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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. 20000-545-ET-18
MODIFICATION OF AVOIDED COST)	
METHODOLOGY AND REDUCED)	(Record No. 15133)
CONTRACT TERM OF PURPA POWER)	
PURCHASE AGREEMENTS WITH)	
QUALIFYING FACILITIES)	

**ROCKY MOUNTAIN POWER’S FIRST SET OF DISCOVERY REQUESTS TO THE
RENEWABLE ENERGY COALITION & THE ROCKY MOUNTAIN COALITION FOR
RENEWABLE ENERGY**

COMES NOW, Rocky Mountain Power (the “Company”) and hereby serves its first set of data requests on the Renewable Energy Coalition (“REC”) and the Rocky Mountain Coalition for Renewable Energy (“RMCRE”) regarding their joint testimony in the above docketed matter, to be answered pursuant to Rules 33, 34, and 36 of the Wyoming Rules of Civil Procedure. Please respond to these data requests within seven (7) calendar days (by May 10, 2019).

DEFINITIONS AND INSTRUCTIONS

The following definitions and instructions apply to each of the requests for production set forth herein and are deemed to be incorporated therein.

- (1) “Document” and “documentation” should be interpreted as broadly as possible

to include, but not be limited to, the original or any copy, regardless of origin or location, of any book, pamphlet, periodical publication, letter, scrapbook, diary, calendar, canceled check, photograph, form, memorandum, schedule, tax return, telegram, telex, report, record, order or notice of governmental action of any kind, study, minutes, logs, graph, index, tape, disc, internal operating manual, data sheet or data processing card, or any other written, recorded, transcribed, punched, taped, filmed, graphic or retrievable matter or data of any kind, however produced or reproduced, to which you have or have had access. This definition is intended to include, but not be limited to, all documents which have been created and/or which reside in any type of electronic format and is to be construed in its most comprehensive sense as contemplated by the Wyoming Rules of Civil Procedure.

(2) **“Person or Entity”** should be interpreted to denote, unless otherwise specified, any natural person, firm, corporation, association, group, individual or organization of any type whatsoever.

(3) Any request to **“identify”** or **“provide”** should be interpreted to mean:

a) With respect to a natural person, that person’s full name, title, job description, and business and home address. Where the identification pertains to a past period, as to each person identified who is still in your employ, or the employment of the group with which such person is identified in response to any requests, provided, in addition, that person’s title and job description as of the time of such past period. Where the person is no longer in your employ or the employment of the group with which such person is identified in response to any request, provide that person’s affiliate, position, home and business address, if known, or if not known, such person’s last known affiliation, position, home and business address, or portions thereof as may be known.

b) With respect to an entity other than a natural person, that entity’s name,

business, type of entity, present status and present or last known address.

c) With respect to a document, that document's title, date, author (and, if different, the signer), addresses, recipients, or other persons who assisted in the preparation, subject matter or general nature, and any amendments thereto, present location and custodian, whether or not such document is in the respondent's possession, custody or control and whether or not the document is claimed to be privileged. The final version and each draft of each document should be identified and produced separately. Each original and each non-identical copy (bearing marks or notations not found on the original) of each final version and draft of each document should be identified and produced separately.

d) With respect to a physical facility, the location of the facility, the intended purpose of the facility, the actual use of such facility, the operating dates of the facility, the installation date of the facility, the date utilization of the facility terminated if applicable, and whether the facility is subject to the jurisdiction of the Federal Energy Regulatory Commission, the Public Service Commission of Wyoming, or any other regulatory body.

(4) **“Communication”** should be interpreted to include, but not be limited to, all forms of communication, whether written, printed, oral, pictorial, electronic or otherwise, including testimony or sworn statement, or any means or type whatsoever.

(5) **“Relating To”** or **“Related To”** means pertaining to, presenting, discussing, commenting on, analyzing, or mentioning in any way.

(6) The term **“and”** and **“or”** should be construed either disjunctively or conjunctively whenever appropriate in order to bring within the scope of each request any information or document which might otherwise be considered to be beyond its scope.

