ROCKY MOUNTAIN POWER
A DIVISION OF PACIFICORP

1407 W. North Temple, Suite 330
Salt Lake City, UT 84116

March 28, 2023

VIA ELECTRONIC FILING

Public Service Commission of Utah
Heber M. Wells Building, 4th Floor
160 East 300 South
Salt Lake City, UT 84114

Attn: Gary Widerburg
Commission Secretary

RE: Docket No. 22-035-36 – 2022.Q4 Avoided Cost Input Changes Quarterly Compliance Filing
Docket No. 03-035-14 – Quarterly Compliance Filing – 2022.Q4 Avoided Cost Input Changes

PacifiCorp d/b/a Rocky Mountain Power hereby respectfully submits its quarterly Schedule 38 compliance filing.

Public Service Commission of Utah ("Commission") orders dated October 31, 2005, and February 2, 2006, in Docket No. 03-035-14 require the Company to keep a record of any changes, including data inputs, made to the Proxy model and the Generation and Regulation Initiative Decision Tool ("GRID") model used in calculating avoided costs. The orders further require the Company to notify the Commission and Division of Public Utilities ("DPU") of updates made to the models used in the approved Proxy and Partial Displacement Differential Revenue Requirement ("PDDRR") avoided cost methodologies. The Commission order dated June 9, 2015 in Docket No. 14-035-140 requires the Company to identify routine and non-routine updates or modeling changes. Non-routine updates will become effective in three weeks if the update is unchallenged by any party or upon resolution by settlement or Commission action if challenged by any party.

Routine Updates

Appendix A provides a summary of the assumptions used within the GRID model. The Company identifies the following routine updates to its avoided cost inputs since the previous filing:

1. **Official Forward Price Curve (OFPC)** – Update to prices dated December 30, 2022 (2212 OFPC).

2. **Qualifying Facility (QF) Queue** – Update of signed contract queue and current potential QFs. The QF queue is increased to 522 MW nameplate in this filing. The potential queue was 492 MW nameplate in the 2022.Q3 filing.

Additional Details

Additional detail is provided below:

1. **Proxy / Partial Displacement Differential Revenue Requirement (PDDRR) Avoided Cost Methodology** – The proxy resources used in the PDDRR avoided cost methodology are consistent with the Company's 2021 Integrated Resource Plan ("IRP") Update filed with the Commission on March 31, 2022. The 2021 IRP Update preferred portfolio includes cost-effective solar with storage, wind, wind with storage, stand-alone storage and thermal resources. The thermal QF resource partially displaces summer and winter front office transactions ("FOTs") during 2023-2030, and the Utah North non-emitting peaking resource in 2031. The tracking solar QF resource partially displaces summer and winter FOTs during 2023-2025 and the Borah solar with storage resource in 2026. The wind QF resource partially displaces summer and winter FOTs during 2023-2025 and a Portland North Coast wind resource in 2026.

2. **Impact to Avoided Cost Prices ($/MWh)** – Provided as **Appendix B.1** is the $/MWh impact of the above-mentioned updates on avoided costs, compared to the previous compliance filing.
    - **a.** Avoided costs presented in **Appendix B.1** were calculated assuming a 100 MW 100 percent capacity factor thermal QF resource.
    - **b.** Avoided costs presented in **Appendix B.2** were calculated assuming an 80 MW 32.2 percent capacity factor single-axis tracking solar QF resource.
    - **c.** Avoided costs presented in **Appendix B.3** were calculated assuming an 80 MW 29.5 percent capacity factor wind QF resource.

3. **Major Changes from the Prior Study** – Provided as **Appendix C** is a $/MWh step impact study of the routine updates from the prior study. Also provided in **Appendix C** is the incremental impact of each change from the prior step.

Work Papers

The Company has also provided calculations with additional details on the following:

- Current QF queue and partial displacement adjusted for solar degradation; and
- FOT partial displacement

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

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

By Regular Mail: Data Request Response Center
PacifiCorp
825 NE Multnomah Street, Suite 2000
Portland, OR 97232

Informal inquiries may be made to Jana Saba at (801) 220-2823, or Dan MacNeil at (503) 813-5523.

