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December 11, 2017

***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. 20000-518-EA-17
Record No. 14736

**RE: IN THE MATTER OF THE APPLICATION OF ROCKY MOUNTAIN POWER
FOR APPROVAL OF SCHEDULE 37 STANDARD RATES FOR PURCHASES OF
POWER FROM QUALIFYING FACILITIES – Rebuttal Testimony**

Dear Mr. Petrie:

In accordance with the scheduling order that was issued by the Wyoming Public Service Commission on August 31, 2017, Rocky Mountain Power hereby submits for electronic filing its rebuttal testimony in the above captioned matter. An original and four copies, along with a CD containing electronic files will be provided for the docket.

Please contact Stacy Splittstoesser, Wyoming Regulatory Affairs Manager, at (307) 632-2677 if you have any questions.

Sincerely,

A handwritten signature in blue ink that reads "Joelle Steward".

Joelle R. Steward
Vice President, Regulation

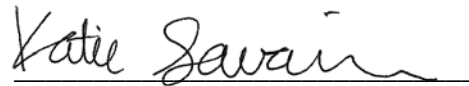
Enclosures

cc: Service List

CERTIFICATE OF SERVICE

I hereby certify that on this 11th day of December, 2017, I caused to be served via E-mail and/or overnight delivery, a true and correct copy of the foregoing document to the following:

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Katie Savarin
Coordinator, Regulatory Operations

Docket No. 20000-518-EA-17
Witness: Daniel J. MacNeil

BEFORE THE WYOMING PUBLIC SERVICE
COMMISSION

ROCKY MOUNTAIN POWER

Rebuttal Testimony of Daniel J. MacNeil

December 2017

1 **Q. Are you the same Daniel J. MacNeil who presented direct testimony in this**
2 **proceeding on behalf of Rocky Mountain Power (“RMP” or “Company”)?**

3 A. Yes.

4 **PURPOSE OF TESTIMONY AND RECOMMENDATION**

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

6 A. My testimony responds to the direct testimony filed on November 6, 2017 by Mr. John
7 R. Lowe for the Renewable Energy Coalition (“Coalition”).

8 **Q. Please summarize the Company’s direct filing.**

9 A. On May 31, 2017, the Company filed Schedule 37 rates using the currently effective
10 methodology, but with updated inputs related to:

- 11 • Sufficiency period avoided costs, including the Company’s then-current
12 March 31, 2017 Official Forward Price Curve (“1703 OFPC”).
- 13 • Integration costs for wind and solar qualifying facilities (“QFs”), consistent
14 with the 2017 Integrated Resource Plan (“2017 IRP”).
- 15 • Capacity contribution values for intermittent QF resources, consistent with the
16 2017 IRP.
- 17 • The resource deficiency period, reflecting the timing of the next deferrable
18 major thermal resource identified in the 2017 IRP preferred portfolio.
- 19 • Deficiency period avoided costs, based on the characteristics of the next
20 combined cycle combustion turbine (“CCCT”) identified in the 2017 IRP
21 preferred portfolio.

22 **Q. What changes to Schedule 37 does the Coalition propose?**

23 A. The Coalition proposes two changes related to the avoided cost methodology for

1 Schedule 37 prices and three changes related to Schedule 37 eligibility and contract
2 negotiations. On the avoided cost methodology, the Coalition proposes that:

- 3 • All planned resource acquisitions be included in the avoided cost
4 calculation, including the 2021 Wyoming wind resources in the 2017 IRP
5 preferred portfolio.¹
- 6 • Renewable QFs have the option to be paid either a renewable avoided cost
7 rate or a non-renewable avoided cost rate, or have the Company’s next
8 renewable resource form the basis for avoided cost rates.

9 On Schedule 37 eligibility and contract negotiations, the Coalition proposes that:

- 10 • All QFs up to 10 megawatts (“MW”) be eligible for standard prices.
- 11 • An unlimited number of eligible QFs may be signed at a given published
12 rate.
- 13 • QFs be able to establish a legally enforceable obligation if a dispute arises
14 between the Company and the QF in the contract negotiation process.

15 **Q. Does the Coalition object to all of the updates identified in the Company’s direct**
16 **filing?**

17 A. No. The Coalition does not raise any issues related to the sizeable reduction in
18 forecasted market prices for electricity and natural gas, which are a primary driver of
19 the reduction in avoided costs relative to the current tariff. The Coalition also does not
20 object to the Company’s updates to the integration costs and capacity contribution of
21 wind and solar resources.

¹ The 2021 Wyoming wind resources are assumed to have a December 31, 2020 in-service date to ensure the assumed tax benefits are achieved.

1 **Q. Please summarize your conclusions on Schedule 37 avoided cost rates and**
2 **methodology.**

3 A. The Coalition provides no evidence that basing avoided costs on the 2021 Wyoming
4 Wind resource in the 2017 IRP is more accurate. The Schedule 37 avoided cost
5 methodology has used the timing and characteristics of the Company's thermal
6 resources identified in the IRP preferred portfolio for many years. The Company is not
7 proposing to modify this methodology in this proceeding. The Company's filing in this
8 docket uses the Commission-approved methodology (with limited updates to certain
9 parameters) and was submitted to comply with the Commission's requirement for
10 utilities to file avoided cost information every two years. Because the Coalition was the
11 only intervening party in this docket, the Company posits this is not the appropriate
12 proceeding to implement changes without allowing input from all interested and
13 potentially impacted stakeholders.

14 There is no basis to establish renewable and non-renewable pricing options for
15 Schedule 37 Wyoming QFs. The Commission has previously established the Company
16 retains the renewable attributes associated with QF output,² so the Company should not
17 pay more for something it is already entitled to. Moreover, the Company has no
18 obligation to acquire renewable resources in Wyoming in the first place, so the
19 Company should not pay more to acquire renewable resources when lower cost
20 alternatives exist.

² See Memorandum Opinion, Findings and Order in Docket No. 20000-388-EA-11 at paragraph 63. Issued on November 4, 2011.

1 **Q. Please summarize your conclusions on Schedule 37 eligibility and contract**
2 **negotiations.**

3 A. The existing Schedule 37 eligibility requirements reflect a balance of administrative
4 efficiency and avoided cost accuracy, and the Company has only received one pricing
5 request in 2017 from a QF that would become eligible under Mr. Lowe’s proposal. As
6 a result, the Company’s administrative burden is currently low. Likewise, Mr. Lowe
7 provides no evidence that the Schedule 37 methodology would be more accurate than
8 the Schedule 38 methodology for such QFs. While the contract cap language in the
9 Schedule 37 tariff is ambiguous, the Company is not aware of any otherwise eligible
10 QFs that have been denied contracts at the published rates. Similarly, while QFs have
11 been on notice since May 2017 regarding the sizeable proposed reduction in Schedule
12 37 avoided cost rates, the Company is not currently negotiating with any Schedule 37
13 QFs in Wyoming. Thus, there is no apparent need to establish a mechanism for a legally
14 enforceable obligation within the Schedule 37 tariff. In the event any of the issues
15 described above occur, affected QFs can have their complaints resolved on a case-by-
16 case basis.