(7) The singular form of a word should be interpreted as plural, and the plural form of

a word should be interpreted as singular, whenever appropriate in order to bring within the scope of each request any information or document which might otherwise be considered to be beyond its scope.

DATA REQUESTS

- 1.1 Provide workpapers supporting all values, tables, and figures referenced within the testimony. Workpapers should include the GRID project for any GRID runs, and the avoided cost GRID results templates.
- 1.2 Referring to page 9, line 17 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, do you assert that price ‘uncertainty’, as used in the finance for the definition of risk, is the only definition for risk that is appropriate to describe the potential impacts that non-competitively procured long-term qualifying facility (“QF”) contracts with non-creditworthy counterparties have on a utility’s customers?
- 1.3 Referring to page 10, line 14 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, is it your contention that PacifiCorp makes front office transactions (“FOTs”) without regard to the prices available in the market versus what the marginal costs of utility-owned and contracted generation are? If so, please provide evidence of these transactions.
- 1.4 Referring to pages 10 and 11, lines 17 and 1 respectively of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, would Dr. Hellman and Dr. Kaufman agree that the Company also enters into long term non-QF power purchase agreement (“PPA”) contracts?
 - a. Do these reduce risk for the Company’s customers? If not, state why they are risky, i.e. provide evidence where PacifiCorp pays variable operations and maintenance costs, and is exposed to generation risk and operating cost risk for non-QF long-term PPAs for which the Company has contracted for.
- 1.5 Referring to page 11, lines 9 through 11 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, in Finance theory, the Capital Asset Pricing Model (CAPM), Efficient Frontier and Capital Market Line all support the idea of risk premiums supporting higher expected returns for riskier assets. These concepts were all introduced in the 1960’s. Have any additional peer-reviewed finance theories or models been published since that time that have data to support them that refute or challenge these concepts?
- 1.6 Referring to page 11, lines 15 through 17 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, do the Company’s customers favor higher priced long term contracts with QFs vs lower marginal cost generation or lower cost long term PPAs signed through competitive processes or that result from competitive solicitations? If the answer is yes, please provide evidence via testimony from customers, survey results, or other evidence supporting this claim.

- 1.7 Referring to page 13, Table 2 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, confirm that the referenced values are derived from the direct testimony of Daniel MacNeil Table 2.
- a. If yes, explain why the contract length has not been identified.
 - b. Will a QF continue to be paid in years 8 and beyond, should it choose to continue to sell power to a utility?
 - c. Explain in detail how payments for generation beyond the initial contract term impact QF profitability.
 - d. Explain in detail how expected payments beyond the initial contract term impact QF financing.
 - e. Explain why retail customers should be expected to lock in payments based on expected avoided costs for a longer term when the expected values are deemed too risky by major financial institutions.
- 1.8 Referring to page 13, lines 14-16 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, where the testimony claims that the redefinition of peak period results in a five percent reduction in expected payments, despite RMP's false claim that the change in definitions is revenue neutral. Provide all workpapers supporting this conclusion.
- 1.9 Referring to page 13, lines 7-9 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, is the timing of the Company's determination of resource sufficiency in its integrated resource plans ("IRP") fixed, or can it vary based on new data in updates or subsequent IRPs?
- a. Is the Company's capacity need as stated in its IRPs fixed, or can it vary based on new data in updates or subsequent IRPs?
 - b. Could load growth in the Company's service territories drive up resource insufficiency, and therefore advance the date of capacity need in PacifiCorp's IRPs?
 - c. Could new environmental regulations that force the earlier than anticipated closure of some of the Company's fossil generation drive up resource insufficiency, and therefore advance its current date of capacity need in the Company's IRPs?
- 1.10 Referring to page 14, lines 6-9 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman, how does a lower forecasted IRR on a fixed price contract equate to more risk given your earlier definition of risk being equal to variance? Is the investment more risky to investors even though there is zero price variance due to the long term fixed price contract? If so, please explain.