Very truly yours,

Joelle Steward
Senior Vice President, Regulation/Customer and Community Solutions

cc: Service List (Docket No. 03-035-14)
Service List (Docket No. 22-035-36)

CERTIFICATE OF SERVICE

Docket No. 22-035-36/ Docket No. 03-035-14

I hereby certify that on March 28, 2023, a true and correct copy of the foregoing was served by electronic mail to the following:

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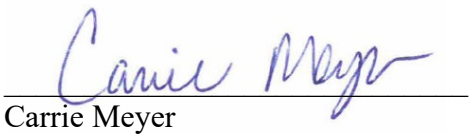

Carrie Meyer
Adviser, Regulatory Operations

Appendix A

ROCKY MOUNTAIN POWER

DESCRIPTION OF AVOIDED COST INPUT CHANGES

2022.Q4 – March 2023

Appendix A

PacifiCorp Avoided Cost
Partial Displacement Differential Revenue Requirement ("PDDRR")
Model Updates through March 2023
Docket 22-035-36 / Docket 03-035-14

Assumptions that have changed since the 2022.Q3 compliance filing are in **bold and underline**.

GRID Scenario Study Period

- January 1, 2023 through December 31, 2037 - 15-year study.
- Avoided cost prices starting in January 2023.

Official Forward Price Curve ("OFPC") (Gas and Electric Market Prices)

- **Updated to PacifiCorp's December 30, 2022 OFPC ("2212 OFPC")**
- Hourly Market Price Scalars consistent with 2021 Integrated Resource Plan ("IRP").

Fuel Prices (Coal)

- Average and incremental coal costs consistent with 2021 Integrated Resource Plan ("IRP").
- Coal burn expense reflects incremental coal costs and coal take or pay minimum burn levels.

IRP Resources

- 2021 IRP Update filed with the Public Service Commission of Utah ("UPSC") on March 31, 2022.[1]
- New solar, wind, battery storage, and thermal resources; as well as front office transactions ("FOT"), consistent with 2021 IRP Update.
- Existing plant retirements consistent with 2021 IRP Update.
- Transmission investment and capacity changes consistent with 2021 IRP Update (Table 1.2).

REC Ownership

Consistent with the Commission's January 23, 2018 order in Docket No. 17-035-37, when a QF defers or avoids a renewable resource, the Company retains the renewable energy credits ("RECs") on behalf of ratepayers. When a QF's avoided capacity costs are not based on the costs of a renewable resource, the QF is entitled to the RECs associated with its output.

[1] Available online at: https://www.pacificorp.com/content/dam/pcorp/documents/en/pacificorp/energy/integrated-resource-plan/2021_IRP_Update.pdf

Hydro Resources

- Hydro forecast prepared June 2022.
- 2021 hydro levels extended thereafter with known and measurable changes.
- Adjust Klamath dispatch to reflect current operating patterns.
- Update Mid-Columbia ("Mid-C") generation forecast.

Discount Rate

- 6.88 percent discount rate - 2021 IRP.
- Discount rate is consistent with the Commission's order in Docket 11-035-T06.

Inflation Rates

- 2.155% percent inflation rate - 2021 IRP.

Levelized Prices (Nominal) at 6.88 percent Discount Rate

- 15 years 2023 through 2037.
- Levelized prices are for illustrative purposes only.

Load Forecast (Retail)

- 20-year load forecast dated May 27, 2022.

Long-Term Contracts

- Long-term contracts which have prices that are indexed to market are consistent with the 2212 OFPC.
- Contracts are modeled based on 48 months ended December 2021.
- Qualifying Facility (QF) power purchase agreements (PPA) are assumed to terminate and not renew at the end of their current PPA term.
- Incorporates signed PPAs.

Market Capacity

- Capacity set at 48-month average of all short-term firm ("STF") sales ended **January 2023**.
- Mid-C and Palo Verde ("PV") markets uncapped.
- Additional heavy load hour ("HLH") and light load hour ("LLH") sales limited to historical 48-month average less monthly executed STF contracts as of December 31, 2021.