17 **SCHEDULE 37 METHODOLOGY**

18 **Q. What change does Mr. Lowe propose to the Schedule 37 methodology?**

19 A. Mr. Lowe proposes that all planned resource acquisitions be included in the avoided
20 cost calculation, and specifically the 2021 Wyoming wind resources in the 2017 IRP
21 preferred portfolio.

1 **Q. How do you respond to Mr. Lowe’s claims the Company has “manipulated its**
2 **avoided cost filing to artificially lower its avoided cost prices and prevent eligible**
3 **renewable resources from being fairly compensated”?**³

4 A. The Company has calculated the proposed Schedule 37 rates using the same
5 methodology used in its previous filing in Docket No. 20000-458-EA-14 and reflected
6 in the current tariff rates approved by the Commission on August 26, 2015. The
7 methodology used in that filing produces avoided costs based on the characteristics of
8 the next deferrable major thermal capacity resource in the IRP preferred portfolio,
9 specifically a combined cycle combustion turbine expected to come online in 2027.⁴

10 **Q. Mr. Lowe specifically claims that “for the first time ever the Company’s IRP**
11 **includes a resource acquisition that has not been included in the avoided cost**
12 **calculation. Rocky Mountain Power has ignored the planned Wyoming wind**
13 **resource acquisition...”**⁵ **How do you respond?**

14 A. As indicated above, the methodology proposed by the Company in Docket No. 20000-
15 458-EA-14 specifically uses the next thermal resource in the IRP preferred portfolio to
16 identify the start of the deficiency period, rather than characteristics of renewable
17 resources. Moreover, the Coalition’s claim that this is the first time a resource
18 acquisition has not been included in the avoided cost calculation is incorrect as the 2013
19 IRP Update preferred portfolio on which the current tariff rates are based included wind
20 resources in 2024 and 2025, prior to the thermal resource in 2027 which is used in the
21 Schedule 37 avoided cost calculation. Given that the Schedule 37 methodology prior

³ Lowe Direct at page 5, lines 18-20.

⁴ Docket No 20000-458-EA-14. Duvall Direct at pages 11-12.

⁵ Lowe Direct at page 5, lines 14-15.

1 to Docket No. 20000-458-EA-14 was based on a combined cycle combustion turbine
2 without any consideration of the resources in the IRP preferred portfolio, the last two
3 Schedule 37 methodologies have ignored renewable resource acquisitions.

4 **Q. Does Mr. Lowe provide any calculations showing how his proposal would be**
5 **implemented?**

6 A. No. Without an avoided cost result, it is difficult to know whether an avoided cost
7 methodology will produce just and reasonable rates. The customer indifference
8 standard is fundamental to the Public Utility Regulatory Policies Act of 1978
9 (“PURPA”) and setting avoided costs, and it is impossible to assess customer
10 indifference without having at least an indication of the avoided cost outcomes. The
11 Commission has recognized the importance of avoided cost outcomes in setting rates,
12 for instance in paragraph 50 in the Memorandum Opinion, Findings and Order issued
13 by the Commission on November 4, 2011 (Docket No. 20000-388-EA-11), which cited
14 a Wyoming Supreme Court decision which stated in part:

15 We agree that if the end result complies with the ‘just and reasonable’
16 standard announced in the statute, the methodology used by the PSC is
17 not a concern of this court, but is a matter encompassed within the
18 prerogatives of the PSC.

19 To assess customer outcomes, RMP asked the Coalition for avoided cost calculations
20 based on the avoided cost methodology proposed by Mr. Lowe. The Coalition’s
21 response indicated it “has not prepared the requested calculations.” See RMP Data
22 Request 1, attached as Exhibit RMP____(DJM-1R).

23 **Q. Is there any precedent for calculating avoided costs based on wind resources?**

24 A. Yes. Under the Schedule 38 methodology, wind resources defer wind resources in the
25 IRP preferred portfolio. This was established in paragraph 57 in the Memorandum

1 Opinion, Findings and Order issued by the Commission on November 4, 2011 (Docket
2 No. 20000-388-EA-11), where the Commission stated:

3 The Commission finds that RMP has fully supported the continued use
4 of its PDDRR avoided cost methodology, as modified, which has been
5 shown to be sound and which the intervening Parties recommended to
6 the Commission. The PDDRR methodology utilizes GRID runs to
7 develop part of the pricing coupled with the capacity deferral value
8 based on the next deferrable plant proxy as contained in the most recent
9 IRP results. The proposed modification which provides that pricing for
10 wind QFs will be based on a wind proxy is an important component of
11 the agreement that will provide a significant benefit to the wind
12 industry. The Commission finds that continued use of the PDDRR
13 methodology is reasonable and should be adopted on a permanent basis.
14 [emphasis added]

15 **Q. What are the avoided costs for small wind resources in Wyoming under the**
16 **Schedule 38 methodology?**

