF COUNSEL:

IN THE MATTER OF THE APPLICATION OF ROCKY MOUNTAIN POWER FOR MODIFICATION OF AVOIDED COST METHODOLOGY AND REDUCED CONTRACT TERM OF PURPA POWER PURCHASE AGREEMENTS WITH QUALIFYING FACILITIES – DOCKET NO. 20000-_____

[Counsel] being of lawful age and being first duly sworn, hereby deposes and says that:

Alternative ¶1 (to be used if documents returned). I have obtained the original copies of all Confidential Information provided to [Receiving Party] by [Producing Party] in the Wyoming Public Service Commission’s proceedings in **Docket No. 20000-_____** concerning Rocky Mountain Power and all such documents are being returned to [Producing Party] together with this Affidavit. Furthermore, I have obtained all copies and reproductions of such Confidential Information known to me to exist in the custody or control of [Receiving Party], its employees, attorneys, experts, consultants and agents and all such documents are being returned to [Producing Party] together with this Affidavit.

Alternative ¶1 (to be used if documents destroyed). I have obtained the original copies of all Confidential Information provided to [Receiving Party] by [Producing Party] in the Wyoming Public Service Commission’s proceedings in **Docket No. 20000-_____** concerning Rocky Mountain Power and all such documents have been destroyed. Furthermore, I have obtained all copies and reproductions of such Confidential Information known to me to exist in the custody or control of [Receiving Party], its employees, attorneys, experts, consultants and agents and all such documents have been destroyed.

2. I have made diligent inquiry of all persons known to me to have had access to the Confidential Information received from [Producing Party] in the captioned proceeding and have otherwise diligently endeavored to identify and locate all copies of such Confidential Information in the custody or control of [Receiving Party], its employees, attorneys, experts, consultants and agents. Other than myself, the employees’ attorney, experts, consultants, and agents who have had access to the Confidential Information together with their current address are listed below.

[LIST PERSONS WHO HAVE HAD ACCESS.]

Alternative ¶3 (to be used if documents returned). I am not aware of the existence of any copies or reproductions of the Confidential Information provided to [Receiving Party] by [Producing Party] in the captioned proceeding that are not included and returned to [Producing Party] with this Affidavit.

Alternative ¶3 (to be used if documents destroyed). I am not aware of the existence of any copies or reproductions of the Confidential Information provided to [Receiving Party] by [Producing Party] in the captioned proceeding that have not been destroyed.

Further Affiant Sayeth Not.

Docket No. 20000-__-EA-18
Witness: Daniel J. MacNeil

BEFORE THE WYOMING PUBLIC SERVICE
COMMISSION

ROCKY MOUNTAIN POWER

Direct Testimony of Daniel J. MacNeil

November 2018

1 **Q. Please state your name, business address, and present position with PacifiCorp**
2 **d/b/a Rocky Mountain Power (the “Company”).**

3 A. My name is Daniel J. MacNeil. My business address is 825 NE Multnomah Street,
4 Suite 600, Portland, Oregon 97232. My present position is Resource and Commercial
5 Strategy Adviser.

6 **QUALIFICATIONS**

7 **Q. Briefly describe your education and professional experience.**

8 A. I received a Master of Arts degree in International Science and Technology Policy from
9 George Washington University and a Bachelor of Science degree in Materials Science
10 and Engineering from Johns Hopkins University. Before joining the Company, I
11 completed internships with the U.S. Department of Energy’s Office of Policy and
12 International Affairs and the World Resources Institute’s Green Power Market
13 Development Group. I have been employed by the Company since 2008, first as a
14 member of the net power costs group, then as manager of that group from June 2015
15 until September 2016. In my current role, I provide analytical expertise on a broad
16 range of topics related to the Company’s resource portfolio and obligations, including
17 oversight of the calculation of avoided cost pricing in the Company’s jurisdictions.

18 **Q. Have you testified in previous regulatory proceedings?**

19 A. Yes. I have provided testimony in Wyoming dockets 20000-505-EC-16 and 20000-
20 518-EA-17. I have also provided testimony in Utah, Oregon, and Federal Energy
21 Regulatory Commission (“FERC”) dockets.

1 **PURPOSE OF TESTIMONY**

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

3 A. My testimony provides support for the Company’s proposed changes to the avoided
4 cost methodology, terms, and procedures applicable to qualifying facilities eligible for
5 standard prices under Wyoming Schedule 37 and non-standard prices under Wyoming
6 Schedule 38. I address three primary areas. First, I propose refinements to the Partial
7 Displacement Differential Revenue Requirement (“PDDRR”) methodology that is
8 currently approved for use in determining non-standard avoided costs under Schedule
9 38. Second, I provide support for the adoption of the same methodology implemented
10 under Schedule 38 to set the published pricing contained within Schedule 37. Third, I
11 propose changes to the on-peak and off-peak definitions contained in Schedule 37 to
12 better differentiate between periods of higher and lower avoided cost.

13 **Q. How is your testimony organized?**

14 A. My testimony first describes the currently approved and effective PDDRR
15 methodology for determining non-standard avoided costs under Schedule 38. I next
16 describe how the PDDRR methodology is implemented based on the 2017 Integrated
17 Resource Plan (“IRP”) Update preferred portfolio and describe refinements of the
18 determination of proxy resources for various qualifying facility (“QF”) types. In
19 particular, my testimony demonstrates that the deferral of cost-effective renewable
20 resources from the IRP preferred portfolio by QFs of the same type produces the most
21 reasonable forecast of avoided cost consistent with the customer indifference standard.

22 Next, my testimony provides justification for the adoption of the same
23 methodology implemented under Schedule 38 to determine published pricing for

1 Schedule 37, Avoided Cost Purchases from Qualifying Facilities. My testimony
2 demonstrates that the PDDRR methodology better captures the specific operational
3 characteristics of different resource types and is more consistent with the customer
4 indifference standard.

5 Finally, my testimony illustrates how the current on-peak and off-peak
6 definitions within Schedule 37, also commonly referred to as Heavy Load Hours
7 (“HLH”) and Light Load Hours (“LLH”), fail to adequately distinguish between
8 periods of higher and lower avoided costs. For instance, as a result of the proliferation
9 of solar generation on the Company’s system and across the West, market prices during
10 the middle of the day, which is currently considered on-peak, are now often lower than
11 market prices at night, which is currently considered off-peak. Because the current
12 Schedule 37 methodology applies a single on-peak energy value to all resource types,
13 it fails to appropriately account for the difference in avoided cost value, for instance
14 between solar resources delivering during only part of the on-peak period and baseload
15 resources delivering throughout the on-peak period. While the existing non-standard
16 avoided cost methodology appropriately accounts for the value during each hour, the
17 current delineation of on-peak and off-peak pricing does not provide appropriate price
18 signals to incentivize QF generation during the periods when the Company’s avoided
19 costs are the highest.

20 **Q. What standard is used to measure the accuracy of avoided cost pricing?**

21 A. The Public Utility Regulatory Policies Act of 1978 (“PURPA”) specifies that QFs are
22 to be paid a rate that is “just and reasonable to the electric consumers of the electric
23 utility” and may not exceed a utility’s “incremental cost of alternative electric energy”.

1 The accuracy of avoided cost pricing relative to these requirements is known as the
2 customer indifference standard.^{1,2}

3 **Q. How is the PDDRR methodology consistent with the customer indifference**
4 **standard?**

5 A. The PDDRR methodology provides a reasonable forecast of the Company's avoided
6 capacity and energy costs by:

- 7 • Incorporating the unique characteristics of each QF resource and the Company's
8 system by using the Generation and Regulation Initiative Decision Tools ("GRID")
9 model to calculate the value of energy and capacity from QFs to directly measure
10 the impact each QF facility has on the Company's power costs. This accounts for
11 QF location, delivery pattern, and capacity contribution.
- 12 • Aligning with the Company's long-term resource plan by incorporating the cost,
13 timing, and characteristics of the preferred portfolio identified in the IRP.
- 14 • Capturing the impact of individual and aggregate QFs on the Company's system,
15 accounting for unique characteristics of each QF.
- 16 • Appropriately accounting for the seven factors identified in the PURPA statute,

¹ FERC has affirmed the need to ensure customer indifference to utility purchases of QF power, noting that, in enacting PURPA, "[t]he intention [of Congress] was to make ratepayers indifferent as to whether the utility used more traditional sources of power or the newly-encouraged alternatives." Southern Cal. Edison Co., et al., 71 FERC ¶ 61,269 at 62,080 (1995) overruled on other grounds, Cal Pub. Util. Comm'n, 133 FERC ¶ 61,059 (2010). See also *PSC of Oklahoma v. State ex. rel. Corp. Comm'n*, 115 P.3d 861, 870-71 (Okla. 2005) ("The incremental cost standard is intended to leave ratepayers economically indifferent to the source of a utility's energy by ensuring that the cost to the utility of purchasing power from a QF does not exceed the cost the utility would incur in the absence of the QF purchase").

² See, e.g., *IN THE MATTER OF THE APPLICATION OF ROCKY MOUNTAIN POWER, FORMERLY KNOWN AS PACIFICORP, TO IMPLEMENT AVOIDED COST METHODOLOGIES FOR PROJECTS OVER ONE MEGAWATT PURSUANT TO THE TERMS OF COMMITMENT WY 4*, Docket No. 20000-250-EA-06, March 20, 2007 Order at 45. ("the Commission finds Rocky Mountain's proposed avoided cost methodologies, as contained in its application, using the GRID model, provide fair costs to QFs and does not set costs at a level that will cause customers to incur unnecessary costs.")

1 specifically under 18 CFR §292.304(e)(2).

2 **PDDRR METHODOLOGY**

3 **Q. Please describe the methodology the Company currently uses to determine**
4 **avoided costs under Schedule 38.**

5 A. The PDDRR methodology used to determine avoided costs was first established on
6 interim basis by the Commission's November 30, 2009 order in Docket No. 20000-
7 342-EA-09 and was adopted permanently by the Commission's November 4, 2011
8 order in Docket No. 20000-388-EA-11. The PDDRR methodology forecasts avoided
9 fixed costs from a proxy resource and avoided energy costs associated with incremental
10 generation from a particular QF project. Avoided fixed costs include avoided capital
11 costs, which is based on the capital cost of a proxy resource expressed in dollars per
12 kilowatt. The proxy resource is identified as the next deferrable generating unit in the
13 Company's most recent IRP. The avoided capital cost is calculated using the operating
14 characteristics and payment factor identified in the IRP for the deferred proxy resource.
15 The avoided fixed costs also include non-fuel fixed and variable operation and
16 maintenance costs associated with the deferred proxy resource as reported in the IRP.
17 To convert the proxy plant capital cost, grossed up for revenue requirement, to an
18 annual cost per kilowatt, the method uses the IRP resource payment factor as the basis
19 for the real levelized annual cost of the present value of the investment and adds
20 inflation annually thereafter. The non-fuel variable operation and maintenance costs
21 are converted into an annual cost per kilowatt, using the relevant reported capacity
22 factors in the IRP, adjusted for inflation, and this amount is added to the annual avoided
23 capital cost calculation. This produces avoided fixed costs that increase over time.

1 The PDDRR methodology also produces a forecast of avoided energy costs
2 associated with a particular QF project. This is achieved by simulating the hourly
3 operation of the Company's utility system using the GRID model. Two GRID runs are
4 performed to calculate hourly avoided energy cost. The first run is the existing utility
5 system plus the planned resources contained in the Company's preferred portfolio in
6 its most recent IRP; the second run is the same as the first run with two exceptions: the
7 operating characteristics of the proposed QF project are added with its energy
8 dispatched at zero cost and the capacity of the proxy IRP resource is reduced by an
9 amount equal to the capacity contribution of the QF project. The difference in
10 production costs between the two runs is the avoided energy cost.

11 **Q. What is the fundamental premise of the PDDRR methodology?**

12 A. The Company's IRP preferred portfolio is the least-cost, least-risk plan to reliably meet
13 system load. While the GRID model can reasonably account for the differences in
14 energy value between resources in two geographic locations, to maintain a consistent
15 load and resource balance, it is important to maintain the total effective capacity
16 contribution identified in the preferred portfolio, as this meets the system planning
17 reserve margin assumed in the IRP. For that reason, a QF defers IRP resources based
18 on equivalent capacity contributions.

19 **Q. How is the proxy IRP resource determined under the current PDDRR
20 methodology?**

21 A. Under the current methodology, non-wind QF resources displace proxy gas resources
22 identified in the Company's most recently filed IRP or IRP Update preferred portfolio,

1 while wind QFs defer wind resources from the preferred portfolio.³

2 **Q. Has the composition of the Company's IRP preferred portfolio changed over**
3 **time?**

4 A. Yes. At times, IRP preferred portfolios have not included any wind resources, such that
5 there was no proxy available for wind QFs to displace under the current PDDRR
6 methodology. Likewise, the 2017 IRP Update preferred portfolio did not include any
7 thermal resources, such that there is no proxy available for non-wind QFs to displace
8 under the approved PDDRR methodology. In addition, recent IRP preferred portfolios
9 have included cost-effective proxy solar resources that are not contemplated for
10 deferral under the current PDDRR methodology.

11 **Q. What changes to the proxy IRP resource determination do you propose?**

12 A. In light of the variations in the IRP preferred portfolio described above, a more nuanced
13 determination of proxy resources is appropriate. Therefore, when the Company's IRP
14 preferred portfolio includes renewable resources to meet system load (as opposed to
15 state-specific obligations) that are the same type as a QF project, the forecast of avoided
16 capacity costs are based on the assumed fixed costs of the next deferrable renewable
17 resource. If no renewable resources of the same type (as a QF) remain in the IRP
18 preferred portfolio, the QF would be assumed to defer thermal resources, and avoided
19 capacity costs would be based on the capital costs of the next deferrable thermal
20 resource in the IRP preferred portfolio. In addition, in the years prior to deferral of a
21 proxy renewable or thermal resource, all QFs are eligible to defer front office

³ Docket No. 20000-388-EA-11. Commission Order dated November 4, 2011, pg. 2; and direct testimony of Greg Duvall, Docket No. 20000-388-EA-11, pg. 5-6.