Potential Environmental Costs

- Potential environmental costs are excluded from fuel cost for net power costs ("NPC") and plant commitment and dispatch decisions.

Regulating Margin

- Requirements are modeled based on the 2021 IRP Update.
- The Company's 2021 IRP Update included a study of wind and solar integration requirements and costs, and was used to develop a portfolio-specific reserve requirement. The resulting regulation reserve requirements from the 2021 IRP were incorporated in the GRID model. As a result, the cost of reserve requirements is incorporated in the net power cost result.

Contingency Reserve Calculation

- Reserve modeling reflects the North American Electric Reliability Corporation / Western Electricity Coordinating Council reliability standard BAL-002-WECC-2 – contingency reserves set to 3 percent of retail load plus 3 percent of generating resources.
- Hourly retail load reserve calculation through 2022.
- Typical week retail load reserve calculation thereafter.

STF Transactions

- Executed STF contracts as of **January 2023**.

Size of the Avoided Cost Resource

- The avoided cost thermal resource is 100 megawatts ("MW") with a 100 percent capacity factor and is located in the Utah North transmission bubble.
- The avoided cost tracking solar resource is 80 MW with a 32.2 percent capacity factor and is located in the Utah North transmission bubble.
- The avoided cost wind resource is 80 MW with a 29.5 percent capacity factor and is located in the Utah North transmission bubble.

Thermal Resources

- Thermal resource operating characteristics updated to be consistent with current Company official characteristics.
- Forced outage reflects 48 months ended June 2022. Planned outages are based on 48 months ended June 2022. Heat rates incorporate historical data plus assumptions from the 2021 IRP Update.

Wind and Solar Resources

- Existing wind and solar generation profiles modeled using generation shapes derived from 2018 actuals as modeled in the 2021 IRP.[1,2]

- Wind and solar generation shaped to hourly using generation shapes derived from 2018 actuals as modeled in the 2021 IRP.[2,3]
- Non-PTC wind and solar resources can be curtailed on an economic basis within the GRID model.[4]
- Resource-specific capacity contribution values are calculated for proxy resources and QFs, based on their expected output and the final loss of load probability results in the 2021 IRP (2021 IRP, Vol II, Appendix K: Capacity Contribution).

Transmission

- Short-term transmission modeled based on 48 months ended December 2021.
- Transmission investment and capacity changes consistent with 2021 IRP Update.

[2] Starting in the 2013.Q4 Compliance filing, wind generation has been modeled hourly using actual generation shape. Potential resources were also modeled hourly when data was provided by the project developer. Since the 2016.Q4 compliance filing, all potential wind generation profiles have been shaped to an hourly profile using the hourly shape of nearby wind resources. Shaping does not alter the 12x24 wind generation profile. This change was made to make potential wind modeling more consistent with existing wind modeling. The hourly shaping of solar generation was identified as a non-routine change in the 2018.Q2 compliance filing.

[3] In the 2021 IRP, wind and solar profiles were aligned with load based on the historical relationship, see 2021 IRP, Vol II, Appendix K: Capacity Contribution.

[4] Wind dispatch was identified as a non-routine change in the 2018.Q2 compliance filing.

IRP Partial Displacements (This Filing)

Provided in the table below are the Contracts that have executed a PPA or are actively negotiating for a PPA. Signed resources are new and were not included in the 2021 IRP.