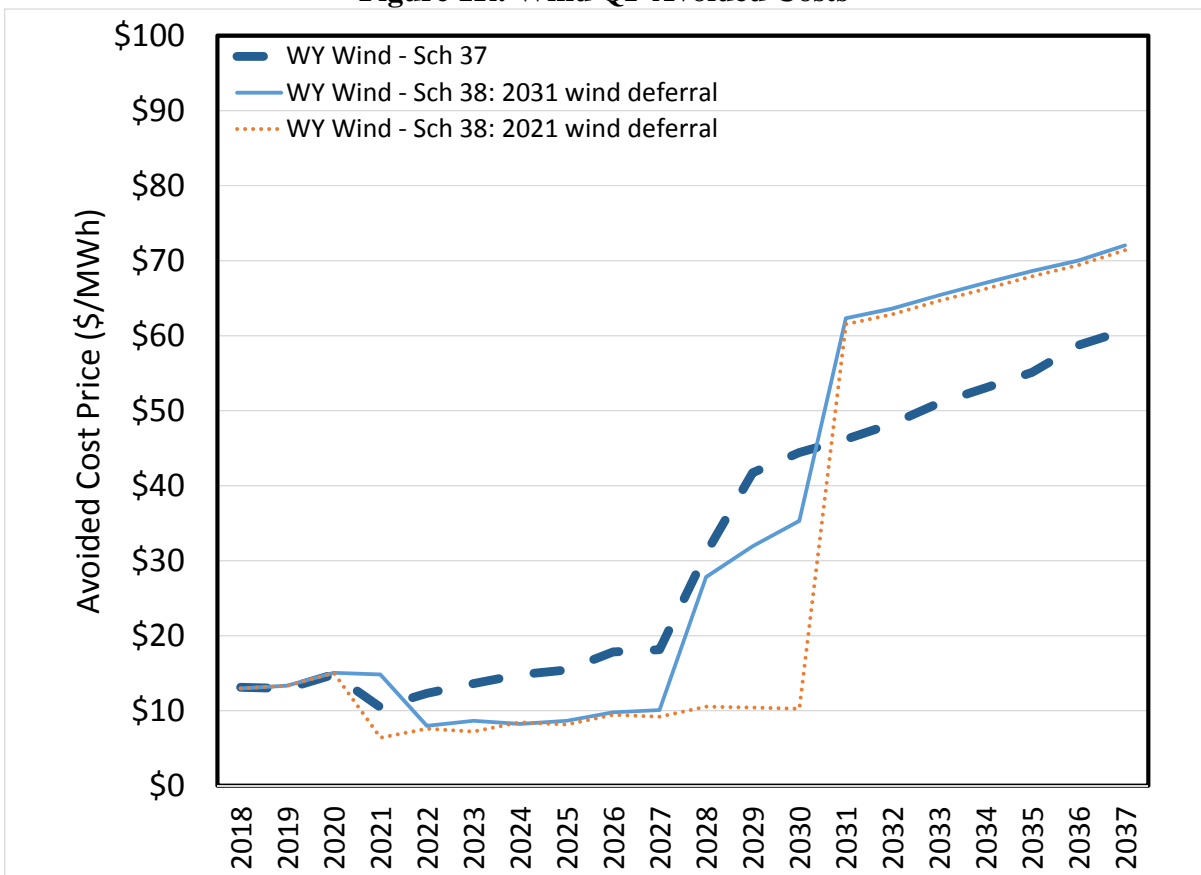
17 A. In response to Coalition data request 1.18, the Company prepared avoided costs for a
18 10 MW wind resource using the Schedule 38 methodology. This study assumed the
19 wind resource deferred a portion of the 2031 wind resource in the 2017 IRP preferred
20 portfolio. Over a 20 year contract term, the levelized avoided cost under the Schedule
21 38 methodology is higher than the proposed Schedule 37 rates, primarily as a result of
22 higher payments starting in 2031 based on the avoided fixed costs associated with the
23 2031 wind resource.

24 **Q. Wouldn't avoided costs be higher if they included earlier fixed costs associated**
25 **with the 2021 wind resource?**

26 A. Not necessarily. The 2021 wind resource is assumed to be eligible for production tax
27 credits ("PTCs") which provide significant incremental benefits during the first 10
28 years of operation. To assess the relative impact, the Company prepared an additional
29 study based on the assumptions in Coalition data request 1.18 to evaluate the avoided

1 costs associated with a small wind QF deferring the 2021 wind resource under the
 2 Schedule 38 methodology. Over a 20 year contract term, the levelized avoided cost
 3 when 2021 resources are deferred is lower than both the proposed Schedule 37 rates
 4 and the Schedule 38 avoided costs based on the 2031 wind resource, primarily as a
 5 result of near-zero avoided costs during the ten years in which the deferred resource
 6 would have been eligible for PTCs. Figure 1R compares these prices.

7 **Figure 1R: Wind QF Avoided Costs**



8 **Q. Does deferral of a 2021 or 2031 wind resource better represent the Company’s**
 9 **avoided costs?**

10 A. The deferral of 2031 wind results in higher avoided costs over a 20-year term. This
 11 indicates the 2021 wind resource costs less than the fuel costs and market purchases
 12 that could be avoided prior to 2031. Because the Company is seeking least cost

1 outcomes for customers, the highest cost resources should be avoided first, and in this
2 instance, the 2021 wind resource does not appear to be the highest cost resource in the
3 Company’s portfolio. As a result, deferral of 2031 wind is a better representation of the
4 Company’s avoided costs associated with a small Wyoming wind QF.

5 **Q. Does the Schedule 38 methodology provide a more accurate forecast of avoided**
6 **costs for wind than the Schedule 37 methodology?**

7 A. Yes. Accounting for the specific characteristics of wind resources provides a more
8 accurate estimate of their avoided cost than using a baseload energy profile and a
9 spreadsheet estimate of deficiency period capacity and energy costs.

10 **Q. Is there any precedent for calculating avoided costs for baseload or solar resources**
11 **based on wind resources?**

12 A. No. The methodology established in Docket No. 20000-388-EA-11 for non-wind QFs
13 assumes the deferral of gas resources identified in the Company’s most recent IRP
14 preferred portfolio.⁶ There is no basis or methodology for assuming baseload or solar
15 resources defer wind resources, and as previously indicated, the Coalition does not
16 offer any specific calculations.

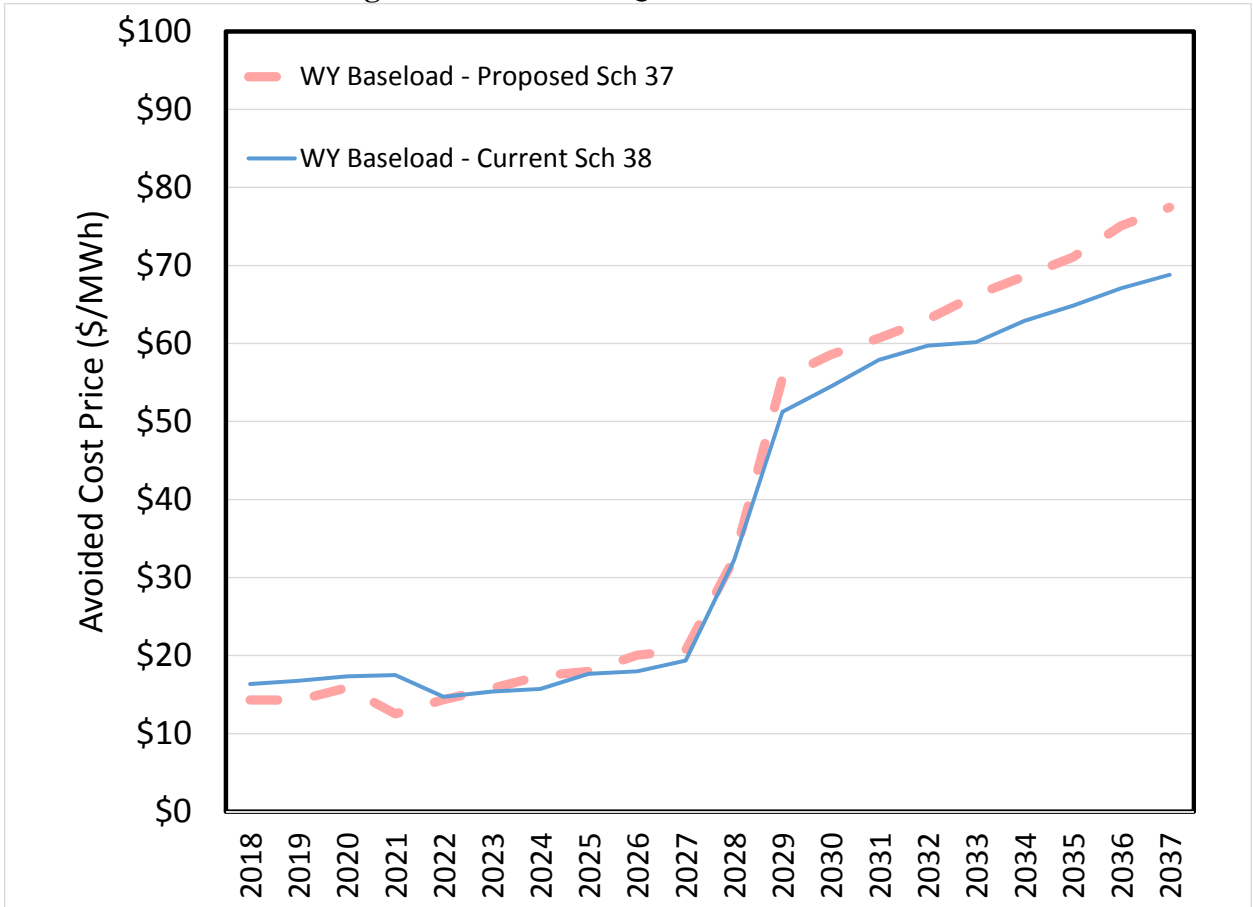
17 **Q. What are the avoided costs for small Wyoming baseload and solar resources**
18 **under the Schedule 38 methodology?**