- 1.11 Referring to page 15, lines 3-6 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, is a request for proposals that seeks to identify and select the “least cost least risk” resources likely to produce the same pricing as an analysis that seeks to ensure customers pay no more than they otherwise would have for comparable resources owned by a utility?
- a. Explain your answer.
 - b. Assuming the cost of building or acquiring resources has declined over a period of 10 years, also assuming that some of a given utility’s existing resources were acquired or built over that 10 year period when costs were higher, and assuming that, at the end of the 10 year period, that utility solicits new resources through a request for proposals which seeks to identify and select the “least cost least risk” resources, would bids produce higher or lower prices than prices that would be produced by an analysis that seeks to ensure customers pay no more than they otherwise would have for comparable resources owned by a utility?
- 1.12 Referring to page 15, lines 7-9 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, explain each of the ways in which the GRID model accounts for non-dispatchability of QFs?
- a. To the extent an explanation is provided, provide numerical examples demonstrating how non-dispatchability is reflected in the Company’s avoided cost pricing.
- 1.13 Referring to page 15, lines 11-12 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, does reducing the time period of one’s exposure to a risk tend to reduce the potential that the risk will be realized?
- a. If a risk, once realized, is ongoing in nature, does reducing the term over which one is exposed to the risk reduce the extent of harm resulting from that risk?
- 1.14 Referring to page 15, line 15 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, define “market purchase.”
- a. Is a one year fixed price physical power purchase a market purchase?
 - b. Is a five year fixed price physical power purchase a market purchase?
 - c. Is a 10 year fixed price physical power purchase a market purchase?
 - d. Is a 25 year PPA contract with a creditworthy renewable merchant owner-operator that is procured through a competitive process a market purchase?
- 1.15 Referring to page 15, lines 13-18, and to page 16, lines 1-19 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, provide examples from the Company’s Application or testimony, where the Company discusses the risk associated with avoided cost pricing being too high or too low.

- 1.16 Referring to page 16, lines 2-9, of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, is the risk to the Company's customers the same under two different 20 year wind contracts that have the same price and expected generation if one contract is with a publicly traded investment grade renewables owner operator and the other is with a private, non-rated company that has little to no operating experience?
- 1.17 Referring to page 16, lines 12-19, of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, what was the technology, contract price and term for the QF PPA in this analysis?
- a. Would the results of this analysis be different if the GRID runs were performed using a non QF with the same price, generation profile and term as the QF PPA, and the non QF PPA was economically dispatchable instead of must-take?
- 1.18 Referring to page 20, Table 5 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, provide expected vs actual net capacity factor for all PacifiCorp wind QFs.
- 1.19 Referring to page 21, Table 6 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, provide annual generation from PacifiCorp wind QFs for 2014-2017.
- 1.20 Referring to page 21, lines 12-16, and page 22, lines 1-8 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, is it an objective of PURPA to provide state utility commission's tools to reduce price volatility?
- a. If your answer is "yes", indicate which parts of PURPA, or its regulations, that state this goal with respect to qualifying facilities.
- b. Does ensuring that customers remain indifferent to utility purchases mandated by PURPA result in the same analysis as ensuring that pricing reduces ratepayer risk?
- c. Does the Wyoming Public Service Commission have any other tools available to reduce price volatility?
- i. Do PPAs with non-QFs with fixed pricing over a long-term reduce price volatility?
- d. Does PURPA require utilities to provide long-term contracts at fixed prices to ensure that customer rates are more stable?
- e. Does PURPA require that utilities purchase all offered output from QFs, provided that the utility is not required to pay anything more than its avoided costs?
- f. You state that fixed price contracts reduce risk, do option contracts also reduce risk?
- 1.21 Referring to page 22, lines 17-21, and page 23, lines 1-11 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, provide all examples of the parts

of the Company's Application and testimony that focus on whether recent QF contracts are "in-the-money" or "out-of-the-money." Provide page and line references for each example.