Contracts Queue						
No.	**Signed Contracts**	**Partial Displacement**	**Name plate**	**CF**	**Capacity Contribution**	**Start Date**
1	Sunnyside Solar QF	0.4	4.99	32.1%	9.0%	2023 09 30
2	Schumann Wind NonRenewable	2.63	8.00	37.0%	32.9%	2022 02 01
3	Simplot Phosphates	0.0	13.3	85.0%	0.0%	2023 01 01
4	Kennecott Smelter Non Firm	0.0	31.8	58.2%	0.0%	2023 01 01
5	Kennecott Refinery Non Firm	0.00	6.20	85.00%	0.0%	2023 01 01
6	Tesoro Non Firm	0.0	25.0	85.0%	0.0%	2023 01 01
7	Exxon Mobil	0.0	98.0	75.0%	0.0%	2023 01 01
Total Signed MW		3.08	187.29			
No.	**Potential QF Contracts**	**Partial Displacement**	**Name plate**	**CF**	**Capacity Contribution**	**Start Date**
1	QF - 663 - WA - Solar	0.40	20.00	18.3%	2.0%	2026 01 01
2	QF - 665 - OR - Solar	5.21	20.00	19.4%	26.1%	2026 01 01
3	QF - 656 - UT - Solar	12.88	60.00	25.8%	21.5%	2024 01 01
4	QF - 666 - WY - Solar	11.05	74.90	29.7%	14.8%	2024 12 01
5	QF - 669 - OR - Solar	15.37	50.00	36.0%	30.7%	2024 07 01
6	QF - 601 - WY - Gas	0.00	30.00	85.0%	0.0%	2024 01 01
7	QF - 658 - UT - Solar	12.05	80.00	29.9%	15.1%	2025 12 01
Total Potential MW		56.96	334.90			
Total Partial Displacement		**60.04**	**522.19**			
8	Utah 2022.Q4	100.00	100.00	100.0%	100.0%	2022 01 01
Partial Displacement after QF		**160.04**	**622.19**			

After accounting for the QF queue, the capacity displacement associated with the proxy avoided cost resources in this filing were as follows:

- Thermal: Incremental Thermal QF resource displaces FOTs for 2022-2032 and Utah North non-emitting Peaker resource in 2031.
- Tracking Solar: **69** nameplate MW of solar resources are displaced by the QF queue. After degradation and accounting for capacity contribution, the incremental solar QF displaces 13 MW of solar with storage resource located in Borah in 2026 from 2021 IRP Update preferred portfolio, along with associated transmission, specifically the Boardman-to-Hemingway project. The Company retains 100% of the RECs starting in 2026.

- Wind: 6 MW of wind resources are displaced by the QF queue. The wind QF displaces the 2026 wind resource located in Portland North Coast from 2021 IRP Update preferred portfolio. The Company retains 100% of the RECs starting in 2026.

	IRP Additions (Nameplate MW)						Base Case Displacement (Nameplate MW)				
Year	IRP Thermal	IRP Std Alone Battery	IRP Solar	IRP Wind	IRP FOT Summer	IRP FOT Winter	Thermal	Solar	Wind	FOT Summer	FOT Winter
2022	-	-	-	-	1,545	603	-	-	-	3	3
2023	-	-	-	-	1,428	558	-	-	-	3	3
2024	-	-	-	-	1,745	625	-	-	-	31	31
2025	-	-	-	-	415	-	-	-	-	42	-
2026	-	200	600	545	-	-	-	69	6	-	-
2027	-	200	600	545	-	-	-	69	6	-	-
2028	500	200	683	800	-	-	-	69	6	-	-
2029	500	700	843	1,080	-	-	-	69	6	-	-
2030	500	700	1,320	1,080	-	-	-	69	6	-	-
2031	912	700	1,946	1,080	-	-	-	69	6	-	-
2032	912	700	3,046	1,080	-	-	-	69	6	-	-
2033	912	700	3,046	1,080	-	-	-	69	6	-	-
2034	912	700	3,046	1,080	-	-	-	69	6	-	-
2035	912	700	3,046	1,080	-	-	-	69	6	-	-
2036	912	700	3,046	1,080	-	-	-	69	6	-	-
2037	1,324	700	3,748	1,236	-	-	-	69	6	-	-
2038	2,737	700	3,748	1,686	-	-	-	69	6	-	-
2039	2,737	700	3,748	1,686	-	-	-	69	6	-	-
2040	2,737	700	3,748	1,954	-	418	-	69	6	-	-
2041	2,737	700	3,748	1,954	-	-	-	69	6	-	-

IRP Partial Displacements (Previous Filing)

Total partial displacement was 492 MW in the base case and 592 MW in the avoided cost case as shown in the table below, adjusted for solar degradation:

Contracts Queue						
No.	**Signed Contracts**	**Partial Displacement**	**Name plate**	**CF**	**Capacity Contribution**	**Start Date**
1	Sunnyside Solar QF	0.4	4.99	32.1%	9.0%	2023 09 30
2	Schumann Wind NonRenewable	2.63	8.00	37.0%	32.9%	2022 02 01
3	Simplot Phosphates	0.0	13.3	85.0%	0.0%	2023 01 01
4	Kennecott Smelter Non Firm	0.0	31.8	58.2%	0.0%	2023 01 01
5	Kennecott Refinery Non Firm	0.0	6.2	85.0%	0.0%	2023 01 01
6	Tesoro Non Firm	0.0	25.0	85.0%	0.0%	2023 01 01
7	Exxon Mobil	0.0	98.0	75.0%	0.0%	2023 01 01
Total Signed MW		3.08	187.29			
No.	**Potential QF Contracts**	**Partial Displacement**	**Name plate**	**CF**	**Capacity Contribution**	**Start Date**
1	QF - 663 - WA - Solar	0.40	20.00	18.3%	2.0%	2026 01 01
2	QF - 665 - OR - Solar	5.21	20.00	19.4%	26.1%	2026 01 01
3	QF - 657 - UT - Solar	10.80	60.00	25.7%	18.0%	2024 01 01
4	QF - 666 - WY - Solar	11.05	74.90	29.7%	14.8%	2024 12 01
5	QF - 667 - OR - Solar	7.55	50.00	31.9%	15.1%	2024 07 01
6	QF - 658 - UT - Solar	12.05	80.00	29.9%	15.1%	2025 12 01
Total Potential MW		47.06	304.90			
Total Partial Displacement		**50.14**	**492.19**			
7	Utah 2022.Q3	100.00	100.00	100.0%	100.0%	2022 01 01
Partial Displacement after QF		**150.14**	**592.19**			

Appendix B

ROCKY MOUNTAIN POWER

UPDATE IMPACT – UPDATED AVOIDED COST STUDY

2022.Q4 –MARCH 2023

Appendix B.1

Avoided Cost Prices $/MWh

Utah 2022.Q4 Sch 38

Year	Thermal-Defer 2031 NonEmitPeaker UT 2022.Q4 100% CF (2)	Solar Tracking UT 2022.Q4 32.25% CF (2)	Wind UT 2022.Q4 29.5% CF (2)	Thermal UT 2022.Q3 100% CF (2)	Solar Tracking UT 2022.Q3 32.25% CF (2)	Wind UT 2022.Q3 29.5% CF (2)	Thermal-Defer 2031 NonEmitPeaker Difference	Solar Tracking Difference	Wind Difference
2023	$68.35	$35.45	$59.09	$57.75	$33.74	$49.25	$10.60	$1.71	$9.84
2024	$73.20	$37.36	$64.28	$62.71	$35.74	$55.71	$10.49	$1.62	$8.57
2025	$54.14	$25.56	$46.86	$46.95	$24.30	$41.17	$7.20	$1.26	$5.70
2026	$55.36	$28.00	$36.70	$50.15	$30.90	$35.36	$5.20	($2.89)	$1.34
2027	$46.73	$28.74	$35.15	$46.05	$30.25	$33.80	$0.68	($1.51)	$1.35
2028	$47.28	$31.84	$35.50	$44.74	$31.24	$33.52	$2.54	$0.60	$1.98
2029	$46.49	$33.50	$36.53	$45.05	$33.41	$35.07	$1.44	$0.09	$1.47
2030	$46.05	$34.63	$38.25	$41.25	$33.11	$34.66	$4.79	$1.52	$3.58
2031	$52.87	$34.42	$38.44	$48.39	$32.30	$35.27	$4.49	$2.12	$3.17
2032	$51.72	$30.57	$36.70	$47.71	$28.03	$33.17	$4.01	$2.54	$3.52
2033	$51.51	$34.53	$38.11	$47.83	$32.44	$35.06	$3.68	$2.09	$3.05
2034	$50.61	$35.01	$38.51	$46.35	$32.60	$34.76	$4.27	$2.41	$3.75
2035	$52.41	$36.35	$39.50	$47.95	$33.63	$35.70	$4.45	$2.72	$3.80
2036	$54.16	$39.85	$56.36	$50.45	$36.73	$52.46	$3.71	$3.11	$3.90
2037	$61.83	$42.13	$57.26	$58.31	$37.45	$53.16	$3.52	$4.68	$4.10
15-Year Levelized Prices (Nominal) @ 6.88% Discount Rate (1) (3)									
2023-2037 $/MWh	$55.03	$33.16	$44.45	$49.82	$32.01	$40.18	$5.21	$1.15	$4.27
							10.5%	3.6%	10.6%