19 A. In response to Coalition data request 1.18, the Company also prepared avoided costs
20 for 10 MW baseload and solar resources using the Schedule 38 methodology. Both
21 were assumed to defer a portion of the 2029 simple cycle combustion turbine (“SCCT”)

⁶ See Memorandum Opinion, Findings and Order in Docket No. 20000-388-EA-11 at paragraphs 20 and 57. Issued on November 4, 2011.

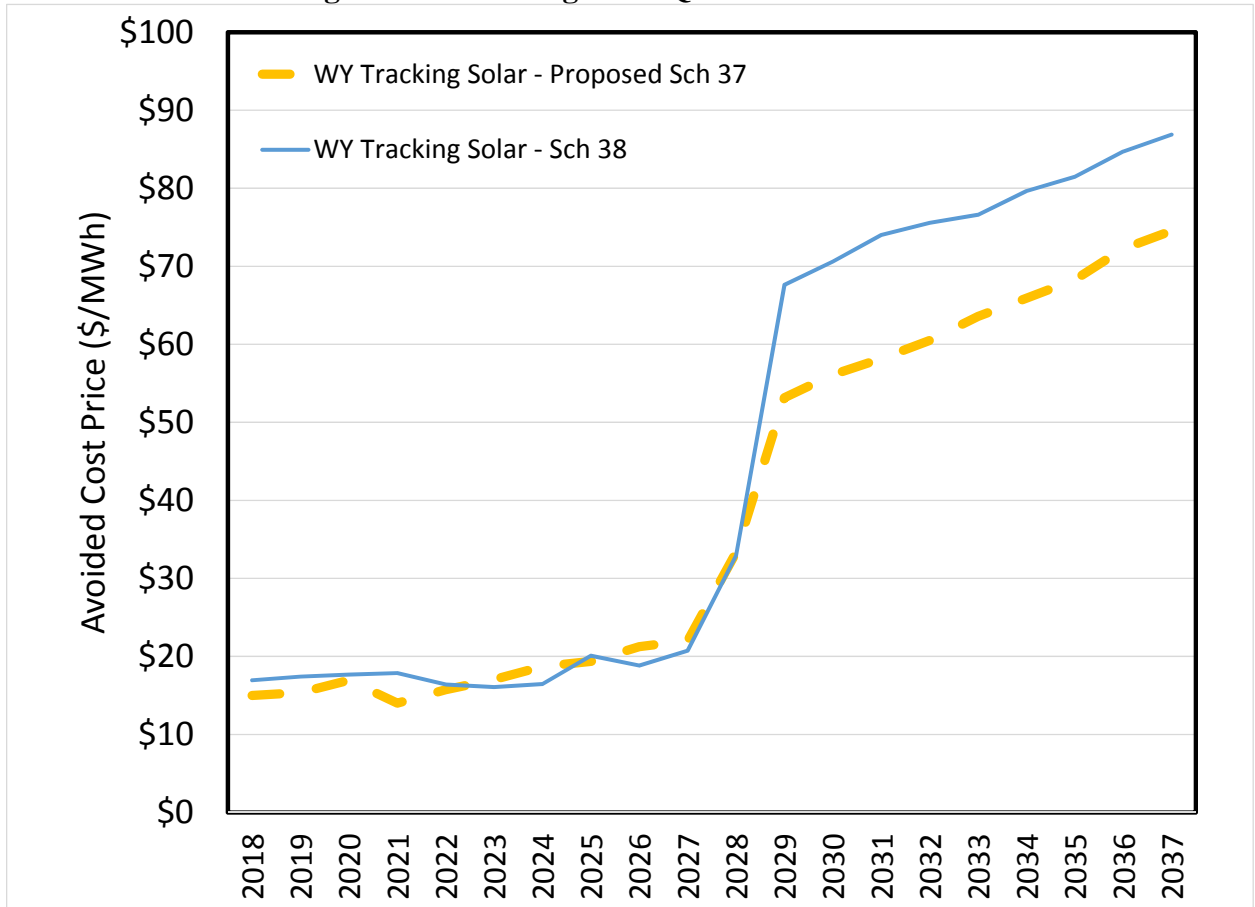
1 in the 2017 IRP preferred portfolio. The avoided cost pricing for baseload resources
2 under Schedule 38 and Schedule 37 are shown in Figure 2R. The avoided costs for
3 baseload resources are slightly lower under the Schedule 38 methodology compared to
4 the Schedule 37 methodology, primarily as a result of lower avoided costs during the
5 deficiency period starting in 2029. The avoided cost pricing for tracking solar resources
6 under Schedule 38 and Schedule 37 are shown in Figure 3R. The avoided costs for
7 solar resources are higher as a result of differences during the deficiency period.