- 1.22 Referring to page 22, lines 7-11 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, is the risk and potential cost to customers associated with QF non-dispatchability properly categorized as "pricing risks"? Explain your answer whether "yes" or "no."
- a. Is the risk of buying a resource that has not gone through a rigorous planning process properly categorized as "pricing risks"?
 - b. Is credit risk associated with QF PPAs properly categorized as "pricing risks"?
 - c. Identify how the risk of a QFs failure to achieve commercial operation should be categorized. How should this risk be incorporated in avoided costs?
 - d. Implicit within the proposal that only 75% of executed contracts should be used to determine avoided costs is that the contract being priced only has a 75% chance of achieving commercial operation, as that assumption would be used in as all successive pricing requests. Identify and provide specific examples illustrating the modifications to the avoided cost methodology necessary to account for this assumption.
- 1.23 Referring to page 23, lines 8 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, what are the host of other risks that are discussed in this testimony? Please refer to all line numbers where these risks are discussed, define the risk, and enumerate the benefits of QF contract with respect to mitigating these risks.
- a. Are these additional, new types of risks able to be described with a variance or standard deviation calculation, or does the direct testimony of Dr. Hellman and Dr. Kaufman introduce other types of risk that are not defined and are not akin to variance?
- 1.24 Referring to page 24, lines 2-8 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, if a QF plant "fails" and is no longer producing, how does the Company replace that capacity?
- a. Will the Company automatically be able to replace the QF capacity it has included in its capacity and energy plans at the same price and for the same remaining term as the QF contract that defaulted on its contractual obligations?
 - b. Would the company, and hence its customers, be subject to new price variance, or risk, due to the default of the QF and the loss of fixed price energy and capacity?
- 1.25 Referring to page 25, lines 1-9 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, in the case of non-QF PPAs for new resources, are buyers frequently subject to default provisions to make sellers whole with respect to their fixed costs?

- a. Assuming that the answer is “yes” regardless of the actual answer, would default provisions providing for an accelerated payment that makes a seller whole for their fixed costs in a non-QF PPA be similar in nature to a utility’s recovery of accelerated depreciation expense when a plant is closed sooner than anticipated? Explain your answer.
- 1.26 Referring to page 25, lines 10-11 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, is it possible that a QF contract could prevent the Company from purchasing less expensive resources or continually lower priced power in the future due to PURPA’s must-take obligations?
- 1.27 Referring to page 26, lines 3-8 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, if a QF’s equipment fails and they have to make additional investments above their maintenance capital budget, and they therefore default on their financing due to not meeting their debt service requirements and are forced to abandon the project, will the energy and capacity that the Company has incorporated into its plans be no longer available? If so, who bears the replacement costs of that energy and capacity?
- 1.28 Referring to page 26, lines 10-20 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, could the situation occur where a QF’s capacity factor is lower than expected, and therefore their revenue is lower, and the QF is therefore unable to service their debt and they default on their project or tax equity financing? If so, what would happen in that situation with the QF project?
- 1.29 Referring to page 30, lines 1-8 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, are the joint witnesses aware that in Wyoming there is a mechanism for the Company to recover a portion of QF PPA costs in between rate cases through its Energy Cost Adjustment Mechanism filings?
- 1.30 Referring to page 30, lines 9-12 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, did REC or RMCRE intervene in the Company’s Energy Vision 2020 case in Wyoming in Docket No. 20000-520-EA-17 (Record No. 14781)?
- 1.31 Referring to page 33, lines 13-20 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, provide all factual basis, including documents, workpapers, or other analysis to support the claim that “RMP will rarely have a capacity deficit at the time the QF delivers power.”
- 1.32 Referring to page 33, lines 5-16 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, did REC or RMCRE participate in any of the Company’s public IRP stakeholder meetings?
- a. If the answer is “yes” please indicate what meetings were attended and by whom.
- 1.33 Referring to page 36, lines 20-21 and page 37 lines 1-2 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, explain how QFs provide competitive entry when they are priced using a formula based avoided cost calculation that

can be “stale” by 12 to 30 months under current rules prior to the QF even beginning to supply energy to the Company, if they provide it at all?