1 transactions (“FOTs”) identified in the IRP preferred portfolio.⁴

2 **Q. What is meant by renewables of the same type?**

3 A. The “type” is meant to reflect the operational characteristics of the QF on PacifiCorp’s
4 system, not the specific technology of the resource identified in the preferred portfolio.
5 For instance, the 2017 IRP preferred portfolio included wind, solar, and geothermal
6 resources. The geothermal resource in the 2017 IRP preferred portfolio is expected to
7 have a flat generation profile with little daily or seasonal variation. Biomass, biogas,
8 hydro, and other renewable resources with similar output profiles would also be eligible
9 to displace the geothermal resource. Any resource with relatively flat output over a
10 daily and monthly timeframe would be considered a resource of the same type as the
11 geothermal resource in the 2017 IRP.

12 **Q. How much of an IRP proxy resource does a QF defer?**

13 A. A QF defers IRP resources based on equivalent capacity contributions, with values
14 reflecting the assumptions used in the development of the most recent IRP preferred
15 portfolio. For example, wind and solar capacity contribution values from the 2017 IRP
16 continued to be used in the 2017 IRP Update and are shown in the table below.

17 **Table 1: 2017 IRP Capacity Contribution Values⁵**

| East | | | West | | |
|-------|---------------------|-------------------------------|-------|---------------------|-------------------------------|
| Wind | Fixed Tilt Solar PV | Single Axis Tracking Solar PV | Wind | Fixed Tilt Solar PV | Single Axis Tracking Solar PV |
| 15.8% | 37.9% | 59.7% | 11.8% | 53.9% | 64.8% |

⁴ FOTs are proxy resources, assumed to be firm, that represent procurement activity made on an on-going forward basis to help the Company cover short positions. FOTs represent short-term firm market purchases for physical delivery of power and contribute capacity toward meeting the IRP target planning reserve margin.

⁵ 2017 IRP. Volume II. Appendix N: Wind and Solar Capacity Contribution Study.

www.pacificorp.com/content/dam/pacificorp/doc/Energy_Sources/Integrated_Resource_Plan/2017_IRP/2017_IRP_VolumeII_2017_IRP_Final.pdf.

1 **Q. What deferrable resources were identified in the 2017 IRP Update preferred**
2 **portfolio?**

3 A. The 2017 IRP Update preferred portfolio includes the following deferrable resources:

4 **Wind:**

- 5 • 2021: Wyoming wind (1,311 megawatt (“MW”))
- 6 • 2030: Dave Johnston wind (Wyoming) (121 MW)
- 7 • 2033: Goshen wind (Idaho) (800 MW)
- 8 • 2035: Oregon/Washington wind (333 MW)
- 9 • 2036: Utah wind (149 MW)

10 **Solar:**

- 11 • 2030-2033: Oregon/Washington solar (1,055 MW)
- 12 • 2033-2035: Utah South solar (805 MW)

13 **Q. What would the proxy resource be for a baseload resource?**

14 A. Since there are no thermal resources in the 2017 IRP Update preferred portfolio,
15 baseload resources would be eligible to defer FOTs throughout their contract term.

16 **Q. Are there additional considerations associated with capacity deferral by other**
17 **renewable resource types?**

18 A. Yes. Resources that can be economically dispatched by the Company to their maximum
19 output would have capacity contributions based on that output. Resources that cannot
20 be economically dispatched by the Company have capacity contributions based on their
21 expected output relative to the availability of the deferrable thermal or baseload
22 resource identified in the IRP. Resources with seasonal variations in output would have
23 capacity contributions based on their output during the months of the Company’s peak

1 load requirements, as identified in the loss of load probability study used to develop
2 the wind and solar capacity contribution values in the IRP.⁶ These distinctions ensure
3 that the capacity provided by a QF is equivalent to the capacity being removed from
4 the IRP preferred portfolio.

5 **Q. Can you provide an example of the capacity contribution applicable to a QF with**
6 **seasonal variability?**

7 A. Yes. The Company recently executed a contract with a cogeneration QF in Idaho with
8 a nameplate capacity of 5.6 MW.⁷ The QF is not expected to have significant intra-hour
9 or intra-day variations in generation, but its monthly expected generation varies from
10 4.0 MW in September to 4.7 MW in December. When the monthly expected generation
11 is weighted based on the monthly loss of load probabilities in the 2017 IRP capacity
12 contribution analysis, the effective capacity contribution of this resource is 4.2 MW.
13 Because the Company's loss of load probability is higher in the summer than other
14 periods, the expected output during the summer has a larger impact on the capacity
15 contribution.

16 **Q. Is it appropriate to limit deferral of renewable resources used to meet system load**
17 **to QFs of the same type?**

18 A. Yes. The wind, solar, and geothermal resources identified in the 2017 IRP preferred
19 portfolio are components of the least-cost, least-risk portfolio of resources needed to
20 meet system load over time. The IRP preferred portfolio analysis does not include any

⁶ 2017 IRP. Volume II. Appendix N: Wind and Solar Capacity Contribution Study.

www.pacificorp.com/content/dam/pacificorp/doc/Energy_Sources/Integrated_Resource_Plan/2017_IRP/2017_IRP_VolumeII_2017_IRP_Final.pdf.

⁷ Brigham Young University – Idaho (BYU – Idaho). Please refer to:

www.puc.idaho.gov/fileroom/cases/elec/PAC/PACE1708/20170712APPLICATION.PDF.

1 special obligations to acquire renewable resources or include any value for renewable
2 attributes, and only accounts for the contribution of their operating characteristics to
3 the composition and dispatch of the Company’s portfolio of resources. The IRP
4 analysis does assume that the Company would retain title to the Renewable Energy
5 Credits (“RECs”) associated with these renewable resources on behalf of its retail
6 customers. Thus, labeling resources as “renewable” is not relevant to the composition
7 of the preferred portfolio. Instead, the renewable resources in the IRP preferred
8 portfolio were selected based on their specific operating characteristics. Limiting
9 deferral to QFs of the same type helps ensure reasonable alignment between the
10 operating characteristics of a QF and the preferred portfolio resources it is assumed to
11 defer, which in turn helps ensure that the least-cost, least-risk outcomes achieved by
12 the preferred portfolio are maintained.

13 **Q. Please describe how the operating characteristics of different types of renewable**
14 **resources vary.**

15 A. The Company’s 2017 IRP preferred portfolio ensures that each load bubble can meet
16 the specified planning reserve margin of 13 percent, inclusive of imports of excess
17 resources from other transmission areas.⁸ Imports are restricted to the firm transmission
18 rights between each area. The GRID model does not enforce the planning reserve
19 margin requirements by transmission area, and the Company’s forecast of avoided
20 energy costs allows for displacement of wind and solar resources from across the
21 system with only limited restrictions.

⁸ A “load bubble” refers to an area that is assumed to have sufficient transmission capability within it such that all loads within the area can be reliably served by resources anywhere within the area or by transfers to any point within the area.

1 As an example, replacing wind resources that generate more in the winter with
2 solar resources that generate more in the summer is likely to result in periods when
3 transmission prevents delivery of resources to the locations where they are needed.
4 Daily and seasonal shapes of solar and wind resources are complementary and can
5 make better use of limited transmission resources than either resource on its own.

6 Wind and solar resources also exhibit significant variation both within the hour
7 and over multiple hours. While the cost of maintaining flexible capacity within the hour
8 is included in the IRP analysis, the cost of adjusting the Company's resource balance
9 to accommodate solar and wind ramping has not been fully quantified. The Company's
10 optimization models determine least-cost market transactions to balance the load net of
11 solar and wind in each hour independently.

12 Operationally, the Company must rely on a combination of day-ahead block
13 products and a limited supply of hourly transactions—often at unfavorable prices, with
14 a tendency toward high prices when the Company is purchasing and low prices when
15 the Company is selling. Renewable QFs will exacerbate these costs if their variations
16 are correlated with other resources already in the Company's portfolio or with
17 resources across the broader region, particularly as it becomes increasingly integrated
18 via the Energy Imbalance Market. Deferring like renewable resources thus ensures that
19 the forecast of avoided cost prices for a particular QF project maintains a comparable
20 risk profile to the IRP preferred portfolio.

21 **Q. Why is a change to the PDDRR methodology particularly appropriate at this**
22 **time?**

23 A. Wind and solar resources are both part of the Company's 2017 IRP Update preferred

1 portfolio, representing the company's least-cost, least-risk plan to serve system load.
2 Moreover, the 2017 IRP Update preferred portfolio no longer includes a thermal
3 resource to use as a proxy under the approved methodology.

4 **Q. How would displacement of renewable resources using the PDDRR methodology**
5 **work?**

6 A. Under the PDDRR methodology, it is assumed that QFs partially displace the next
7 major renewable resource of the same type in the IRP preferred portfolio, based on
8 equivalent capacity contributions as determined using the methodology in the IRP. Or,
9 if no renewable resources of the same type remain in the IRP preferred portfolio, QFs
10 partially displace the next major thermal resource in the IRP preferred portfolio, again
11 based on their capacity contribution. While the GRID model can reasonably account
12 for the differences in value between resources in two geographic locations, to maintain
13 a consistent load and resource balance, it is important to maintain the total effective
14 capacity contribution identified in the preferred portfolio.

15 Based on the capacity contribution study prepared for the 2017 IRP and used in
16 the 2017 IRP Update analysis, each MW of east-side tracking solar resources is
17 estimated to provide approximately 92 percent of the capacity provided by each MW
18 of west-side tracking solar resources.⁹ As a result, a 50 MW Wyoming tracking solar
19 QF could defer 50 MW of an east-side tracking solar resource from the IRP preferred
20 portfolio or 46 MW of a west-side tracking solar resource. The same capacity
21 contribution study indicates that an east-side wind resource provides approximately

⁹ East Tracking Solar: 59.7%. West Tracking Solar: 64.8%. $59.7\% / 64.8\% = 92\%$.

1 134 percent of the capacity provided by each MW of west-side wind.¹⁰ Consequently,
2 a 50 MW Wyoming wind QF could defer 50 MW of an east-side wind resource from
3 the IRP preferred portfolio or 67 MW of a west-side wind resource. If no IRP renewable
4 resources of a given type remain, pricing would revert to partially displacing the next
5 thermal resource adjusted for the capacity contribution of the QF, or to displacing
6 FOTs.

7 **Q. What wind resources are available to be deferred by wind QFs?**

8 A. The 2017 IRP Update preferred portfolio includes 1,311 MW production tax credit-
9 eligible Wyoming wind resources added by the end of 2020. Of this, 1,150 MW have
10 been committed at this time and are no longer considered deferrable. The remainder
11 (Uinta Wind) was not approved by the Utah and Wyoming Commissions and has been
12 removed and replaced by FOTs through 2029 and proxy wind resources in a
13 comparable location starting in 2030. The same treatment has been applied to wind
14 contracts assumed in the 2017 IRP Update load and resource balance that have not been
15 approved. All of the replacement resources are deferrable. After accounting for these
16 adjustments, the next deferrable wind resource is in 2030.

17 **Q. What solar resources are available to be deferred by solar QFs?**

18 A. Since the 2017 IRP Update was prepared, the Company executed power purchase
19 agreements (“PPAs”) with six solar resources totaling 437 MW of nameplate capacity
20 and has terminated two solar QF PPAs with 17 MW of nameplate capacity. In addition,
21 PacifiCorp’s June 2018 load forecast includes incremental loads that are contingent
22 upon the concurrent addition of renewable resources. To account for this, proxy

¹⁰ East Wind: 15.8%. West Wind: 11.8%. $15.8\% / 11.8\% = 134\%$.

1 renewable resources sufficient to meet the requirements embedded in the load forecast
2 have been included in the queue of committed resources. After accounting for these
3 adjustments, the next deferrable solar resource is in 2030.

4 **Q. How do the results under the proposed Schedule 38 methodology differ from the**
5 **approved methodology?**

6 A. At this time, the proposed change to the Schedule 38 methodology only impacts solar
7 QFs, switching from deferral of thermal resources (of which there are none in the
8 current preferred portfolio) under the approved methodology to deferral of solar
9 resources under the proposed methodology. As shown in the table below, the proposed
10 prices for solar resources are higher than under the current methodology, while
11 baseload and wind prices are unchanged. The levelized price over the proposed seven-
12 year contract term is also shown.

13 **Table 2: Summary of Schedule 38 Avoided Cost Prices**

| Nominal Levelized Prices beginning 2021 @ 6.91% Discount Rate | | | |
|--|-----------------------|---------------------------------------|--------------------------------------|
| | Current Method | Proposed Method (20 year term) | Proposed Method (7 year term) |
| Baseload | 31.01 | 31.01 | 17.61 |
| Wind | 27.18 | 27.18 | 9.44 |
| Tracking Solar | 24.49 | 29.70 | 15.25 |

14 **Q. What drives the reduction in prices when transitioning from a 20-year term to a**
15 **seven-year term?**

16 A. As shown in Figure 1, avoided costs over the next few years are relatively low. Avoided
17 costs rise significantly in 2028-2030, coincident with assumed retirements of the Dave
18 Johnston and Naughton coal plants, along with Jim Bridger unit 1. Forecasts become
19 increasingly uncertain the further into the future they are projected, and this is
20 particularly true when considering the magnitude of the resources being added to

1 **SCHEDULE 37 METHODOLOGY**

2 **Q. Please describe the current Commission-approved method for calculating avoided**
3 **costs for small QFs qualifying for published prices under Schedule 37.**