8 **Figure 2R: Baseload QF Avoided Costs**



1

Figure 3R: Tracking Solar QF Avoided Costs



2 **Q. Does the Schedule 38 methodology provide a more accurate forecast of avoided**
3 **costs for baseload and solar resources than the Schedule 37 methodology?**

4 A. Yes. Accounting for the specific characteristics of baseload and solar resources and the
5 thermal resources they displace from the 2017 IRP preferred portfolio provides a more
6 accurate estimate of their avoided cost than using a baseload energy profile and a
7 spreadsheet estimate of deficiency period capacity and energy costs.

8 **Q. What do you recommend on the rates to be used in the Schedule 37 tariff?**

9 A. The Company filed updated avoided cost rates for Schedule 37 eligible QFs based on
10 the Commission-approved methodology and has not requested a change to the
11 methodology at this time. Since the Coalition is the only intervening party in this

1 docket, the Company posits this is not the appropriate proceeding to implement changes
2 to the existing Schedule 37 methodology without allowing other interested and
3 potentially affected stakeholders a chance to intervene and provide their input. I
4 recommend the Commission approve the Schedule 37 rates as filed. If the Commission
5 determines a methodology change is warranted, the Company can provide an update to
6 the methodology in a future Schedule 37 filing.

7 **RENEWABLE AND NON-RENEWABLE RATE OPTION**

8 **Q. How do you respond to the Coalition’s proposal that a renewable QF should have**
9 **the option to choose between either a renewable or non-renewable avoided cost**
10 **rate?**

11 A. Avoided cost rates must meet the customer indifference standard. The Federal Energy
12 Regulatory Commission (“FERC”) has established precedent for states implementing
13 multi-tiered avoided cost rates. In an order issued January 20, 2011, FERC held that
14 “the state may take into account obligations imposed by the state that, for example,
15 utilities purchase energy from particular resources of energy for a long duration.”⁷
16 Renewable Portfolio Standards (“RPS”) are one example of such obligations. Because
17 the Company does not have a RPS or any other obligation to procure renewable
18 resources in Wyoming, there is no basis for implementing a renewable resource option
19 for Wyoming QFs. Further, because the Commission has already ruled that the
20 Company retains all renewable energy credits (“RECs”) associated with QF output,
21 there is no basis for the Company to pay extra for something to which it is already
22 entitled and uses to the benefit of customers.

⁷ 134 FERC ¶ 61,044 at 18 (Jan. 20, 2011).

1 **Q. Does REC ownership impact the capacity and energy value associated with a QF?**

2 A. No. REC ownership has no impact on the Company's treatment of QF output when
3 calculating avoided energy and capacity costs because system operations and dispatch
4 would be the same for a given project regardless of REC ownership.

5 **SCHEDULE 37 ELIGIBILITY**

6 **Q. What QFs are eligible to receive Schedule 37 pricing?**

7 A. All QFs with a capacity of less than one MW are eligible for Schedule 37 rates. QFs
8 with a capacity of up to 10 MW are eligible for Schedule 37 rates if their expected
9 annual capacity factor is greater than 70 percent.

10 **Q. What QFs would be eligible for Schedule 37 pricing under the Coalition's
11 proposal?**

12 A. All QFs with a capacity of less than 10 MW would be eligible for Schedule 37 rates.
13 The Coalition highlights that solar, wind, and seasonal hydro resources would become
14 eligible.

15 **Q. Is it difficult to receive indicative prices under Schedule 38?**

16 A. No. The data requirements are the same as those necessary to receive a power purchase
17 agreement ("PPA"), so there is no additional burden on QF developers.

18 **Q. Would QFs receive lower prices under Schedule 38 versus the Company's
19 proposed Schedule 37?**

20 A. Not necessarily. In response to Coalition data request 1.18, the Company prepared
21 avoided costs for 10 MW baseload, solar, and wind QFs based on the Schedule 38
22 methodology. Prices were higher under Schedule 38 for both wind and solar. There is
23 no specific rate for seasonal hydro resources in the Schedule 37 tariff, so they would

1 receive the baseload rate, which is based on spreading avoided capacity costs across
2 the entire year during the deficiency period. Seasonal hydro could potentially avoid the
3 same capacity as a baseload resource while delivering only during the summer season,
4 but under Schedule 37 is only compensated for capacity at the baseload rate while it is
5 generating. Under Schedule 38, capacity value is spread across a resource's specific
6 generation profile, so it receives all of the capacity value it provides. As a result, while
7 the Company has not received an indicative pricing request for a seasonal hydro
8 resource, Schedule 38 prices for those resources would likely be higher than under
9 Schedule 37.

10 **Q. Have small QFs actually received prices under Schedule 38 that compare to those**
11 **described above?**

12 A. Yes. In September 2017, the Company provided indicative pricing under the Schedule
13 38 methodology to a proposed five MW solar QF. The 20-year levelized price was
14 15 percent higher than the Company's proposed Schedule 37 rates. While the price is
15 lower than the published Schedule 37 rates that are currently in effect, those rates reflect
16 assumptions which are now three years out of date, whereas the Schedule 38
17 methodology reflects the Company's most recent load forecast, OFPC, and IRP
18 preferred portfolio.

19 **Q. Is the Coalition's claim that it is much more difficult for QFs that exceed the**
20 **eligibility cap to negotiate contracts?**

21 A. No. The Company's current negotiation process is not difficult nor does the Company
22 incorporate delay tactics as suggested by the Coalition.⁸ The negotiation process is the

⁸ Lowe Direct page 13, lines 1-17.

1 same for all QFs whether they qualify for Schedule 37 or 38 prices. There are no
2 differences. Importantly, the Company does not negotiate price under either Schedule
3 37 or Schedule 38, as both are prepared in accordance with the applicable Commission-
4 approved methodology, so pricing does not impact negotiations.

5 **Q. Would any recent QF pricing requests have been impacted by Mr. Lowe's**
6 **proposal?**

7 A. Besides the five MW solar resource identified above, the Company has not received
8 any recent pricing requests from resources between one and 10 MW that are not eligible
9 for Schedule 37.

10 **SCHEDULE 37 CUMULATIVE CAP**

11 **Q. How does Schedule 37 address the cumulative resources acquired under the**
12 **published rate?**

13 A. In Schedule 37 the definition of Firm Power Time of Delivery (Sheet No. 37-3) states:
14 *These prices will only be applied to Qualifying Facility resources over*
15 *which the Commission has jurisdiction that enter into contracts with the*
16 *Company until 10 megawatts of system resources are acquired.*

17 **Q. How does the Company interpret this statement?**

18 A. Once the Company signs 10 MW of Wyoming QFs under a given Schedule 37 rate
19 schedule, the published rates in Schedule 37 must be updated. The Company is not
20 aware of this clause ever being implemented in Wyoming.