- 1.34 Referring to page 37 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, disregarding whether there is resource available to defer, does the capacity contribution provided by a given QF resource change over time?
- 1.35 Referring to page 41, lines 5-10 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, do all North American power markets have a capacity component that allows plant owners to recover the annual fixed capital costs of new generation through capacity payments? Is this a regulated and essential component in all organized and unorganized wholesale electricity markets?
 - a. If the answer is yes, please provide evidence of such for each market.
 - b. If the answer is no, have the wholesale markets that do not have these ‘capacity markets’ been unable to add any new generation capacity in the last 10 years?
- 1.36 Referring to page 42, lines 1-4 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, do simple cycle combustion turbine facilities (“SCCT”) actually set the rate for front office transactions (“FOT”)?
 - a. You indicate that PacifiCorp has been reliant upon FOTs for many years. Provide all evidence that the Company’s avoided costs associated with FOTs is actually equal to the market price of electricity plus the costs of a SCCT. Provide for both historical and future periods.
- 1.37 Referring to page 42, lines 12-16 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, where the testimony states that “no intervening parties filed responsive testimony in Docket No. 20000-458-EA-14 (Record no. 14021), did REC intervene? Did RMCRE?
 - a. Assuming the answer is “no,” was there anything preventing either REC or RMCRE from intervening to provide the Commission the “fully developed record with respect to the changes proposed by RMP” that REC and RMCRE testimony suggests was lacking?
- 1.38 Referring to page 53, lines 9-10 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, is it the joint witnesses’ position that projects that are larger than 80 MWs are more efficient and result in lower total costs for energy and capacity for purchasers?
- 1.39 Referring to page 53, lines 9-14 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, does a QF project in the Company’s territory have the right to sell the output of the plant to the Company as a QF at the conclusion of a current QF contract under PURPA? Does the Company have the obligation to purchase this power at a fixed price or an “As Available” price if the QF is interconnected and integrated into the Company’s grid?

- 1.40 Referring to page 58, lines 1-14 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, do developers of QF projects have to sell to the utility in the state in which the project is located?
- a. All else equal, if a QF developer has a project located in State A, and State A's avoided cost pricing and maximum term length will not allow the developer to earn as much profit as it could earn by paying for transmission service to deliver the power to State B where there are higher avoided cost prices and a longer term length, is the developer more or less likely to seek a PPA with the utility in State A where the project is located or State B?
- 1.41 Referring to page 59, lines 6-14 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, is it the joint witnesses' position that either avoided cost pricing alone, or avoided cost pricing plus the maximum contract length should be structured to ensure that QFs are always profitable or viable?
- a. If ensuring that customers remain indifferent to the costs and risks associated with QFs would lead to zero QFs being viable or profitable, should the Commission ignore customer indifference to ensure that at least some QFs are viable?
 - b. Assuming avoided costs are accurately calculated, if they produce prices that are too low for any QFs to be viable, would maintaining those avoided costs be consistent with PURPA's requirements?
- 1.42 Referring to page 60, lines 1-6 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, does the Federal Energy Regulatory Commission stated requirement that QF PPA terms be long enough to provide QFs a reasonable opportunity to attract capital mean that a QF must be able to attract the lowest possible cost financing?
- 1.43 Referring to page 62, lines 1-11 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, how do avoided cost rates, that are set at forecast of what the utility would otherwise pay for power, incentivize the utility to keep net power costs low?
- a. If the avoided cost methodology changes jointly advocated for by REC and RMCRE are adopted, avoided cost rates will be higher in many cases, what impact would higher avoided cost pricing have on the Company's net power costs?
- 1.44 Referring to page 62, lines 12-18 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, define "stranded costs."
- a. Define the term "regulatory compact."
 - b. In the context of direct access, why is the utility paid its "stranded costs"?
 - i. Is that payment related at all to the "regulatory compact"? If so, how?