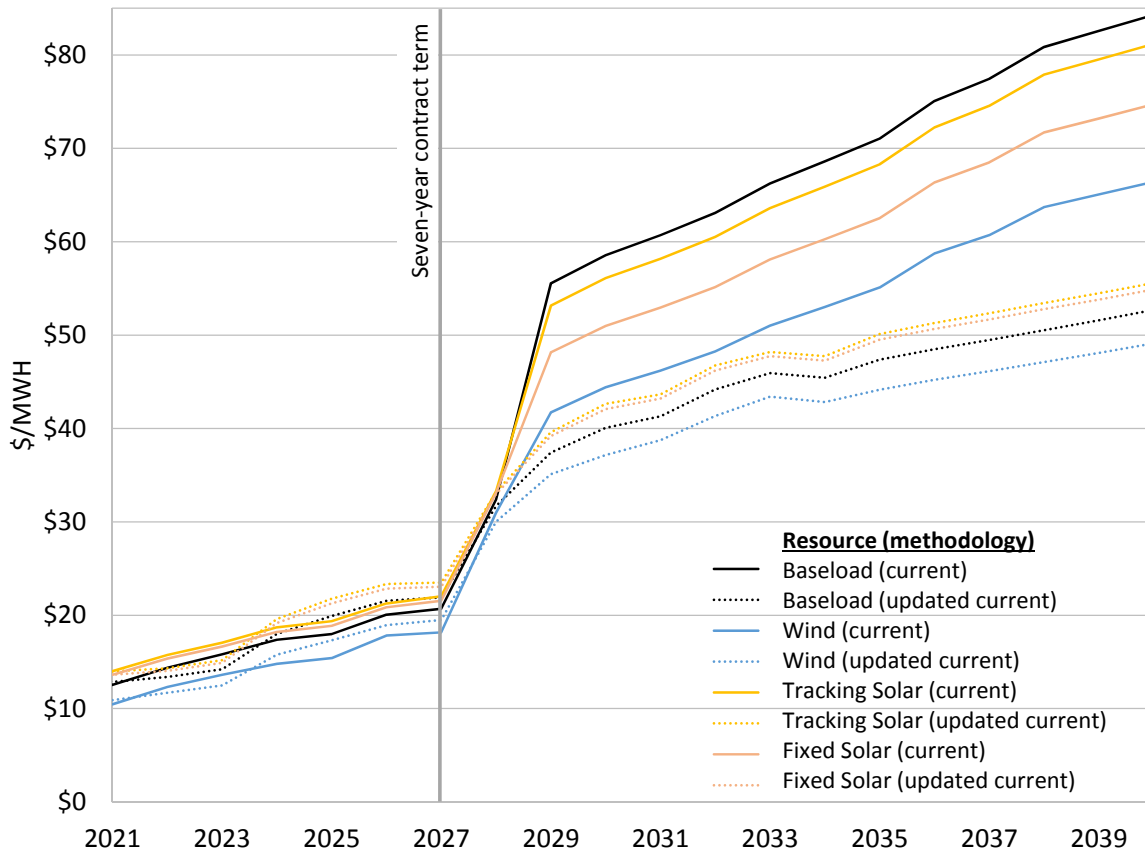
4 A. Under the current Schedule 37 methodology, sufficiency period avoided costs are
5 calculated using two GRID model simulations. The first simulation does not include
6 any new QF resources. The second simulation includes an additional 50-MW baseload
7 Wyoming QF resource at zero cost. The difference in net power costs between the two
8 GRID runs divided by the energy produced by the QF resource determines the avoided
9 energy cost. The deficiency period begins coincident with the next deferrable major
10 thermal resource identified in the Company's most recent IRP or IRP Update preferred
11 portfolio. Avoided costs during the deficiency period do not rely upon the GRID model,
12 and are instead equal to the fixed and variable costs of a proxy resource, currently a
13 combined cycle combustion turbine ("CCCT") plant. The combination of the avoided
14 energy and capacity costs described above are reflected in a volumetric avoided cost
15 price for each resource type included in Schedule 37.

16 **Q. Does the current Schedule 37 methodology adequately account for the avoided**
17 **costs of different resource types?**

18 A. No. Figure 2 shows the current Commission-approved Schedule 37 prices and prices
19 under the current methodology, after accounting for the Company's current Official
20 Forward Price Curve, the preferred portfolio from the 2017 IRP Update, and contract
21 changes since the 2017 IRP Update was prepared. The updated prices under the current
22 Schedule 37 methodology have a smaller increase in the long term—reflecting the
23 absence of any deferrable proxy thermal resources in the 2017 IRP Update preferred

1 portfolio. The current methodology produces only four avoided energy values per year,
 2 for HLH and LLH periods in summer and winter, and does not account for any
 3 variations in either resource output or avoided cost within those periods. As a result
 4 there is very little variation between resources, and avoided cost prices move largely in
 5 lock-step over time, as the expected proportion of a resource's output in each period is
 6 constant.

7 **Figure 2: Avoided Cost under the Commission-Approved Schedule 37 Methodology**



8 **Q. Is the current Commission-approved method the same as that used to calculate**
 9 **non-standard avoided costs under Schedule 38?**

10 A. No. Non-standard avoided costs for large QFs under Schedule 38 are calculated using
 11 the PDDRR method as described above. The methods are similar in that both use the

1 GRID model to determine avoided costs during the sufficiency period and both include
2 capacity costs in the deficiency period. As proposed, the PDDRR method differs in that
3 it allows for deferral of cost-effective “like” renewable resources identified in the
4 Company’s IRP preferred portfolio. PDDRR method also uses a combination of the
5 GRID model to determine energy costs and partial displacement of specific IRP
6 preferred portfolio resources to determine capacity costs during the deficiency period,
7 rather than basing avoided costs solely on proxy CCCT capacity and energy costs.
8 Specifically, the current Schedule 37 methodology accounts for the fuel costs of the
9 proxy resource, but does not account for the difference in the value of the energy from
10 the dispatchable proxy resource and the value of the energy from a QF resource.
11 Furthermore, the PDDRR method accounts for the specific characteristics of a
12 proposed QF and a proxy resource, including its geographic location and any
13 transmission constraints, and prices are prepared for individual QF projects using
14 project-specific generation profiles rather than providing the same published prices for
15 all QFs. Applying the Schedule 38 pricing methodology to generic Wyoming QF
16 resources of each QF type included in Schedule 37 better accounts for the resource-
17 specific characteristics and signed contracts since the IRP preferred portfolio was
18 developed.

19 **Q. Can the PDDRR methodology used under Schedule 38 be used for Schedule 37?**

20 A. Yes. The Company’s Schedule 37 tariff currently includes standard prices for four
21 resource types: baseload, fixed solar, tracking solar, and wind. Rather than using a
22 single avoided energy value based on a baseload resource, specific PDDRR pricing can
23 be calculated for each of the four resource types. Rather than using a CCCT as the

1 proxy for all QF resource types, under the proposed PDDRR methodology, QFs
2 displace cost-effective “like” renewable resources identified in the Company’s 2017
3 IRP Update preferred portfolio.

4 **Q. What is the impact of switching to the PDDRR methodology for Schedule 37?**

5 A. Table 3 summarizes the Schedule 37 avoided cost prices for all resource types under
6 the proposed PDDRR methodology as well as the current and updated prices under the
7 current Schedule 37 methodology. Figures 3 and 4 show the variation in prices over
8 time under the proposed PDDRR methodology and updated prices under the current
9 Schedule 37 methodology.

10 The proposed prices for baseload resources are higher than the updated prices
11 under the current methodology, reflecting the value of deferring FOTs in addition to
12 avoided energy costs. The proposed prices for wind and solar resources are lower than
13 under the current methodology, reflecting the lower energy value of wind and solar
14 resources relative to the baseload avoided energy cost applied in the current
15 methodology. Both wind and solar QFs have output that is correlated with the wind and
16 solar resources that are already in the Company’s portfolio.

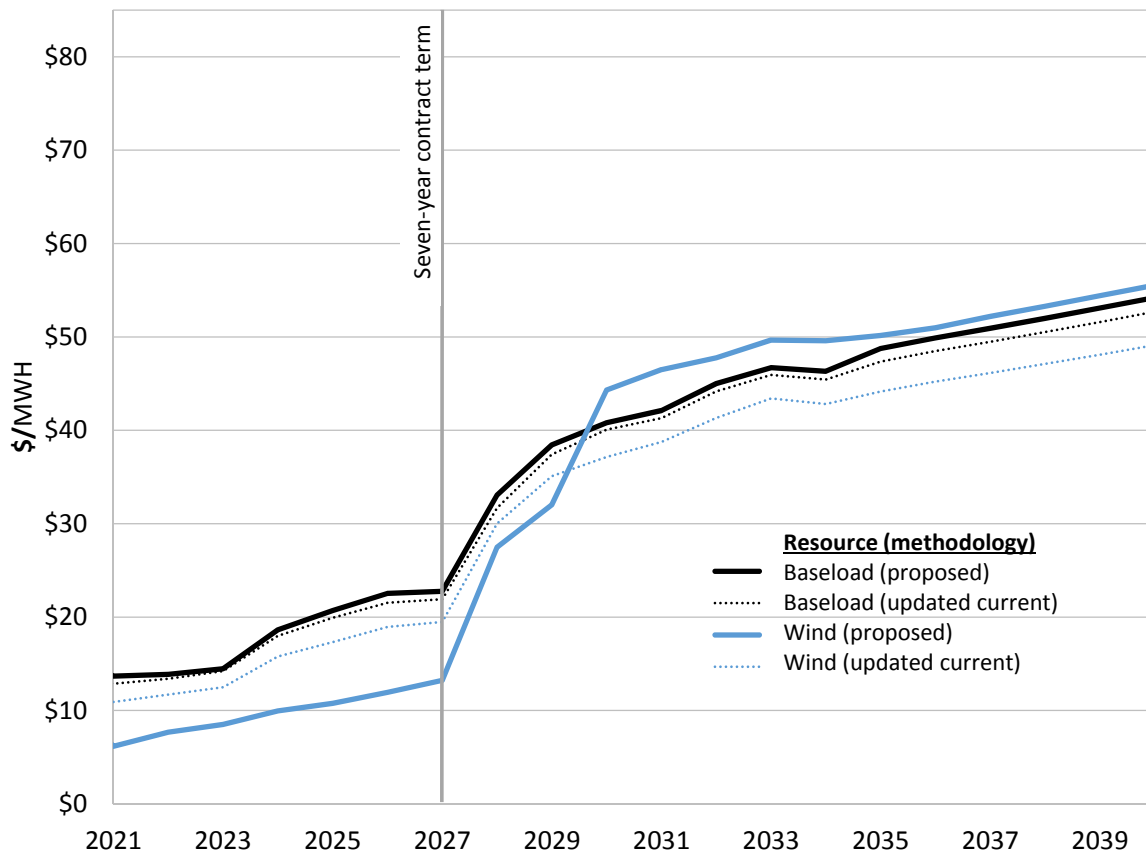
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Table 3: Summary of Schedule 37 Avoided Cost Prices

| Nominal Levelized Prices beginning 2021 @ 6.91% Discount Rate | | | | |
|---|----------------|------------------------|--------------------------------|-------------------------------|
| | Current Method | Updated Current Method | Proposed Method (20 year term) | Proposed Method (7 year term) |
| Baseload | 40.09 | 30.12 | 31.01 | 17.61 |
| Wind | 32.05 | 27.66 | 27.18 | 9.44 |
| Fixed Solar | 36.96 | 31.57 | 27.00 | 14.06 |
| Tracking Solar | 39.64 | 32.02 | 29.70 | 15.25 |

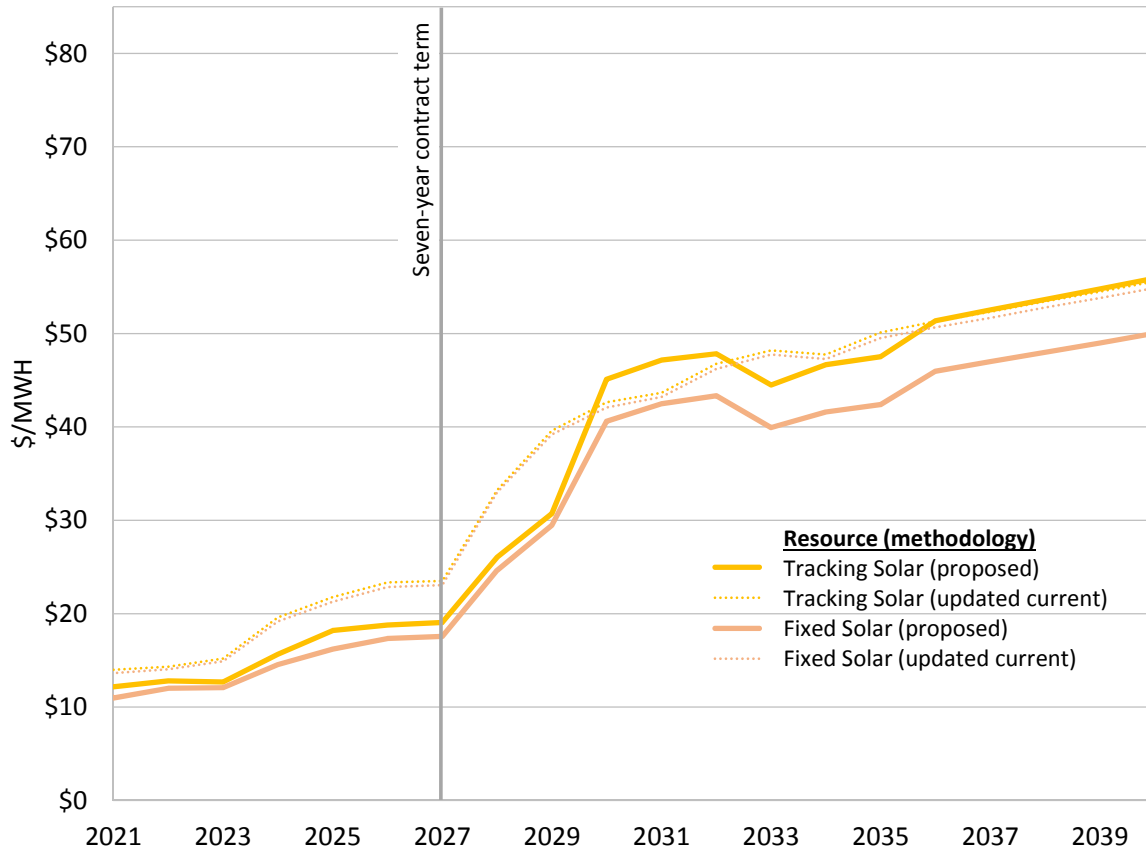
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Figure 3: Schedule 37 Avoided Cost Pricing for Baseload and Wind Resources



1

Figure 4: Schedule 37 Avoided Cost Pricing for Solar Resources



2 **Q. Do you have any other proposed changes to Schedule 37 related to the change to**
3 **the Schedule 38 methodology?**

4 **A.** Yes. Since the Schedule 37 prices will be tied to the most recently filed IRP or IRP
5 Update preferred portfolio, it is appropriate to update prices annually, following the
6 filing of a new preferred portfolio. Annual updates will also help ensure prices
7 accurately reflect avoided costs by incorporating other changes, for instance to
8 contracts, loads, or market prices.