21 **Q. Is Mr. Lowe's claim that this clause is unique to Wyoming⁹ accurate?**

22 A. No. The Company's Schedule 37 tariff in Utah also has a cap. When the Company's
23 executed contracts approached the cap in 2014, the Utah Commission clarified the

⁹ Lowe Direct at page 7, lines 12-16.

1 published rates would remain applicable only for QFs up to a 100 kW size cap, while
2 QFs in excess of 100 kW would instead receive prices under Schedule 38. This limits
3 customer exposure to inaccurate avoided costs while maintaining compliance with
4 PURPA and the rules promulgated thereunder by the FERC. It would be reasonable to
5 use the same process in Wyoming.

6 **Q. Is this clause consistent with other avoided cost processes in Wyoming?**

7 A. Yes. Under Schedule 38, QFs receive indicative avoided costs based on the resources
8 in the Company's most recent IRP preferred portfolio, as well as signed contracts since
9 the IRP was prepared. As new contracts are signed, QFs still in the process of
10 negotiating contracts are subject to pricing updates. Requiring updated prices under
11 Schedule 37 is consistent with this concept. Due to the time lapse between the filing of
12 updated rates and their effective date, already in excess of six months in the current
13 filing, it is appropriate to limit customer exposure to inaccurate avoided costs by
14 reducing the eligibility cap in the interim.

15 **Q. Is there a link between Mr. Lowe's proposed increase in the eligibility cap and the
16 proposal to remove the cap on acquisitions at a given Schedule 37 rate?**

17 A. Yes. Mr. Lowe's proposal could allow large projects to be disaggregated, for instance
18 creating eight, 10 MW Schedule 37 QFs in relatively close proximity, rather than one,
19 80 MW Schedule 38 QF. The Company's avoided cost for these two scenarios should
20 be very similar, but as described above, while the Schedule 38 methodology currently
21 produces avoided cost prices that are slightly above the proposed Schedule 37 prices,
22 the avoided costs in the current Schedule 37 tariff are significantly higher. To the extent
23 QF developers disaggregate large projects to receive higher prices under Schedule 37,

1 customers would be harmed by paying rates in excess of avoided cost. Disaggregation
2 is particularly a problem for wind and solar resources, which are composed of modular
3 components.

4 **Q. Is there potential for multiple signed contracts in a short time frame?**

5 A. Yes. Obviously, a disaggregated project can consist of multiple QFs being signed in
6 short order. Even with distinct projects and separate developers, once notice of a rate
7 decrease is filed, any negotiations currently underway would be expected to result in
8 an executed contract or claim of a legally enforceable obligation prior to the rate
9 effective date.

10 **Q. Mr. Lowe claims the aggregate effect of QF purchases “may permit the deferral
11 or avoidance of a capacity addition.”¹⁰ Is this contrary to his position on the cap
12 on Schedule 37 purchases at the published rate?**

13 A. Yes. Each QF displaces the highest cost energy and capacity on the Company’s system,
14 so avoided costs decline as more resources are added. Once a particular future capacity
15 resource is deferred as Mr. Lowe suggests, avoided costs would be based on a later or
16 lower-cost resource addition and avoided costs would be lower. Mr. Lowe’s proposal
17 would require customers to continue paying QFs based on outdated avoided cost rates
18 that ignore the aggregate effect of QF purchases.

19 **Q. Is the aggregate cap on Schedule 37 purchases already less restrictive than pricing
20 under Schedule 38?**

21 A. Yes. As indicated above, the aggregate cap on Schedule 37 purchases under a given
22 tariff rate has been based on Wyoming Schedule 37 purchases, rather than the

¹⁰ Lowe Direct at page 25, lines 21-22.

1 purchases under Wyoming Schedule 38 or in other states.

2 **SCHEDULE 37 DISPUTE RESOLUTION**

3 **Q. What does Mr. Lowe propose on a Schedule 37 QF’s ability to establish a legally**
4 **enforceable obligation (“LEO”)?**

5 A. The language proposed in Mr. Lowe’s Exhibit 1 includes the following:

6 *The prices applicable to a Qualifying Facility over which the*
7 *Commission has jurisdiction shall be those in effect at the time a QF*
8 *approves the final draft power purchase agreement provided by*
9 *PacifiCorp... A legally enforceable obligation may be established*
10 *earlier if the QF and the Company are unable to resolve any disputes*
11 *or disagreements. The Company shall provide a draft power purchase*
12 *agreement fifteen (15) business days after all reasonable project*
13 *information has been received in writing from the QF. If the Company*
14 *does not provide a draft power purchase agreement, or if a dispute or*
15 *disagreement arises between the Company and the QF, the QF can*
16 *commit itself to sell power under then current rates and its proposed*
17 *contract terms and conditions. After making such a commitment, the*
18 *owner will be eligible to receive the avoided cost rates currently in effect*
19 *in this rate schedule.*

20 **Q. Is Mr. Lowe’s proposal reasonable?**

21 A. Absolutely not. First, Mr. Lowe proposes that a QF merely “approve” the final draft
22 PPA provided by the Company to lock in avoided cost rates. It is unclear whether the
23 Company or the Commission would be informed of this approval and the resulting
24 obligations of the Company and customers. Second, to the extent a QF disputes the
25 “reasonable” project information necessary for the Company to produce a final draft
26 PPA, and makes a LEO claim, that claim will necessarily be inadequately defined in
27 the view of the Company. Third, it is unclear what constitutes a commitment to sell
28 power on the part of the QF. Finally, the disputed terms and conditions proposed by
29 the QF may not be in the public interest. As a result, Mr. Lowe’s proposal would not
30 make negotiations less contentious nor would it have any link to the resolution of the

1 underlying disputes.

2 **Q. Is the process for establishing a LEO the key missing element underlying Mr.**
3 **Lowe's concerns with the Schedule 37 negotiation process?**

4 A. No. Mr. Lowe's concerns with Schedule 37 negotiations are a primarily a matter of
5 dispute resolution.

6 **Q. Does the Company have a dispute resolution process for Wyoming QFs to follow?**

7 A. Yes. Section III of the Schedule 38 tariff (Sheet No. 38-8) includes the following:

8 *Before filing a complaint with the Wyoming Public Service Commission*
9 *on any specific power purchase agreement term not agreed upon*
10 *between the counterparty and the Company, a counterparty must wait*
11 *60 calendar days from the date it notifies the Company in writing that*
12 *it cannot reach agreement on a specific term.*

13 **Q. Is this clause reasonable with respect to Schedule 37 QFs?**

14 A. Yes. First, a QF must notify the Company of the specifics of its dispute and allow a
15 reasonable interval for a solution to be identified via bilateral negotiations. To the
16 extent the dispute is unresolved, the filing of a complaint at the Commission is the
17 appropriate venue to resolve the disputed terms and applicable avoided cost rates, if
18 they are also in question. Since a Commission complaint to resolve disputed terms
19 would still be necessary under Mr. Lowe's proposal, it is not necessary to predetermine
20 a LEO through changes to the Schedule 37 tariff when the Commission will make a
21 determination on the specifics of the dispute in any event.