- 1.45 Referring to page 64, lines 4-16 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, would REC or RMCRE support higher development security to ensure QF performance after PPA execution?
- a. What factors may cause developers to not meet their commercial operation dates or to otherwise fail to perform according to their PPA commitments?
 - b. Why should the Company assume its counterparties will not honor their contractual obligations?
 - c. If the percentage of QF PPAs that are assumed to be non-performing is too high will customers pay more than they would have if the percentage was accurate?
- 1.46 Referring to page 64, lines 4-16 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, is the intent of this testimony to support the contention that even if a QF signs a contract, the Company can have no reasonable expectation that any individual QF will deliver the power on time or even at all?
- a. Would REC and/or RMCRE support a proposal to adjust the capacity value contribution of a QF by 25% or more, since there appears to be only a 75% chance that the capacity will come online?
 - b. How does the fact that the Company can't rely on QFs to meet their contractual obligations 25% of the time relate to the contention that QFs are less risky than utility owned generation?
- 1.47 Referring to page 66, lines 4-11 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, what are the reasons the joint witnesses selected a measurement period for non-performing QF PPAs from 2010 to 2018?
- 1.48 Referring to page 14, lines 1-3 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, the testimony states that "RMP makes these changes without providing any factual evidence that the changes will allow an environment that continues to appropriately encourage the development of Wyoming QFs"; is PURPA intended to encourage the development of QFs specifically, or of co-generation and renewable resources generally?
- 1.49 Do the joint witnesses agree that the Company's proposed PDDRR methodology is sufficient under all circumstances to determine the type and quantity of resources that will be considered deferrable for the purposes of QF pricing for all combinations of deferrable resources and QFs? If not, identify what aspects are not sufficiently identified and provide examples illustrating how the type or quantity of resource deferral is uncertain.
- 1.50 Do the joint witnesses support the Company's proposed PDDRR methodology? If not, explain how the type and quantity of resources that will be considered deferrable for the purposes of QF pricing for all combinations of deferrable resources and QFs. At a minimum the deferrable and QF resource types should include baseload, solar, wind, and

seasonal hydro. Provide examples illustrating the determination of the type and quantity of resource deferral.

- 1.51 Identify and provide references for all instances where Dr. Marc Hellman has provided testimony in support of, or analysis of an avoided cost methodology.
- 1.52 Identify and provide references for all instances where Dr. Lance Kaufman has provided testimony in support of, or analysis of an avoided cost methodology.
- 1.53 For each section of the joint testimony of Dr. Marc Hellman and Dr. Lance Kaufman, identify by page and line number which sections of the testimony Dr. Hellman supports and can provide testimony on at hearing.
- 1.54 For each section of the joint testimony of Dr. Marc Hellman and Dr. Lance Kaufman, identify by page and line number which sections of the testimony Dr. Kaufman supports and can provide testimony on at hearing.
- 1.55 Referencing pages 74-76 of the joint direct testimony of Dr. Marc Hellman and Dr. Lance Kaufman in this matter, please describe and identify the precise changes to the GRID model proposed, along with any supporting calculations of those inputs, and provide the GRID project(s) and results for each of the following:
 - a. Removal of Foote Creek.
 - b. Coal unit cycling.
 - c. Coal price escalation.
 - d. Wholesale sales in Wyoming.

DATED this 3rd day of May, 2019.

Respectfully submitted,

ROCKY MOUNTAIN POWER

/s/ Jacob A. McDermott

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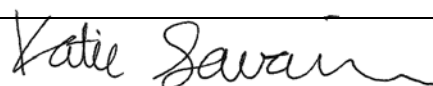
Attorney for Rocky Mountain Power

CERTIFICATE OF SERVICE

I hereby certify that on May 3, 2019, I caused to be served, via email a true and correct copy of Rocky Mountain Power's **FIRST SET OF DISCOVERY REQUESTS TO THE RENEWABLE ENERGY COALITION & THE ROCKY MOUNTAIN COALITION FOR RENEWABLE ENERGY** to the following service list:

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Northern Laramie Range Alliance	
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