9 **Q. What do you conclude with regard to the methodology for determining avoided**
10 **cost pricing under Schedule 37?**

11 **A.** The PDDRR methodology better captures the specific operational characteristics of

1 different resource types and the aggregate effects on the Company's system than the
2 Schedule 37 methodology currently in place. Adopting the PDDRR methodology for
3 Schedule 37 avoided cost pricing is thus more consistent with the customer indifference
4 standard.

5 **ON-PEAK AND OFF-PEAK DEFINITIONS**

6 **Q. What are the current definitions of on-peak and off-peak hours under Schedule**
7 **37 and as typically applied under Schedule 38?**

8 A. On-peak hours are defined as 6:00 a.m. to 10:00 p.m. Pacific Prevailing Time ("PPT")
9 Monday through Saturday, excluding North American Electric Reliability Corporation
10 holidays. All hours other than on-peak hours are considered off-peak hours.

11 **Q. What is the basis for the current definitions of on-peak and off-peak?**

12 A. The current on-peak definition is consistent with the typical HLH and LLH standard
13 products that have been in place for many years. Most of the Company's forward,
14 balance of month, and day-ahead transactions are for either HLH, LLH, or all-hour
15 products, though limited transactions occur for other products such as super peak
16 (12:00 p.m. to 8:00 p.m. PPT).

17 **Q. What do you propose as an alternative?**

18 A. In the summer, defined as June through September, on-peak hours are defined as
19 3:00 p.m. to 10:00 p.m. PPT. In the winter, defined as October through May, on-peak
20 hours are defined as 5:00 a.m. to 8:00 a.m. in the morning and 5:00 p.m. to 11:00 p.m.
21 at night, again in PPT. The proposal does not differentiate between weekdays,
22 weekends, and holidays. All hours other than on-peak hours are considered off-peak
23 hours.

1 **Q. Why is this proposal an improvement?**

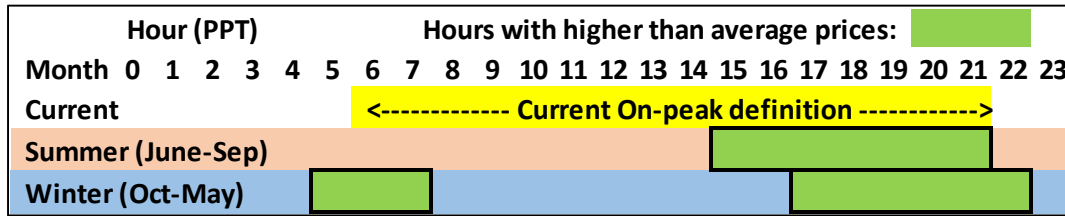
2 A. Under the current methodology, shaping between on-peak and off-peak is based on the
3 ratio of Palo Verde HLH and LLH forward prices. For 2019, HLH prices are 68 percent
4 higher than LLH prices in the summer, and only 16 percent higher than LLH prices in
5 the winter. In contrast, based on the hourly Palo Verde market prices used to calculate
6 avoided costs in the GRID model, the proposed on-peak definition results in prices that
7 average 114 percent higher than off-peak prices in the summer, and 93 percent higher
8 than off-peak prices in the winter. The greater difference between on-peak and off-peak
9 under the proposal indicates that it is more accurately categorizing high price and low
10 price periods.

11 **Q. How were the proposed on-peak and off-peak definitions determined?**

12 A. Those hours in which the average price is greater than the monthly average for all hours
13 are considered on-peak, while those hours in which the average price is less than the
14 monthly average for all hours are considered off-peak. These calculations are based on
15 forecasted hourly prices for 2019 as contained in the GRID model, which reflect the
16 current Official Forward Market Price and hourly market price scalars. The monthly
17 results are then aggregated to produce an on-peak definition that is specific to summer
18 and to winter. The resulting definitions are shown in Figure 5 below. While May is
19 considered part of the summer under current Schedule 37 definitions, it is better aligned
20 with the winter on-peak definition than the summer definition.

1

Figure 5: On-peak and Off-peak Definitions



2 Q. What are the primary differences in the proposed on-peak definition relative to
3 the current HLH definition?

4 A. The most important difference is the elimination of hours during the middle of the day,
5 when the sun is shining and net load requirements are relatively low. Hours are added
6 at the beginning and end of the on-peak period in the winter only, indicating that these
7 time frames are the most constrained of what was previously considered off-peak.

8 Q. Does the change in the on-peak and off-peak definitions impact a given QF's
9 expected total avoided cost payments under the Schedule 38 methodology?

10 A. No. Under the Schedule 38 methodology, the total expected avoided cost payments are
11 the same, regardless of the on-peak and off-peak definition used. Avoided costs are
12 calculated within the GRID model for every hour, and reflect the expected QF output
13 in each hour, so the on-peak and off-peak definition is irrelevant in that part of the
14 analysis. The total avoided costs are then spread among on-peak and off-peak periods,
15 but since it is based on the QF's expected output specific to each period, the total
16 expected payment is the same, whatever periods are selected.

17 Q. If the total expected avoided cost payment remains the same, why is a change
18 necessary?

19 A. A QF's output will vary from the forecasted resource profile, resulting in more
20 generation than expected in some periods, and less generation than expected in others.

1 If a QF delivers more during a part of on-peak with a relatively high value, it provides
2 greater benefits to customers than if a QF delivers during a part of on-peak with a
3 relatively low value. Ideally, the value throughout on-peak should be as uniform as
4 possible, so that whenever it delivers in that period, the benefits are comparable. By
5 removing on-peak hours with relatively low value, the average value reflected in the
6 on-peak price increases. Because QFs have an incentive to deliver in hours when their
7 prices are highest, high prices in high value periods helps ensure retail customer
8 indifference.

9 **Q. Please summarize your recommendations to the Commission.**

10 A. I recommend that the Commission adopt the following changes to Schedule 37 and
11 Schedule 38:

- 12 1. Modify the PDDRR methodology currently used for Schedule 38 as
13 previously described, allowing for “like-for-like” deferral of renewable
14 resources.
- 15 2. Reduce in the maximum contract term under Schedule 38 to seven years.
- 16 3. Approve a revised Schedule 37 incorporating the following:
 - 17 a. Prices based on the PDDRR methodology used for Schedule 38.
 - 18 b. A maximum contract term of seven years.
 - 19 c. The proposed changes to the on-peak and off-peak definitions.

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

21 A. Yes.

BEFORE THE WYOMING PUBLIC SERVICE COMMISSION

IN THE MATTER OF THE)
APPLICATION OF ROCKY MOUNTAIN)
POWER FOR MODIFICATION OF)
AVOIDED COST METHODOLOGY AND)
REDUCED CONTRACT TERM OF)
PURPA POWER PURCHASE)
AGREEMENTS WITH QUALIFYING)
FACILITIES)

DOCKET NO. 20000-__-EA-18
(RECORD NO. ____)

AFFIDAVIT, OATH AND VERIFICATION

Daniel MacNeil (Affiant) being of lawful age and being first duly sworn, hereby deposes and says that:

Affiant is a Resource and Commercial Strategy Adviser for PacifiCorp, which is a party in this matter.

Affiant prepared and caused to be filed the foregoing testimony. Affiant has, by all necessary action, been duly authorized to file this testimony and make this Oath and Verification.

Affiant hereby verifies that, based on Affiant's knowledge, all statements and information contained within the testimony and all of its associated attachments are true and complete and constitute the recommendations of the Affiant in his official capacity as Resource and Commercial Strategy Adviser.

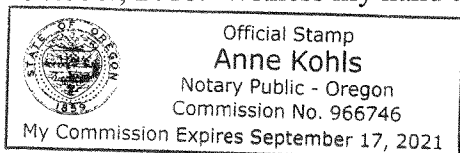
Further Affiant Sayeth Not.

Dated this 31st day of October, 2018

Daniel A. MacNeil
Daniel MacNeil
Resource & Commercial Strategy Adviser
825 NE Multnomah Ave, Ste 600
Portland OR, 97232
503-813-5523

STATE OF Oregon)
) SS:
COUNTY OF Multnomah)

The foregoing was acknowledged before me by Daniel MacNeil on this 31st day of October, 2018. Witness my hand and official seal.



Anne Kohls
Notary Public

My Commission Expires: Sept. 17, 2021

Docket No. 20000-__-EA-18
Witness: Mark P. Tourangeau

BEFORE THE WYOMING PUBLIC SERVICE
COMMISSION

ROCKY MOUNTAIN POWER

Direct Testimony of Mark P. Tourangeau

November 2018

1 **Q. Please state your name, business address, and present position with Rocky**
2 **Mountain Power, a division of PacifiCorp (“Company”).**

3 A. My name is Mark P. Tourangeau. My business address is 1407 W. North Temple, Salt
4 Lake City, Utah 84116. I am employed by Rocky Mountain Power as Vice President
5 of Customer Solutions and Business Development.

6 **QUALIFICATIONS**

7 **Q. Please briefly describe your education and business experience.**

8 A. I received a Bachelor of Arts degree in Economics from the University of New
9 Hampshire, and a Master of Arts in Economics from the University of New Mexico. I
10 also am a Chartered Financial Analyst charter holder. I have been employed by the
11 Company since 2017. Prior to that, I was employed by NextEra Energy, Inc. as Vice
12 President Business Management and Vice President Trading Risk Management; and
13 before that I worked at Morgan Stanley Commodities and Duke Energy.

14 **Q. What are your responsibilities in your current position?**

15 A. I am responsible for execution of Rocky Mountain Power’s Commercial Strategy. I
16 manage the commercial functions, including Commercial Services, Customer
17 Solutions, Customer and Community Management, and Economic Development. I am
18 also responsible for negotiating power purchase agreements (“PPA”) with qualifying
19 facilities under, and consistent with, the Public Utility Regulatory Policies Act of 1978
20 (“PURPA”).

21 **Q. Have you appeared as a witness in previous regulatory proceedings?**

22 A. Yes. I have filed testimony with the Public Service Commission of Utah in Dockets
23 No. 17-035-52 and No. 17-035-72. I also submitted direct testimony with the Wyoming

1 Public Service Commission (“Commission”) in several recent qualifying facility
2 (“QF”) cases.

3 **PURPOSE AND SUMMARY OF TESTIMONY**

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

5 A. I support and present the Company’s proposed modifications to Schedule 37, Avoided
6 Cost Purchases from Qualifying Facilities, and Schedule 38, Avoided Cost Purchases
7 from Non-Standard Qualifying Facilities. The proposed modifications improve the
8 implementation of PURPA Schedule 38 by:

- 9 1. Reducing the fixed price contract length for non-standard QF PPAs (Schedule
10 38 PPAs) and Firm Power Time of Delivery QF PPAs (Schedule 37). I will
11 provide supporting evidence and discuss why a shorter term length for QF PPAs
12 is fairer to customers, consistent with PURPA’s customer indifference standard,
13 and remains consistent with PURPA’s requirement that QF developers have a
14 reasonable opportunity to attract capital for their Wyoming projects.
15 Specifically, the Company is requesting an order from the Commission to
16 shorten the fixed price term for QF PPAs from 20 years to seven years for any
17 QF that qualifies under Rocky Mountain Power’s Schedules 37 and 38. This
18 change in the fixed price term would also apply to any firm Schedule 37 or 38
19 QFs that re-apply for QF PPAs after expiration of their existing PPAs.
- 20 2. Clarifying the processes and procedures in the Company’s Schedule 37 and
21 Schedule 38 to ensure transparency in avoided cost pricing requests and PPA
22 negotiation and execution procedures, including (i) clarifying language that
23 providing a pro-forma PPA does not mean the QF is at the PPA negotiation

1 phase; (ii) clarifying language that the Company has the right to update pricing
2 any time prior to execution and filing of the PPA with the Commission; (iii)
3 adding specific tariff provisions that the QF commercial operation date
4 (“COD”)(or the delivery term of subsequent PPAs for existing QFs) must not
5 exceed 30 months from PPA execution date; and that a QF must provide project
6 development security within 30 days of the PPA being filed with the
7 Commission.

8 3. Clarifying certain aspects of the processes and procedures in the Company’s
9 Schedule 37 to ensure there is no confusion among potential QFs how their
10 PPAs will be negotiated, including adding language so that QFs understand that
11 after acquiring 10 MW of Firm Power resources under Schedule 37, pricing for
12 QFs larger than 100 kilowatts (“kW”) will be in accordance with Schedule 38
13 until Schedule 37 prices are updated, and adding language to make it clear that
14 PPA negotiations will be carried out in accordance with the PPA negotiation
15 requirements detailed in Schedule 38.

16 4. I will discuss the Company’s proposals and how they will improve the
17 contracting process for the benefit of our customers, prospective QFs, and the
18 Company.

19 In addition to the proposed changes above, the Company also requests approval
20 of the following items supported with direct testimony by Company witness Daniel J.
21 MacNeil:

22 1. Refinements to the currently approved Partial Displacement Differential
23 Revenue Requirement (“PDDRR”) methodology used to calculate avoided

1 costs under Schedule 38, Avoided Cost Purchases from Non-Standard
2 Qualifying Facilities.

3 2. Adoption of the same avoided cost methodology approved for Schedule 38
4 (including the proposed refinements within this application) to develop
5 published pricing under Schedule 37, Avoided Cost Purchases from Qualifying
6 Facilities.

7 3. Changes to the on-peak and off-peak definitions in Schedule 37 to better
8 differentiate between periods of higher and lower avoided cost.

9 **Q. How is your testimony organized?**

10 A. First, I describe in detail the current status of operating QFs and those under
11 development in Wyoming and in PacifiCorp's other service territories.