22 **Q. Are the requirements for establishing a LEO more important for Schedule 37 QFs**
23 **than for Schedule 38 QFs?**

24 A. No. PURPA specifies that avoided costs are set at the time a contract is executed or a
25 LEO is established, so a LEO only impacts the price a QF is entitled to. For Schedule

1 37 QFs this is only an issue when rates change, which occurs only after a public process
2 and approval of new rates by the Commission. For Schedule 38 QFs, avoided costs can
3 change at any time as a result of signed contracts or other changes in the Company's
4 forecast.

5 **Q. Mr. Lowe claims that a utility can impose difficult burdens or propose potentially**
6 **illegal terms and conditions during negotiations. Does he provide any specific**
7 **examples?**

8 A. No. The Company is not aware of any QFs eligible for Wyoming Schedule 37 that
9 believe they have been subject to the circumstances Mr. Lowe describes. Further, the
10 Company is not currently negotiating with any Wyoming QFs eligible for Schedule 37
11 that could potentially be impacted.

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

13 A. Yes.

BEFORE THE PUBLIC SERVICE COMMISSION OF WYOMING

IN THE MATTER OF THE)	
APPLICATION OF ROCKY)	
MOUNTAIN POWER FOR APPROVAL)	DOCKET NO. 20000-518-EA-17
OF SCHEDULE 37 STANDARD RATES)	(RECORD NO. 14736)
FOR PURCHASES OF POWER FROM)	
QUALIFYING FACILITIES)	

AFFIDAVIT, OATH AND VERIFICATION

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

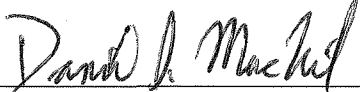
Affiant is a Resource and Commercial Strategy Adviser for PacifiCorp, which is a party in this matter.

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 11th day of December, 2017



Daniel MacNeil
Resource and Commercial Strategy Adviser
825 NE Multnomah Ave
Portland, OR 97232
503-813-552

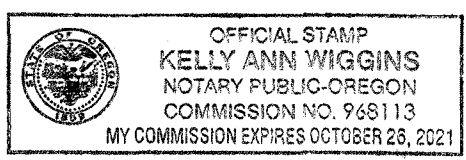
STATE OF OREGON)
) SS:
COUNTY OF MULTNOMAH)

The foregoing was acknowledged before me by Daniel MacNeil on this 11th day of December, 2017. Witness my hand and official seal.

Kelly Wiggins

Notary Public

My Commission Expires:



Rocky Mountain Power
Exhibit RMP___(DJM-1R)
Docket No. 20000-518-EA-17
Witness: Daniel J. MacNeil

BEFORE THE WYOMING PUBLIC SERVICE
COMMISSION

ROCKY MOUNTAIN POWER

Exhibit Accompanying Rebuttal Testimony of Daniel J. MacNeil

Renewable Energy Coalition's Response to Rocky Mountain Power's Data Request 1.1

December 2017

BEFORE THE PUBLIC SERVICE COMMISSION OF WYOMING

IN THE MATTER OF THE APPLICATION)
OF ROCKY MOUNTAIN POWER FOR)
APPROVAL OF SCHEDULE 37 STANDARD) **Docket No. 20000-581-EA-17**
RATES FOR PURCHASES OF POWER) **(Record No. 14736)**
FROM QUALIFYING FACILITIES)

**RENEWABLE ENERGY COALITION’S RESPONSES TO
ROCKY MOUNTAIN POWER’S FIRST SET OF DISCOVERY REQUESTS**

Renewable Energy Coalition (“REC”), by and through its attorneys, hereby serves its response to the Rocky Mountain Power’s First Set of Discovery Requests.

RMP Data Request to REC 1.1 Please provide the Schedule 37 avoided cost rates proposed by Mr. Lowe for the base load, wind, fixed tilt solar, and tracking solar resource types reflected in the Schedule 37 tariff. Please provide all workpapers and assumptions used in the development of the proposed rates.

RESPONSE:

REC has not prepared the requested calculations. REC is proposing a change to the methodology consistent with REC's recommendations in Oregon, Utah, and Wyoming that are in the manner in which Rocky Mountain Power's affiliated company, PacifiCorp, currently calculates renewable avoided cost rates in Oregon. Rocky Mountain Power is therefore familiar with these recommendations, has calculated and filed avoided cost rates consistent with REC's recommendation in Oregon, and can easily perform these calculations itself. REC is willing to work with Rocky Mountain Power to ensure that its calculations are performed correctly should Rocky Mountain Power provide access to the requisite data modeling. Finally, REC notes that PacifiCorp has previously explained in comments in Oregon that the question of whether and what type of renewable avoided cost rate should be set is a legal and policy question that does not require evidentiary proceedings. PacifiCorp also recently proposed more substantive avoided cost rate changes than are at issue in this proceeding in Washington without providing any specific rate forecasts with supporting workpapers and assumptions.

RESPONDENT:

John R. Lowe

Rocky Mountain Power
Exhibit RMP___(DJM-2R)
Docket No. 20000-518-EA-17
Witness: Daniel J. MacNeil

BEFORE THE WYOMING PUBLIC SERVICE
COMMISSION

ROCKY MOUNTAIN POWER

Exhibit Accompanying Rebuttal Testimony of Daniel J. MacNeil

Rocky Mountain Power's Responses to the Renewable Energy Coalition's Data Request 1.18

December 2017

20000-518-EA-17 / Rocky Mountain Power
September 20, 2017
REC Data Request 1.18

REC Data Request 1.18

Please provide illustrative examples of the avoided cost rates Rocky Mountain Power is proposing to pay 10 and 20 MW solar, wind, geothermal, biomass, and hydro QFs based upon the Company's 2017 IRP. Please provide all supporting work papers.

Response to REC Data Request 1.18

The Company assumes that 10 megawatts (MW) and 20 MW was meant to distinguish between qualifying facilities (QF) eligible for Schedule 37 and those eligible for Schedule 38, but notes that resources with capacity factors under 70 percent are only eligible for Schedule 37 to the extent they have a capacity of up to 1 MW. Solar, wind, and certain seasonal hydro resources with 10 MW of capacity would thus be ineligible for Schedule 37 and would not have a different methodology from a 20 MW resource of that type. The Company is thus providing illustrative examples under the proposed Schedule 37 rates and under the current Schedule 38 avoided cost methodology. Absent a variation in the pattern of their expected output, geothermal, biomass, and hydro units would have the same impact on the Company's system and the same avoided costs. A single "baseload" avoided cost price has been calculated that could be applied to any of the identified generation technologies to the extent their output is relatively constant throughout the year.