12 Then I discuss factors that demonstrate the current contract term of 20 years for
13 QFs leads to poor economic outcomes, and violates a central principle of PURPA—the
14 customer indifference standard. This is because 20-year QF contracts expose the
15 Company's customers to significant risk because they are tied to resources that do not
16 go through a rigorous planning process, like the integrated resource plan ("IRP"),
17 which accounts for the interaction between generation, transmission and load on the
18 Company's system. In addition, they are not chosen through a competitive process to
19 ensure that only least-cost, least-risk resources are added when the IRP demonstrates a
20 need. Further, these QF resources expose customers to additional significant potential
21 costs due to the must-take provision in PURPA, which requires a utility to dispatch
22 QFs regardless of economics even when cheaper options are available through
23 economic dispatch or, in PacifiCorp's case, purchases from the Energy Imbalance

1 Market (“EIM”).

2 Next, I discuss how a seven year contract term length still allows QF developers
3 reasonable opportunities to develop renewable generation under PURPA in Wyoming.
4 I describe executed transactions between developers and customers with shorter term
5 PPA contracts—both in organized markets and with vertically integrated utilities, and
6 for both market-based and PURPA contracts—and demonstrate that these shorter term
7 contracts are able to attract capital at borrowing rates that support ongoing
8 development. I also provide examples of other states that have implemented PURPA
9 with shorter term fixed price contracts (as short as one or two years in some cases)
10 based on the specific economic and regulatory environments in their jurisdictions,
11 while still remaining consistent with PURPA’s mandates.

12 Lastly, I discuss PURPA and how (a) this 40 year old law, from a different
13 energy era, has achieved its purpose through a combination of its requirements, the
14 evolution of electricity markets, federal and state tax incentive policies, and
15 technological innovation; and (b) its implementation in the current energy era can be
16 improved through the deference granted by the federal government to state regulators,
17 especially in meeting the customer indifference principles that are a central part of the
18 law.

19 **QF STATUS IN PACIFICORP’S SERVICE TERRITORY**

20 **Q. Please give a high level overview of the Public Utility Regulatory Policies Act of**
21 **1978 (“PURPA”).**

22 **A.** Congress passed PURPA and it was signed into law in 1978 in response to the United

1 States' energy crisis.¹ PURPA's goal at the time was to promote renewable energy
2 development and cogeneration technologies as alternatives to oil and other more
3 expensive sources of fuel, with the commensurate goal of improving electricity
4 distribution and reliability.

5 Two of the main requirements of PURPA are (i) electric utilities are obligated
6 to purchase power produced by renewable or cogeneration energy qualifying small
7 power producers, or "qualifying facilities" (QFs), which is referred to as the mandatory
8 purchase, or must-take obligation;² and (ii) the price paid by utilities for such purchases
9 must be "just and reasonable to the electric consumers of the electric utility and in the
10 public interest, and not discriminate against qualifying cogenerators or qualifying small
11 power producers."³ This is known as the customer indifference principle.

12 PURPA is now a 40 year old law and the energy markets and technology have
13 changed dramatically since 1978. The conditions that prompted the passage of PURPA
14 no longer exist. Today, the United States is a net energy exporter, and rapid changes in
15 renewables technology for solar and wind energy allow these technologies to compete
16 on a levelized cost of energy basis with more traditional sources of electricity.
17 However, the Company is still required to purchase energy from QFs under PURPA's
18 original must take obligation, and purchase whatever power is delivered in every hour
19 that it is available, even when less expensive options are available from the Company's
20 own generation or through the California ISO's ("CAISO") EIM.

¹ 16 U.S.C. § 2601 et seq. (2012).

² 16 U.S.C. § 824a-3; PURPA, Sec. 210(a) (2005).

³ *Id.*

1 **Q. What is the current status of QFs in the states served by PacifiCorp?**

2 A. We have a large number of QFs in operation on our system, and many more under
3 contract, in the QF pricing queue, and in the PacifiCorp Transmission generation
4 interconnection queue as described below.⁴

5 The Company has 1,987 megawatts (“MW”) of QF capacity in operation across
6 six states, an additional 747 MW of capacity under contract but not yet in operation,
7 and 3,756 MW in the pricing queue. **Table 1** shows the Company’s QFs in operation
8 and under contract (i.e., a signed PPA with a QF that has not yet reached commercial
9 operation) within each state.

10

Table 1

| | QFs In Operation (MW) | QFs Under Contract not yet in Operation (MW) | QFs in the Pricing Queue (MW) |
|--------------|-----------------------|--|-------------------------------|
| Utah | 1,001 | 174 | 441 |
| Wyoming | 398 | 458 | 1,518 |
| Oregon | 382 | 115 | 952 |
| Other States | 206 | 0 | 80 |
| Total | 1,987 | 747 | 2,991 |

11 The largest amount of capacity in the pricing queue is in Wyoming, with 24 QF
12 projects consisting of 1,518 MW of capacity, and the second largest amount is in
13 Oregon, with 17 QF projects consisting of 952 MW of capacity. In Wyoming, of the
14 24 QF projects, there are eight wind QFs with 596 MW of capacity and 13 solar QFs
15 with 780 MW of capacity. **Table 2** provides a further break out by state:

⁴ The QF pricing queue consists of QFs that have requested indicative avoided cost pricing based on the QF procedures outlined in the relevant state tariffs for large QFs (Schedule 38 in Wyoming); the PacifiCorp transmission interconnection queue is the list of generator interconnection applications maintained and studied by PacifiCorp Transmission, as governed by the FERC regulated PacifiCorp Open Access Transmission Tariff (“OATT”).

1

Table 2

| | MW by Technology | | | |
|--------------|-------------------------|--------------|------------|--------------|
| | Wind | Solar | Other | Total |
| Wyoming | 596 | 780 | 141 | 1,518 |
| Oregon | 0 | 952 | 0 | 952 |
| Utah | 80 | 300 | 61 | 441 |
| Other States | 0 | 80 | 0 | 80 |
| Total | 676 | 2,112 | 202 | 2,991 |

2 **Q. Please discuss the situation with respect to out of state QFs seeking to interconnect**
3 **or deliver onto PacifiCorp’s system.**

4 A. QFs located outside of the Company’s service territory are seeking to exploit the
5 arbitrage opportunities due to the favorable longer contract term lengths offered in
6 Wyoming as compared to the states in which these facilities are located.⁵ In Wyoming,
7 of the 24 projects in the queue, five of the QF projects, totaling 400 MW of capacity,
8 are located in Montana.

9 **Q. In your opinion, why is it likely Montana-based QFs are seeking to obtain avoided**
10 **cost pricing from PacifiCorp in Wyoming?**

11 A. The state of Montana’s contract term for QFs over three MWs was reduced from 25
12 years to 10 years in length in 2016 by the Montana Public Service Commission. The
13 Commission also shortened the fixed price contract length to the initial five years of
14 the contract.⁶ If a QF has a contract over five years, the contract rate automatically
15 resets after five years to the then applicable avoided cost rate for small QFs for the

⁵ *In The Matter Of The Amended Joint Complaint Filing By Trireme Energy Development II; Pryor Caves Wind Project LLC; Mud Springs Wind Project LLC; And Horse Thief Wind Project LLC Against Rocky Mountain Power And PacifiCorp Regarding The Avoided Cost Pricing For The Bowler Flats Wind Qualifying Facilities Power Purchase Agreements*, WPSC Docket No. 20000-505-EC-16; Record No. 14579.

⁶ *See* Montana Public Service Commission Docket No. D2016.5.39 Order No. 7500c (July 21, 2017).

1 remaining term of the contract.⁷ These Montana-based facilities seeking PPAs as
2 Wyoming QFs likely chose to interconnect with or to transmit and sell power into
3 PacifiCorp's Wyoming territory to take advantage of Wyoming's longer contract term
4 and more attractive avoided cost pricing. Some of these projects only turned to
5 Wyoming after litigation at the Montana Public Service Commission, in which they
6 sought higher rates and longer terms from Northwestern Energy.⁸ Notably, while the
7 Company remains obligated under PURPA to purchase the output offered by these QFs,
8 these projects do not produce the same degree of economic benefits for Wyoming
9 because the related construction jobs, permanent jobs, and tax revenues will primarily
10 flow to the states and communities in which the QFs are located. Without the changes
11 the Company is requesting, it is likely that even more QFs located in neighboring states
12 will recognize the arbitrage opportunities provided by Wyoming's longer maximum
13 contract term, and potentially more favorable avoided cost pricing, and seek PPAs with
14 the Company that will ultimately burden the Company's customers with the costs,
15 while allowing a large portion of the economic benefits of these resources to accrue
16 outside of Wyoming.

17 **DIFFERENCES IN RESOURCES PROCURED BASED ON THE IRP AND QFS**

18 **Q. How does the Company evaluate the timing, amount and types of generation**
19 **needed to provide least-cost, least-risk electric service for future customer load**
20 **requirements?**

21 A. PacifiCorp follows a rigorous, stakeholder focused integrated resource planning
22 process to determine when, where, and what type(s) of generation to add to the

⁷ *Id.*

⁸ Montana Public Service Commission Docket No. D2016.12.103 Order No. 7535b (November 29, 2017).

1 Company's system. The IRP is a comprehensive decision support tool and road map
2 for meeting the Company's objective of providing reliable and least-cost electric
3 service to all customers while assessing many of the risks and uncertainties inherent in
4 the electric utility business. The IRP is developed with public involvement from state
5 utility commission staff, state agencies, customer and industry advocacy groups, and
6 other stakeholders. The key elements of the IRP include: determining the Company's
7 resource need, focusing on the first 10 years of a 20-year planning period; establishing
8 the preferred portfolio of supply-side and demand-side resources to meet this need; and
9 developing an action plan that identifies the steps the Company will take during the
10 next two to four years to implement the plan.

11 **Q. How frequently is PacifiCorp's IRP updated?**

12 A. PacifiCorp prepares its IRP biennially and files the results of the IRP with state utility
13 commissions during each odd numbered year. For even-numbered years, the Company
14 updates (and files) its preferred resource portfolio and action plan, as identified in the
15 most recent IRP, by considering the most recent resource cost, load forecast, regulatory,
16 and market information.

17 **Q. How is the IRP developed?**

18 A. The Company uses system modeling tools as part of its analytical framework to
19 determine the long-run economic and operational performance of alternative resource
20 portfolios. These models simulate the integration of new resource alternatives with the
21 Company's existing assets, thereby informing the selection of a preferred portfolio,
22 considered to be the most cost-effective resource mix after considering risk, supply
23 reliability, uncertainty, and government energy resource policies.

24 The Company has historically targeted a 13 percent reserve margin of resources

1 versus peak load, and the IRP process identifies the least cost portfolio of assets that
2 meets this reserve margin while ensuring affordable, reliable supplies of electricity for
3 PacifiCorp's retail customers. This process is made all the more difficult due to the
4 uncertainty the Company has regarding new QF capacity that may be added to the
5 Company's system during the IRP planning periods.

6 **Q. Please describe the extent to which the Company is focusing its efforts on**
7 **procuring renewable generation assets to serve retail customers.**

8 A. PacifiCorp is committed to optimizing our existing generation while reducing the
9 overall carbon intensity of our fleet over time. For several years, the Company's use of
10 renewable energy to serve customers has steadily increased. In 2017, nearly one-third
11 of the Company's electric generation capacity was from zero-fuel cost, zero-carbon
12 emitting plants.

13 For example, the Company's recently approved Energy Vision 2020 project
14 creates a cleaner energy future for customers while keeping energy bills affordable by
15 leveraging federal production tax credits to provide a net cost savings to customers over
16 the life of the projects.⁹ In addition, the projects are expected to create hundreds of
17 construction jobs and add millions in tax revenue to rural economies in Wyoming.

18 The Company is continually looking for opportunities to acquire renewable
19 generation resources to meet needs identified through the IRP process using
20 competitive solicitations designed to select resources that provide net economic
21 benefits to customers. All of the resources acquired in this manner are integrated into

⁹ See generally, *In the Matter of the Amended Application of Rocky Mountain Power for Certificates of Public Convenience and Necessity and Nontraditional Ratemaking for Wind and Transmission Facilities*, Wyo. P.S.C. Docket No. 20000-520-EA-17; Record No. 14781; (the Commission's order approving a stipulation in the Wyoming EV2020 proceeding was issued on October 8, 2018).

1 the Company's economic dispatch generation stack, meaning that, unlike QFs, they
2 will only be dispatched when they are equal to or less expensive than the next available
3 resource in the stack. This dispatch flexibility provides ongoing value to customers that
4 is not available from QFs due to PURPA's out of date must take obligation.

5 **Q. How does the IRP process compare to PURPA and the process that third-party**
6 **developers use to site QFs on PacifiCorp's system?**

7 A. Unlike the Company, QF developers are not required to consider the long-run impacts
8 of their siting decisions on transmission, pricing, or dispatch. PacifiCorp is currently
9 required to enter into 20-year fixed price contracts with QFs in Wyoming. In contrast,
10 each of the Company's long-term generation resource decisions receive considerable
11 scrutiny from regulators, customers, and other stakeholders. This prudence review
12 ensures that given the information known at the time, the least-cost, least-risk decisions
13 will be made with respect to new generation.

14 The process required for a QF to acquire a PPA with the Company can lead to
15 QFs having significantly higher operational, price, and credit risks for the Company's
16 customers compared to resource decisions that are guided by the IRP and procured via
17 competitive solicitations. Shortening the fixed price contract term will help mitigate
18 many of the risks that result from QF additions that fall outside the Company's typical
19 approval process.

20 **Q. What impact does PURPA's must-take obligation (barring emergency conditions)**
21 **have on customers?**

22 A. The must-take obligations of PURPA, where the Company is required to dispatch QFs
23 100 percent of the time (except in low load situations or emergency conditions),

1 regardless of cost, has a negative impact on customers over time. Because of this must
2 take requirement, out-of-economic-merit energy is being dispatched, the costs of which
3 the Company’s customers pay, rather than the normal course of dispatching less costly
4 generation or taking advantage of low or even negative prices (where generators pay
5 PacifiCorp to purchase their power) in the EIM. This negative pricing has been
6 occurring when California produces more energy than it can consume during the solar
7 peak—and is an outcome of what has been described for a number of years as the “duck
8 curve”. PacifiCorp’s participation in the EIM has allowed the Company to arbitrage the
9 duck curve, contributing to \$136 million in savings for the Company’s customers since
10 the implementation of EIM in 2014.¹⁰ During this period of market and technological
11 changes in power generation and delivery, subjecting PacifiCorp’s customers to long-
12 term, static pricing compromises the Company’s ability to provide least-cost, least-risk
13 energy to our customers.

14 **Q. What are the implications for the Company’s customers from the differences**
15 **discussed above between QF generation resources and the resources that the**
16 **Company procures through the IRP process?**

17 A. The Federal Energy Regulatory Commission (“FERC”) has affirmed the need to ensure
18 customer indifference to utility purchases of QF power, noting that, in enacting
19 PURPA, “[t]he intention [of Congress] was to make ratepayers indifferent as to whether
20 the utility used more traditional sources of power or the newly-encouraged

¹⁰ Western Energy Imbalance Market, at About – Benefits, available at, <https://www.westerneim.com/Pages/About/QuarterlyBenefits.aspx> (last accessed November 1, 2018).

1 alternatives”.¹¹ FERC currently has an open docket to examine the implementation of
2 the law through federal regulations in light of the aforementioned market and
3 technological changes,¹² and of what some perceive are abuses of the law, including
4 gaming of the one mile rule.¹³ When weighing the risks presented by entering into 20-
5 year QF contracts at avoided costs, where the resulting costs associated with these long-
6 term contracts can be higher than the costs and risks associated with adding the next
7 resource identified through the IRP process, combined with the costs and risks
8 associated with the Company’s “must-take” obligations to dispatch uneconomic power
9 compared to what can be dispatched or purchased in the EIM, PacifiCorp’s customers
10 are not indifferent to 20-year fixed-price purchases by the Company of QF energy and
11 capacity.

12 The Company acknowledges that the mandates of PURPA do not allow these
13 risks to customers to be eliminated altogether, but PURPA does provide states with a
14 wide degree of flexibility that allows them to implement the law in ways that better
15 account for such risks based on the economic and regulatory circumstances within their
16 jurisdictions. A reasonable solution to reduce these risks, which is well within the
17 boundaries of PURPA’s mandates and will bring Wyoming’s PURPA implementation
18 closer to the customer indifference balance the law requires, is to shorten the term for

¹¹ *Southern Cal. Edison Co., et al.*, 71 FERC ¶ 61,269 at p. 62,080 (1995), overruled on other grounds, Cal. Pub. Util. Comm’n, 133 FERC ¶ 61,059 (2010).

¹² See Implementation Issues Under the Public Utility Regulatory Policies Act of 1978, Docket No. AD16-16-000, Federal Energy Regulatory Commission.

¹³ Utility Dive, September 17, 2017 “Renewables developers 'gaming' PURPA should force reforms, utilities tell Congress” (stating that, “While PURPA was always meant to compel utilities to purchase power from independent suppliers, critics argue that developers are increasingly “gaming” the law by splitting large-scale renewable developments into smaller portions to meet PURPA’s size requirements — under 80 MW in vertically-integrated states and 20 MW in organized markets. By ensuring their facilities follow the “one-mile rule” separating QFs, developers can secure preferable contract rates for large amounts of capacity and ensure utilities will purchase the output.”) (last accessed on October 16, 2018).

1 QF contracts to seven years. A seven-year term preserves development opportunities
2 for QFs in Wyoming, but also reduces the overall risks associated with the Company
3 entering into long-term, fixed-price PPAs with QFs.

4 **CHANGES TO PURPA IMPLEMENTATION IN OTHER STATES**

5 **Q. Have other states made changes in PURPA implementation to account for changes**
6 **in the economic and regulatory environments within their jurisdictions?**

7 A. Yes. Several states have examined and re-examined their authority to implement
8 PURPA in a manner that complies with the law in supporting the development of small
9 generators while at the same time better protecting their retail electricity customers. As
10 I mentioned above, the Montana Public Service Commission recently reduced the
11 contract term for QFs over three MWs from 25 years to 10 years in length and also
12 made changes resulting in lower avoided cost pricing.¹⁴ Idaho also recently lowered the
13 fixed price contract length to two years for QFs.¹⁵ In 2017, Alabama approved
14 forecasted energy and capacity rates fixed for a one-year term with an evergreen
15 provision allowing QFs to sell power in future years at updated avoided cost rates.¹⁶

16 Also in 2017, the North Carolina legislature passed House Bill 589, which was
17 subsequently signed into law. House Bill 589 shortened the QF fixed price contract
18 length from 15 to 10 years, and lowered the maximum size of a QF that can take
19 advantage of the 10 year contract length to one MW or less. Under that law, larger

¹⁴ See Montana Public Service Commission Docket No. D2016.5.39 Order No. 7500c (July 21, 2017).

¹⁵ *Order on Reconsideration, In the Matter of Idaho Power Company's Petition to Modify Terms and Conditions of PURPA Purchase Agreements*, Case No. IPC-E-15-01, Order 33419 (November 5, 2015).

¹⁶ *For approval of Rate CPE – Contract for Purchased Energy*, AL PSC re Alabama Power, Order, Docket No. U-5213, 2017 WL 9775573 at *4 (March 7, 2017) (recognizing that “reaching this balance between projected cost and actual cost has not occurred in many cases - leaving customers paying more to QFs than what was intended under PURPA.”).

1 projects are now required to go through a competitive procurement process that will
2 add another 2,660 MW of solar QF generation in North Carolina over a 45-month
3 period.¹⁷ North Carolina passed this law in response to recent challenges that its utilities
4 face in dispatching new QF renewable generation within their balancing areas, as well
5 as the impacts of large numbers of QFs on overall reliability and the operation of
6 baseload resources.¹⁸ For example, in large part due to the large amount of QF
7 generation with inflexible dispatch on Duke Energy North Carolina’s system, on
8 July 9, 2018, Duke was forced to call a system emergency and curtailed approximately
9 24 solar generators for one hour, after first curtailing company-owned solar resources.¹⁹

10 In 2018, Colorado’s Public Utilities Commission promulgated rules that set
11 avoided costs for QF contracts via an auction mechanism: “A utility shall use a bid or
12 an auction or a combination procedure to establish its avoided costs for facilities with
13 a design capacity of greater than 100 KW. The utility is obligated to purchase capacity
14 or energy from a qualifying facility only if the qualifying facility is awarded a contract
15 under the bid or auction or combination process.”²⁰

¹⁷ This competitive process gives the utilities in North Carolina decision authority “to determine the location and allocated amount of the competitive procurement within their respective balancing authority areas, whether located inside or outside the geographic boundaries of the State, taking into consideration (i) the State’s desire to foster diversification of siting of renewable energy resources throughout the State; (ii) the efficiency and reliability impacts of siting of additional renewable energy facilities in each public utility’s service territory; and (iii) the potential for increased delivered cost to a public utility’s customers as a result of siting additional renewable energy facilities in a public utility’s service territory, including additional costs of ancillary services that may be imposed due to the operational or locational characteristics of a specific renewable energy resource technology, such as non-dispatchability, unreliability of availability, and creation or exacerbation of system congestion that may increase re-dispatch costs.” NC Session Law 2017-192, House Bill 589 “Utilities Commission Fees and Charges” as ratified 4/5/2017.

¹⁸ Duke Energy Carolinas, LLC and Duke Energy Progress, LLC, Summary of Sam Holeman’s Direct and Rebuttal Testimony, NCUC Docket No. E-100, Sub 148.

¹⁹ “*Developers cry foul as Duke Energy briefly interrupts private solar-power purchases*”, Charlotte Business Journal, July 10, 2018.

²⁰ Code of Colorado Regulations, 4-CCR 723-3-3902(c), “Small Power Producers and Cogenerators”.

1 **Q. Please provide some examples of the impacts on QF development that other states**
2 **have experienced with shorter fixed-price QF PPA terms.**

3 A. As I mentioned above, Duke Energy implemented shorter-term contracts and other
4 changes as a result of North Carolina's PURPA implementation, yet renewable
5 development has continued apace. For example, as a result of the passage of North
6 Carolina's HB 589, Duke Energy is in the process of procuring 2,660 MW of additional
7 solar capacity in North Carolina over 45 months through *competitive solicitations* that
8 will add to the existing 2,900 MW of solar capacity in the state. Each of these renewable
9 sites has to be 80 MW or less in capacity, which is the same capacity size restriction
10 placed on QFs by PURPA, essentially guaranteeing continued opportunities for QF
11 developers that have projects that can bid competitively.

12 **POTENTIAL IMPACTS OF SEVEN YEAR CONTRACT TERMS**

13 **Q. Do you believe a reduction in the contract term will result in a significant decrease**
14 **in renewable and cogeneration resource development in Wyoming, contrary to**
15 **the stated intentions of PURPA?**

16 A. No. The Company expects renewable and cogeneration resource development to
17 continue in Wyoming regardless of the change in fixed-price contract term. The goal
18 of this filing is to make implementation of PURPA more fair to our customers to
19 balance the Company's obligation to provide QFs reasonable opportunities to sell their
20 output and customer indifference. Given the abundance of potential solar and wind
21 resources in the state, the continued technological advances in renewables, and the vast
22 amount of capital chasing renewable deals nationally, the Company does not expect
23 QF development to slow appreciably. Also, in addition to seeking QF status for their

1 projects under Schedule 38, PacifiCorp expects opportunities to continue for Wyoming
2 renewable developers to bid their projects into solicitations for customers located in
3 PacifiCorp's territories. Opportunities in the future for renewables to compete for
4 projects that are solicited as a result of the Company's biennial IRP process are also
5 likely.

6 **Q. Will QFs have reasonable opportunities to attract capital from potential investors**
7 **at a maximum fixed-price PPA term of seven years?**

8 A. Yes. There has been a trend over the last five years towards shorter contract terms for
9 renewable PPAs in general. Many of the corporate buyers who are contracting for
10 renewables to meet sustainability and/or carbon neutrality goals are seeking contracts
11 as short as seven years. These deals are getting done and are getting financed.

12 Owens Corning and Equinix each signed 12-year PPAs on NextEra Energy
13 Resources' 250 MW Rush Springs wind farm in Grady, Oklahoma in 2016, splitting
14 the capacity equally between them.²¹ Salesforce signed a 15-year PPA in 2018 to
15 purchase 80 MW of the output of EDP Renewables' 205 MW Bright Stalk wind farm
16 in McLean County, Illinois. At the same time, EDP Renewables also announced a 50
17 MW, 15-year PPA with an unidentified energy company for part of its 200 MW
18 Broadlands wind project in Douglas County, Illinois.²² Between 2015 and year-to-date
19 2018, at least 46 PPAs have been signed in the United States for wind and solar
20 facilities that are over 20 MW that have terms ranging from three years to 15 years.²³

²¹ S&P Global Market Intelligence, accessed October 12, 2018.

²² Renewables Now, September 4, 2018, "EDPR backs 200 MW wind project in Illinois with new PPA", available at <https://renewablesnow.com/news/edpr-backs-200-mw-wind-project-in-illinois-with-new-ppa-625570/>, (last accessed November 1, 2018).

²³ S&P Global Market Intelligence, accessed October 12, 2018.

1 This is almost 4,500 MW of contracted renewable capacity since 2015 with PPAs of
2 15 years or less.

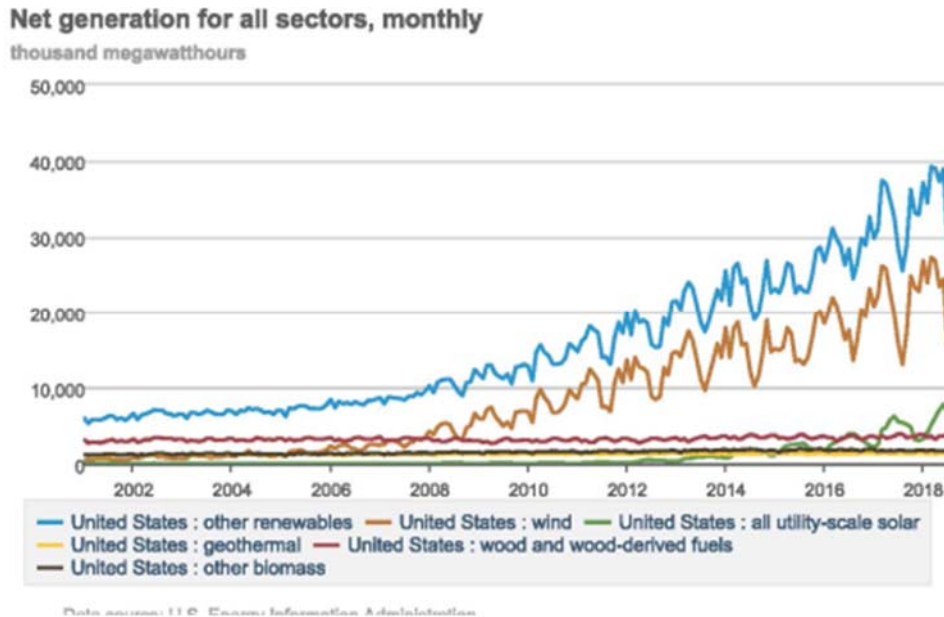
3 Also, there have been utility-scale renewable resources built that are secured by
4 “bank hedges” instead of PPAs. Bank hedges are fixed for float financial swaps that
5 developers enter into with banks or insurance companies to hedge the prices they
6 receive for some or all of their renewable electricity generation. These introduce
7 additional volumetric and locational basis risk for the project owners, but the deals are
8 still being done. For example, Pattern Energy’s Panhandle Wind 2 project, a 182 MW
9 wind project in Carson County, Texas, does not have a PPA contract, but instead was
10 built and financed using a 13-year, fixed-for-float swap with Morgan Stanley that only
11 covers 80 percent of the expected output of the facility.²⁴

12 Even with these trends towards shorter contract lengths for QF and non-QF
13 projects, and bank hedges for non-QF projects, the growth in renewables capacity has
14 outpaced the growth of other types of generation for a number of years in the United
15 States. Figure 2 below shows Energy Information Agency data on sales from renewable
16 facilities since 2002.

²⁴ See, Pattern Energy, at <https://patternenergy.com/learn/portfolio/panhandle-wind-2> (last accessed November 1, 2018).