For avoided cost pricing applicable to QFs eligible for Schedule 37, please refer to the proposed tariff pages provided as Exhibit 3 accompanying the Company's Application. For a comparison of the proposed Schedule 37 avoided cost rates by resource, please refer to the Direct Testimony of Company witness, Daniel J. MacNeil, specifically Exhibit 1, page 21.

The Company is preparing illustrative examples of avoided cost pricing applicable to QFs eligible for Schedule 38 and will supplement this response when they are complete.

Respondent: Dan MacNeil

Witness: Dan MacNeil

20000-518-EA-17 / Rocky Mountain Power
September 27, 2017
REC Data Request 1.18 – 1st Supplemental

REC Data Request 1.18

Please provide illustrative examples of the avoided cost rates Rocky Mountain Power is proposing to pay 10 and 20 MW solar, wind, geothermal, biomass, and hydro QFs based upon the Company's 2017 IRP. Please provide all supporting work papers.

1st Supplemental Response to REC Data Request 1.18

Further to the Company's response to REC Data Request 1.18 dated September 20, 2017, the Company provides the following supplemental response:

The Company continues to assume that 10 megawatts (MW) and 20 MW was meant to distinguish between qualifying facilities (QF) eligible for Schedule 37 and those eligible for Schedule 38, but notes that resources with capacity factors under 70 percent are only eligible for Schedule 37 to the extent they have a capacity of up to 1 MW. Solar, wind, and certain seasonal hydro resources with 10 MW of capacity would thus be ineligible for Schedule 37 and would not have a different methodology from a 20 MW resource of that type.

Please refer to Attachment REC 1.18-1 1st Supplemental, which provides avoided cost pricing applicable to solar, thermal (baseload), and wind QFs using the Schedule 38 methodology. Please refer to Confidential Attachment REC 1.18-2 1st Supplemental, which provides additional work papers supporting the referenced avoided cost pricing.

Confidential information is provided subject to the terms and conditions of the protective agreement in this proceeding.

Respondent: Dan MacNeil

Witness: Dan MacNeil

**WY37 Solar
 10.0 MW and 28.2% CF
 Illustrative Avoided Cost Prices**

Year	Energy Payment (\$/MWH)		Total \$/MWH at 28.2% CF (1)
	HLH	LLH	
2018	\$17.62	\$13.87	\$16.94
2019	\$18.06	\$14.58	\$17.43
2020	\$18.28	\$15.00	\$17.68
2021	\$18.44	\$15.26	\$17.86
2022	\$16.96	\$13.96	\$16.41
2023	\$16.59	\$13.71	\$16.06
2024	\$16.91	\$14.40	\$16.45
2025	\$20.56	\$17.97	\$20.08
2026	\$19.20	\$17.10	\$18.82
2027	\$21.14	\$18.97	\$20.74
2028	\$33.43	\$30.59	\$32.91
2029	\$68.96	\$61.60	\$67.62
2030	\$72.07	\$64.08	\$70.61
2031	\$75.56	\$67.19	\$74.02
2032	\$77.04	\$69.00	\$75.58
2033	\$78.07	\$69.95	\$76.59
2034	\$81.14	\$72.94	\$79.64
2035	\$83.04	\$74.52	\$81.48
2036	\$86.28	\$77.75	\$84.71
2037	\$88.48	\$79.74	\$86.88
20-Year Nominal Levelized Prices at 6.57% Discount Rate			
\$/MWh	\$36.19	\$31.73	\$35.38

(1) Total \$/MWh are illustrative. Actual avoided cost prices will be provided in monthly detail by hour class. Actual effective prices will depend on QF generation levels.

WY37 Thermal
10.0 MW and 100.0% CF
Illustrative Avoided Cost Prices

Year	Energy Payment (\$/MWH)		Total \$/MWH at 100.0% CF (1)
	HLH	LLH	
2018	\$17.79	\$14.52	\$16.35
2019	\$18.07	\$15.12	\$16.77
2020	\$18.62	\$15.71	\$17.34
2021	\$18.74	\$15.94	\$17.51
2022	\$15.96	\$13.12	\$14.71
2023	\$16.60	\$13.87	\$15.40
2024	\$16.81	\$14.37	\$15.74
2025	\$18.74	\$16.32	\$17.68
2026	\$19.05	\$16.59	\$17.97
2027	\$20.46	\$17.96	\$19.37
2028	\$33.69	\$30.33	\$32.21
2029	\$53.59	\$48.26	\$51.25
2030	\$56.96	\$51.35	\$54.50
2031	\$60.58	\$54.55	\$57.93
2032	\$62.36	\$56.37	\$59.73
2033	\$62.80	\$56.79	\$60.16
2034	\$65.56	\$59.54	\$62.90
2035	\$67.64	\$61.24	\$64.83
2036	\$69.94	\$63.43	\$67.08
2037	\$71.68	\$65.15	\$68.81
20-Year Nominal Levelized Prices at 6.57% Discount Rate			
\$/MWh	\$32.09	\$28.33	\$30.44

(1) Total \$/MWh are illustrative. Actual avoided cost prices will be provided in monthly detail by hour class. Actual effective prices will depend on QF generation levels.

WY37 Wind
10.0 MW and 41.4% CF
 Illustrative Avoided Cost Prices

Year	Energy Payment (\$/MWH)		Total \$/MWH at 41.4% CF (1)
	HLH	LLH	
2018	\$13.87	\$11.62	\$12.96
2019	\$14.16	\$12.15	\$13.33
2020	\$15.92	\$13.85	\$15.06
2021	\$15.64	\$13.69	\$14.82
2022	\$8.95	\$6.70	\$7.99
2023	\$9.39	\$7.62	\$8.65
2024	\$9.04	\$7.12	\$8.24
2025	\$9.52	\$7.43	\$8.66
2026	\$10.64	\$8.58	\$9.78
2027	\$11.02	\$8.77	\$10.08
2028	\$29.00	\$26.21	\$27.82
2029	\$33.13	\$30.16	\$31.93
2030	\$36.58	\$33.47	\$35.29
2031	\$64.61	\$59.04	\$62.33
2032	\$65.88	\$60.48	\$63.62
2033	\$67.77	\$62.23	\$65.40
2034	\$69.30	\$63.90	\$67.04
2035	\$70.95	\$65.18	\$68.62
2036	\$72.48	\$66.56	\$70.02
2037	\$74.46	\$68.61	\$72.04
20-Year Nominal Levelized Prices at 6.57% Discount Rate			
\$/MWh	\$27.17	\$24.19	\$25.92

(1) Total \$/MWh are illustrative. Actual avoided cost prices will be provided in monthly detail by hour class. Actual effective prices will depend on QF generation levels.