1

Figure 2



2 In 2017, 55 percent of the 21 gigawatts (“GW”) of new capacity additions in
3 the United States were renewables, and renewables have comprised the majority of all
4 new capacity additions over each of the last four years.²⁵ Between 2008 and 2017 over
5 103 GW of renewables capacity was added in the United States.²⁶ Of this 103 GW of
6 capacity additions, 14 GW have been certified as QFs—that’s 14,000 MW of new QF
7 capacity. The majority of these QF additions have been in states that do not participate
8 in Regional Transmission Organizations (“RTOs”), like Utah and Wyoming, because
9 the Energy Policy Act of 2005 exempted utilities in states that participate in RTOs from
10 the majority of their PURPA obligations.²⁷

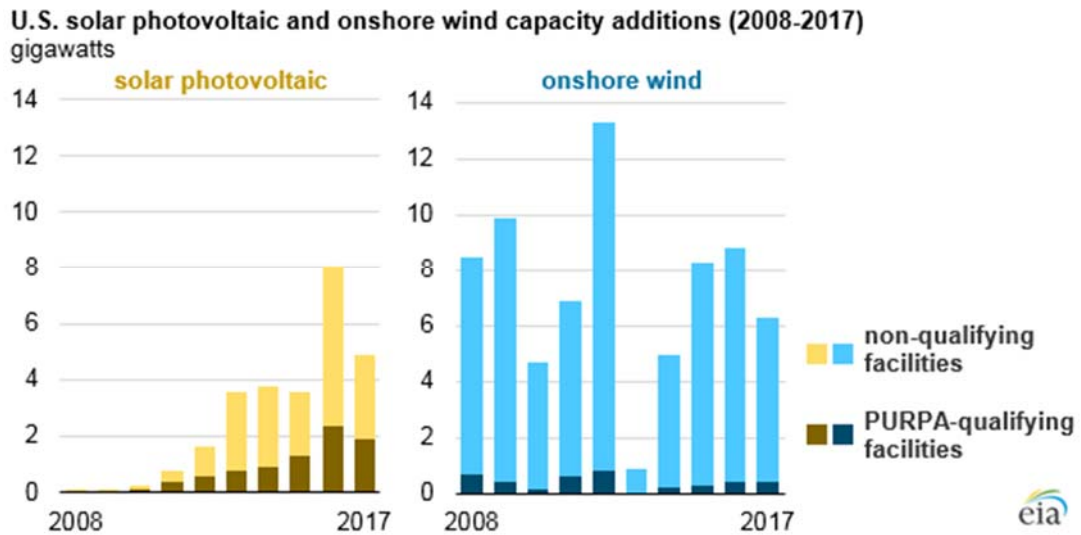
²⁵ US Energy Information Administration, Monthly Energy Review (October 26, 2018), at Table 10.1 “Renewable Energy Production and Consumption by Source,” monthly view, available at <https://www.eia.gov/totalenergy/data/browser/?tbl=T10.01#/?f=M> (last accessed November 1, 2018).

²⁶ *Id.*

²⁷ Energy Policy Act of 2005, 42 USC 15801.

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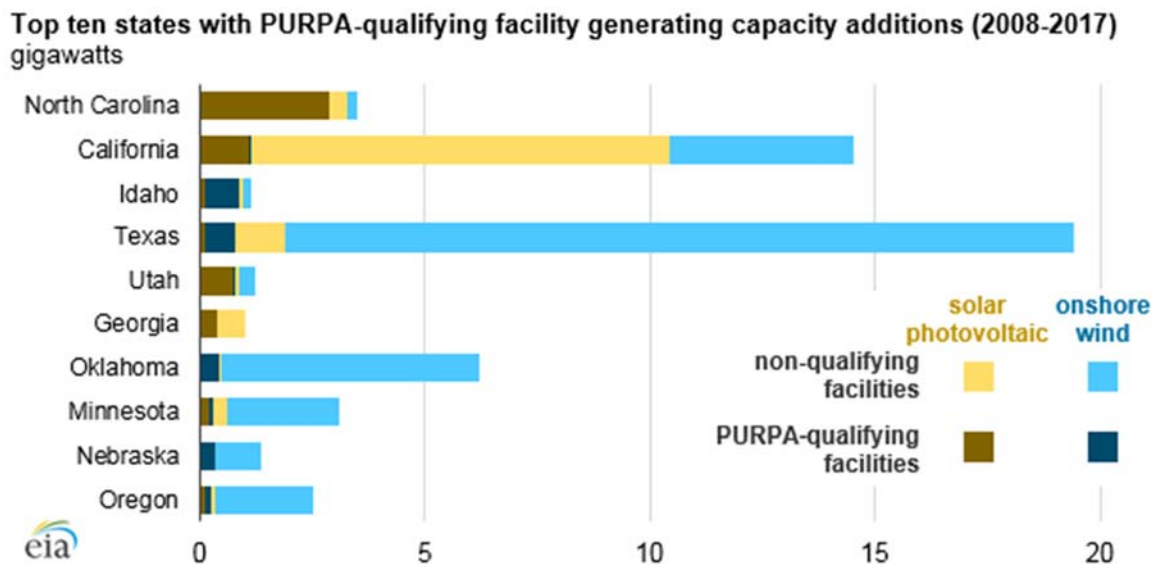
Figure 3



2 Figure 3 shows the comparison between QF and non-QF solar and onshore wind
3 capacity additions over the last 10 years, and even as the trend towards shorter contracts
4 has continued, QF capacity additions, especially solar additions, have grown
5 substantially. Figure 4 shows the comparison between QF and non-QF solar and on-
6 shore wind additions during 2008–2017 for the top 10 states in overall capacity
7 additions during that time.²⁸

²⁸ US Energy Information Administration, *Today in Energy*, “PURPA-qualifying capacity increases, but it's still a small portion of added renewables”, (August 16, 2018), available at <https://www.eia.gov/todayinenergy/detail.php?id=36912>, (last accessed November 1, 2018).

Figure 4



1 Figure 4 demonstrates that California, most of Texas, Oklahoma, Minnesota,
2 and Nebraska all participate in RTOs, and have significantly higher non-QF capacity
3 additions than all other states except Oregon.²⁹

4 **Q. For non-RTO utilities, is PURPA’s purchase obligation still important to the**
5 **ongoing development of new renewable resources?**

6 A. To some extent, yes. Capacity additions from QFs have been strong in non-RTO states,
7 indicating that PURPA’s must purchase obligation continues to be an important
8 element driving a portion of the renewable development in those states. However,
9 technological and market forces have rendered PURPA’s renewable goals less
10 important than they were when it was enacted in 1978. Indeed, with over 103 GW of
11 renewables capacity added in the last 10 years, and continued strong growth in the
12 market as individual customers, corporations, municipalities, universities, and utilities

²⁹ *Id.*

1 all seek to increase their purchases of renewable generation,³⁰ these large additions of
2 renewable capacity are likely to continue for quite some time. In other words, while
3 PURPA is one important tool for the further development of renewable energy, there
4 are many other new mechanisms that help ensure continued opportunities for cost
5 effective renewable projects sited in the right locations to increase renewable
6 penetration in non-RTO states like Wyoming. The re-balancing of risks the Company
7 proposes here helps account for these newer renewable development mechanisms, and
8 is necessary to meet the customer indifference standard, prevent the transfer of
9 unnecessary risks from QF developers to PacifiCorp's customers, and will not
10 unreasonably stifle opportunities for renewable development in Wyoming, whether
11 through PURPA or other means.

12 **Q. Does PURPA require the Company to offer terms to QFs that ensure QFs will**
13 **obtain favorable financing, and will a change to a seven-year fixed-price contract**
14 **ensure that project financing will not occur?**

15 A. No. PURPA does not require utilities to offer terms to QFs that enable them to achieve
16 the most favorable financing, though the Company expects QFs will make this
17 argument in an attempt to counter the risk re-balancing the Company seeks. The
18 argument does not hold up under scrutiny. PURPA requires that “a legally enforceable
19 obligation should be long enough to allow QFs reasonable opportunities to attract
20 capital from potential investors.”³¹ “Reasonable opportunities” cannot and does not

³⁰ One example of the phenomenon is RE 100, RE 100 is a global initiative that involves more than 100 businesses seeking to procure 100 percent renewable energy. This collaborative includes corporations such as IKEA, Bank of America, Coca Cola, Citi, eBay, Facebook, Google, HP, and Microsoft. More information available at <http://there100.org/>.

³¹ *Windham Solar*, 157 FERC 61.134 at P. 8.

1 mean an obligation to offer a contract term that ensures the best possible opportunity
2 for QFs to get the lowest possible borrowing rates or highest levels of leverage possible.
3 Doing so would transfer most of the risk of the investment from the QF developers,
4 who would then benefit from outsized returns, to the utility's customers' detriment, and
5 that was never the purpose of PURPA. A "reasonable opportunit[y] to attract capital
6 from potential investors"³² does not equate to a requirement to offer contracts of a
7 specific tenor, it means that QF developers should be able to compete for capital on a
8 level playing field with other renewable projects. As my testimony makes clear, the
9 contract term lengths needed to provide this level of opportunity have shifted over time,
10 and a corresponding adjustment in Wyoming is entirely justified and consistent with
11 PURPA.

12 **Q. Will a change to a seven-year fixed-price contract for QFs unreasonably limit**
13 **PURPA facilities' access to financing?**

14 A. No. Given the current financing environment, a seven-year fixed-price contract term
15 allows QFs to compete for capital on a level playing field. As noted, many transactions
16 for renewable resources have been consummated in the last three years at PPA terms
17 of 15 years or less, in all likelihood each of these secured some level of debt financing,
18 tax equity financing, or a combination of both.

19 **Q. Please discuss other financing options that are available to QFs, even with shorter**
20 **term contracts.**

21 A. Many QF developers also develop non-QF facilities in deregulated markets and end up
22 refinancing project-level debt with syndicated funding that includes both QF and non-

³² *Windham Solar LLC and Allco Finance Ltd.* ("Windham Solar") 157 FERC P 61,134 (2016), 2016 WL 6921612, at ¶8.

1 QF projects in the same syndication, or raise debt capital to fund additional growth.
2 These are large, sophisticated deals that often replace or supplement project-level debt
3 and provide additional capital for developers to grow their portfolios. Three different
4 examples of these types of capital raises were recently announced by sPower and
5 Cypress Creek Renewables Power (both QF developers) on their websites that when
6 combined, total almost \$1.37 billion in financings.^{33, 34, 35}

7 These examples demonstrate the robust financing options available to QF
8 developers in the capital markets across many different debt and equity options, both
9 domestically and internationally. In an investor presentation issued by Cypress Creek
10 Renewables, in 2016 titled “Solar Overview and Lending Opportunities”, Cypress
11 Creek touted its access to PPAs in regulated markets with utilities that have “massive
12 balance sheets serving as a de facto credit tenant” and that “protections for independent

³³ On February 7, 2018, sPower issued a press release stating they recently closed a \$421.4 million 4(a)(2) private placement on a portfolio of 565 MW of utility scale solar and wind assets. sPower CEO Ryan Cramer is quoted as saying “This first-of-its-kind milestone is a testament to the quality of our operating portfolio, the relationships we have with our finance partners and the strength of our utility offtakers. This financing will benefit sPower for years to come by locking in predictable cash flows for almost two more decades.” In December 2017, Project Finance International named this financing their “Deal of the Year” for the renewable energy category. Available at, http://www.spower.com/news_2018/news-2018-02-07.php (last accessed October 11, 2018).

³⁴ On September 20, 2018 sPower issued a press release stating they recently closed a \$498.7 million investment grade, private placement financing. sPower described this as among the first ever widely-distributed back-leverage bond financings on tax equity partnerships. The portfolio is comprised of four previously financed tax equity partnerships with four leading financial investors.” sPower goes on further to state “The proceeds from this issuance refinanced approximately \$425 million of medium-term bank loans, lengthening tenor to a fully-amortizing 23.5-year facility and eliminating the refinancing risk associated with previous bank loans. Incremental proceeds net of the bank loan refinancing will be used to fund sPower’s continued development of additional renewable generating facilities. The offering was significantly oversubscribed by a diverse group of leading US private placement investors.” *Id.*

³⁵ On July 26, 2017, Cypress Creek Renewables Power issued a press release stating they recently closed a \$450 million debt facility led by Singapore-based investment company Temasek. In the press release, Matt McGovern, Cypress Creek Renewables CEO, said: “This agreement accelerates our mission to put as much solar in the ground as soon as possible. We are excited at the opportunity to further build the business with support from Temasek and our other partners.” Temasek is an investment company headquartered in Singapore. Temasek owns a \$275 billion (US\$197b) portfolio as of March 31, 2017, mainly in Singapore and the rest of Asia. Available at, <http://www.prweb.com/releases/2017/07/prweb14536216.htm>, (last accessed 10/11/2018).

1 power producers are provided under both federal and state regulatory frameworks.”³⁶
2 In the same presentation, Cypress Creek stated its business model focuses on “utility
3 scale ground mount projects primarily 2-80 MW in capacity in multiple US states, with
4 a multi-pronged development strategy: QF standard offer PPAs, bilateral PPAs, retail
5 markets, and community solar.”³⁷

6 In the same presentation, Cypress Creek also noted that it can raise capital from
7 a United States Department of Agriculture (“USDA”) Rural Development program,
8 which at that time had experienced “Zero” losses on utility scale solar and “Zero”
9 delinquencies on utility scale solar. At the time Cypress Creek published the
10 presentation, the USDA renewables portfolio had in excess of \$200 million outstanding
11 and Cypress Creek stated it would likely double in six months.³⁸

12 The USDA program is called the Rural Energy for America Program (“REAP”)
13 and it makes renewable energy systems and energy efficiency improvement loans and
14 grants available.³⁹ In 2016, the program made approximately \$300 million in
15 combination grants and loan guarantees available for utility scale solar in rural areas of
16 the United States.⁴⁰ The loan guarantees are for loans of up to \$25 million, which
17 provides QF developers in rural areas yet another competitive source of capital. The

³⁶ See, *Biennial Determination of Avoided Cost Rates for Electric Utility Purchases from Qualifying Facilities-2016*, McConnell Cross Exam Exhibit No. 4, North Carolina Utilities Commission, Docket No. E-100 Sub 148, available at <http://starw1.ncuc.net/NCUC/ViewFile.aspx?Id=5679ce67-9245-4d03-b20e-1c7b3997b4a4> (last accessed November 1, 2018).

³⁷ *Id.*

³⁸ *Id.*

³⁹ This program was authorized by Title IX of the Agricultural Act of 2014, (“2014 Farm Bill”); available at USDA website, <https://www.rd.usda.gov/programs-services/rural-energy-america-program-renewable-energy-systems-energy-efficiency>, (last accessed October 11, 2018).

⁴⁰ See, USDA Energy Investment Report, available at <https://www.usda.gov/energy/maps/report.htm>, (last accessed October 11, 2018).

1 funds may be used for the purchase, installation and construction of renewable energy
2 systems including large wind generation and large solar generation.⁴¹ The loan
3 guarantees have a maximum term of 15 years, or useful life, for machinery and
4 equipment, a maximum term of seven years for capital loans, and a maximum term of
5 30 years for combined real estate and equipment loans.⁴²

6 So while many QF developers testify in PURPA dockets in front of various
7 state commissions that they are small scale and can only secure financing with PPA
8 contract lengths that are 20 years or longer, in the capital markets many operate as
9 large, sophisticated borrowers competing for billions of dollars in debt, sponsor equity
10 or tax equity capital across a wide range of private and public, domestic and
11 international sources—where they tout their ability to lean on the “massive” balance
12 sheets of regulated utilities to provide high quality credit support—essentially by
13 transferring all risks onto the utilities’ customers, thus providing investors with nearly
14 risk-free investments.

15 **Q. Are there risks that these pools of capital will dry up for the QF developers in the**
16 **future?**

17 A. Absent exogenous shocks to the economy that could affect the robustness of the
18 renewables capital markets, there is confidence that this segment will not only sustain
19 its current levels, but will experience considerable growth in the future. An article from
20 Bloomberg news published on April 19, 2018, details how even though base interest
21 rates are rising, spreads for solar transactions are tightening as more and more lenders,

⁴¹ Rural Energy for America Program Renewable Energy & Energy Efficiency brochure, available at https://www.rd.usda.gov/files/RD_FactSheet_RBS_REAP_RE_EE.pdf, (last accessed October 11, 2018).

⁴² *Id.*

1 especially from Asian banks, seek stable returns.⁴³ “There is more money chasing this
2 market than ever before,” according to Mike Pepe, New York-based managing partner
3 of broker-dealer GrandView Capital Markets LLC. “Many invest in solar even though
4 the yield is low because they perceive that they won’t lose their principal.”⁴⁴ In this
5 same article, Richard Matsui, the chief executive officer at KWh Analytics, a solar risk-
6 management firm in San Francisco stated that this favorable debt pricing has muted
7 “what should otherwise be a punishing rate increase” for the solar industry.⁴⁵

8 On June 19, 2018, the American Council on Renewable Energy (“ACORE”)
9 released the results of a survey it performed with leading financial institutions titled
10 “The Future of U.S. Renewable Energy Investment.”⁴⁶ ACORE was founded in 2001
11 and is a 501(c)(3) nonprofit that brings together hundreds of organizations across
12 finance, policy and technology to promote the transition to a renewable energy
13 economy.⁴⁷ The online, anonymous survey, which was performed by ACORE in April
14 2018 with investors in renewable energy projects and technologies, paints an incredibly
15 optimistic picture of capital formation for renewables in the United States. Key survey
16 highlights include:

- 17 • “Over the next three years, investor confidence in the U.S. renewable energy
18 sector is expected to remain high, with an average confidence level of

⁴³ “Banks are Sweetening Their Terms for Solar as Confidence Rises”, Bloomberg News, 4/19/2018.

⁴⁴ *Id.* at P. 3.

⁴⁵ *Id.* at P. 4.

⁴⁶ The American Council on Renewable Energy (ACORE), “The Future of U.S. Renewable Energy Investment”, June 19, 2018.

⁴⁷ American Council on Renewable Energy, available at <https://acore.org/what-we-do/>, (last accessed on 10/11/2018).

1 84/100.”⁴⁸

2 • “Two-thirds of respondents plan to increase their investments in U.S.
3 renewables by more than 5% in 2018 compared with 2017, and half plan to
4 increase their investments by more than 10%.”⁴⁹

5 • “Total sector projections to 2030: When considering ideal policy and market
6 scenarios, 70% of respondents indicated that cumulative private investment in
7 U.S. renewable energy could reach \$500 billion between 2018-2030, while
8 26% projected it could reach \$1 trillion”⁵⁰

9 The respondents paint a bullish picture for renewables capital formation
10 growth, and financial markets consistently show their ability to invent and adapt to
11 change in underlying market dynamics. Based on both actual results over the last few
12 years, and the very optimistic outlook for the future, QF developers should have no
13 concerns that they will be prevented from attracting capital from a very deep pool of
14 public, private, domestic, and international investors based on the Company’s
15 recommendation of a seven-year term length for fixed-price PPAs in Wyoming.

16 **Q. What other insights did the Company glean from ACORE?**

17 A. Another part of the ACORE survey asked the respondents to assess hurdles that could
18 hinder renewables growth in the future. Overwhelmingly, the respondents rated
19 potential PURPA reform as the lowest hurdle that could hinder growth. So while the
20 QF developers may be motivated to present the risk re-balancing that the Company
21 seeks as damaging to their industry, their investors see this type of reform as a very low

⁴⁸ The American Council on Renewable Energy (ACORE), “The Future of U.S. Renewable Energy Investment”, June 19, 2018.

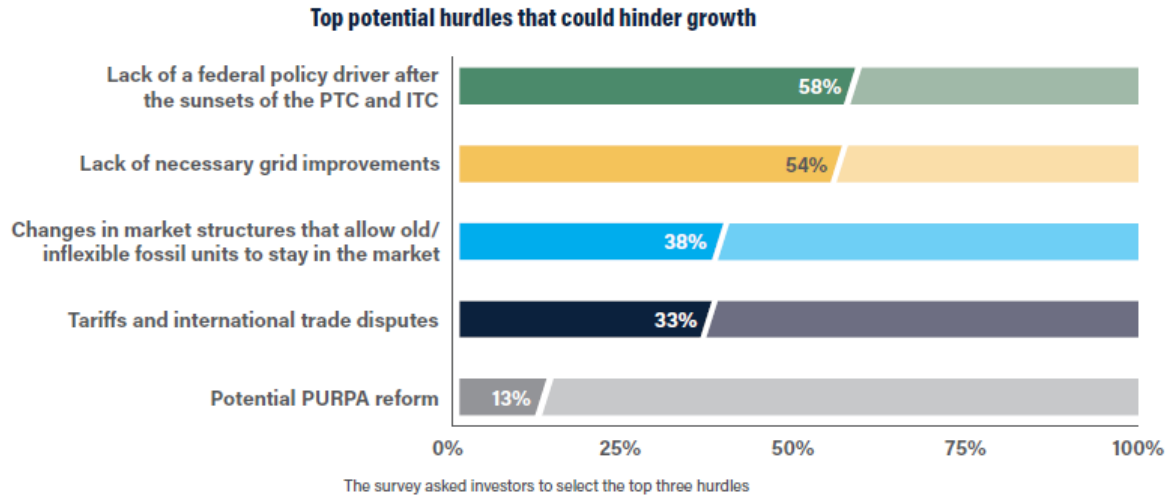
⁴⁹ *Id.* at P. 3.

⁵⁰ *Id.* at p. 3.

1 risk to future growth, well below the four other drivers, shown in Figure 5.

2

Figure 5



3 **Q. Why should the Commission act now to modify the fixed price term for QF PPAs?**

4 A. The Commission’s Order in Docket No. 20000-481-EA-15 directed all parties to form
5 a collaborative to achieve compromises with respect to opposing positions presented in
6 that docket. While we were able to arrive at some compromises with respect to
7 Schedule 37 through this effort, all of the Company’s recommendations for changes to
8 Schedule 38 were rejected, and the QF developers offered no alternatives. This failed
9 effort and the increasing need to improve Wyoming’s implementation of PURPA are
10 why the Company is filing this application, and the Commission should act to approve
11 the application and modify the fixed term now.

12 **Q. Why is this the right time for the Commission to improve the implementation of**
13 **PURPA in Wyoming?**

14 A. We have seen increased QF activity to exploit arbitrage opportunities based on
15 Wyoming Schedule 38 avoided cost pricing and the 20-year term, which is longer than

1 in neighboring states, for sites both within and outside of Wyoming. During this same
2 period, the Company has been able to take advantage of extremely competitive pricing
3 for renewables, as installed costs continue to drop. The Company's acquisition of
4 renewables outside of PURPA is the result of thorough analysis of the costs and
5 benefits to our customers based on both price and location, and, unlike PURPA where
6 customers merely break even, the Company must demonstrate that the acquisition is
7 needed.

8 The market for renewables and their financing has changed, and Wyoming's
9 20-year fixed-price contracts for QFs no longer reflects the current reality. Maintaining
10 the status quo places an unfair burden on our customers. QF developers are currently
11 taking advantage of the status quo to de-risk their transactions by transferring the bulk
12 of those risks to customers. As demonstrated above, some even tout the benefits of this
13 risk shifting in presentations to their investors. Approval of the Company's request to
14 set the maximum term to seven years recognizes the changes in the market and re-
15 balances this risk. It affirms the Company's PURPA must-purchase obligation based
16 on a term that allows QFs reasonable opportunities to access capital, while taking some
17 of the risk burden off of the Company's customers—thereby maintaining the customer
18 indifference principle.

19 **Q. Please explain the changes the Company is requesting to the procedures outlined**
20 **in Schedule 38.**

21 A. The Company is requesting the following changes to Schedule 38 to ensure
22 transparency in avoided cost pricing requests and in PPA negotiation and execution
23 procedures: (i) clarifying language to state clearly that providing a pro-forma PPA does

1 not mean the QF is at the PPA negotiation phase; (ii) clarifying language to state that
2 RMP has the right to update pricing any time prior to execution and filing of the PPA
3 with the Commission; (iii) adding specific tariff provisions stating that QF COD (or
4 the start of the delivery term of subsequent PPAs for existing QFs) must not exceed 30
5 months from the PPA execution date and that QFs must provide project development
6 security within 30 days of its PPA being filed with the Commission.

7 **Q. How will these changes improve the QF approval process and therefore benefit**
8 **customers, prospective QFs, and the Company?**

9 A. These changes will improve the process by providing more definitive guidance for QF
10 developers and the Company with respect to Schedule 38 indicative avoided cost price
11 requests, timing for when PPA contract negotiations can begin, and the frequency with
12 which the Company can provide avoided cost updates prior to contract execution.
13 These clarifications will remove some of the misinterpretations of Schedule 38 that QF
14 developers currently make, thereby eliminating wasted time and effort by developers
15 and the Company in the Schedule 38 QF contracting process. This will also help
16 eliminate disputes that sometimes rise to the level of Commission complaints, which
17 reduces costs and administrative burden for all parties involved.

18 It is extremely important that the Generator Interconnection process that a QF
19 must follow with PacifiCorp Transmission be separate from the Schedule 38
20 contracting process, due to the standards of conduct mandated by FERC. The
21 interconnection process can be lengthy and should be started well before the contract
22 process. An additional change to the Schedule 38 procedures makes clearer the
23 requirement that a QF developer must be able to demonstrate their ability to reach their

1 stated COD date in all respects, including interconnecting their project to PacifiCorp's
2 transmission system. The provision of project development security shortly after
3 contract execution helps to balance the risks associated with QFs timely achieving their
4 stated CODs. Another change confirms the Commission's desire, as stated in its
5 Trireme deliberations, that the avoided cost pricing that is in effect when a Legally
6 Enforceable Obligation is established between the Company and a QF is the most
7 recent pricing possible in order to meet the PURPA customer indifference principle.⁵¹
8 Related to this concept, will be to codify what is the Company's existing practice, that
9 the QF COD must not be more than 30 months from PPA execution date. This
10 requirement protects ratepayers from bearing avoided cost prices that are 'stale', and
11 no longer reflect the true avoided cost price for energy and capacity for the Company
12 at the time the QF goes into operations. By stating the Company's existing practice
13 explicitly in the tariff, the change will avoid future disputes with QFs seeking pricing
14 for projects that are years away from being able to provide energy and capacity.

15 **Q. Please explain the changes the Company is requesting to the procedures outlined**
16 **in Schedule 37.**

17 A. Aside from the changes that Company witness Mr. MacNeil discusses in his testimony,
18 the Company is proposing changes to state its current practices with prospective firm
19 QFs under Schedule 37 more explicitly. Specifically, the Company proposes the
20 following: (a) additional language making it clear that when the 10 MW cap for firm

⁵¹ *In The Matter Of The Amended Joint Complaint Filing By Trireme Energy Development II; Pryor Caves Wind Project LLC; Mud Springs Wind Project LLC; And Horse Thief Wind Project LLC Against Rocky Mountain Power And PacifiCorp Regarding The Avoided Cost Pricing For The Bowler Flats Wind Qualifying Facilities Power Purchase Agreements, Wyo. P.S.C. Docket No. 20000-505-EC-16; Record No. 14579, Commission Deliberations July 3, 2018.*

1 pricing is reached, avoided cost pricing for subsequent QFs larger than 100 kW will be
2 modelled in accordance with the methodology used for Schedule 38 QFs; (b) additional
3 language is also proposed for Schedule 37 to clarify the Company's existing practice,
4 which is that PPAs will be negotiated in a manner consistent with the non-pricing
5 related procedures in Schedule 38. The latter change will therefore make the
6 improvements I discuss above with respect to Schedule 38 applicable to the negotiation
7 of Schedule 37 PPAs too.

8 **Q. Can you please summarize your recommendations?**

9 A. Yes. I recommend the Commission approve the Company's request to adopt a seven-
10 year maximum contract term length for Wyoming QFs offering firm energy and
11 capacity. This change will bring Wyoming's implementation in-line with the current
12 economic and regulatory environment, and better balance PURPA's requirement for
13 customer indifference against its requirement that QFs will have reasonable
14 opportunities to attract capital from potential investors.

15 I further recommend that the clarifying changes the Company proposes for
16 Schedules 37 and 38 be approved. These changes will improve the Company's process
17 for PPA negotiations with QFs, and help to reduce QF complaints, which often include
18 claims resulting from QFs' misunderstanding or misinterpreting the current versions of
19 those schedules.

20 Finally, I recommend that the items presented by Company witness Mr.
21 MacNeil be adopted. The proposed refinements to the PDDRR methodology will
22 improve the accuracy of avoided costs in Wyoming, and thereby reduce risks to
23 customers. Utilizing that improved PDDRR methodology to determine the Schedule

1 37 avoided costs will likewise improve the accuracy of those prices. Similarly, the
2 change to Schedule 37's on-peak and off-peak definitions will more accurately reflect
3 high price hours on the Company's system, and more fairly reflect when QFs should
4 also receive higher prices.

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

6 A. Yes.