Footnotes:

(1) Discount Rate - 2021 IRP

(2) Total Avoided Costs with Capacity, based on stated CF

(3) 15-Years: 2023 - 2037, levelized monthly

Appendix B.2

Avoided Cost Prices $/MWh

Utah 2022.Q4 Sch 38

Year	Thermal-Defer 2031 NonEmitPeaker UT 2022.Q4 100% CF (2)	Solar Tracking UT 2022.Q4 32.25% CF (2)	Wind UT 2022.Q4 29.5% CF (2)	Thermal UT 2022.Q3 100% CF (2)	Solar Tracking UT 2022.Q3 32.25% CF (2)	Wind UT 2022.Q3 29.5% CF (2)	Thermal-Defer 2031 NonEmitPeaker Difference	Solar Tracking Difference	Wind Difference
2023	$68.35	$35.45	$59.09	$57.75	$33.74	$49.25	$10.60	$1.71	$9.84
2024	$73.20	$37.36	$64.28	$62.71	$35.74	$55.71	$10.49	$1.62	$8.57
2025	$54.14	$25.56	$46.86	$46.95	$24.30	$41.17	$7.20	$1.26	$5.70
2026	$55.36	$28.00	$36.70	$50.15	$30.90	$35.36	$5.20	($2.89)	$1.34
2027	$46.73	$28.74	$35.15	$46.05	$30.25	$33.80	$0.68	($1.51)	$1.35
2028	$47.28	$31.84	$35.50	$44.74	$31.24	$33.52	$2.54	$0.60	$1.98
2029	$46.49	$33.50	$36.53	$45.05	$33.41	$35.07	$1.44	$0.09	$1.47
2030	$46.05	$34.63	$38.25	$41.25	$33.11	$34.66	$4.79	$1.52	$3.58
2031	$52.87	$34.42	$38.44	$48.39	$32.30	$35.27	$4.49	$2.12	$3.17
2032	$51.72	$30.57	$36.70	$47.71	$28.03	$33.17	$4.01	$2.54	$3.52
2033	$51.51	$34.53	$38.11	$47.83	$32.44	$35.06	$3.68	$2.09	$3.05
2034	$50.61	$35.01	$38.51	$46.35	$32.60	$34.76	$4.27	$2.41	$3.75
2035	$52.41	$36.35	$39.50	$47.95	$33.63	$35.70	$4.45	$2.72	$3.80
2036	$54.16	$39.85	$56.36	$50.45	$36.73	$52.46	$3.71	$3.11	$3.90
2037	$61.83	$42.13	$57.26	$58.31	$37.45	$53.16	$3.52	$4.68	$4.10
15-Year Levelized Prices (Nominal) @ 6.88% Discount Rate (1) (3)									
2023-2037 $/MWh	$55.03	$33.16	$44.45	$49.82	$32.01	$40.18	$5.21	$1.15	$4.27
							10.5%	3.6%	10.6%

Footnotes:

(1) Discount Rate - 2021 IRP

(2) Total Avoided Costs with Capacity, based on stated CF

(3) 15-Years: 2023 - 2037, levelized monthly

Appendix B.3

Avoided Cost Prices $/MWh

Utah 2022.Q4 Sch 38

Year	Thermal-Defer 2031 NonEmitPeaker UT 2022.Q4 100% CF (2)	Solar Tracking UT 2022.Q4 32.25% CF (2)	Wind UT 2022.Q4 29.5% CF (2)	Thermal UT 2022.Q3 100% CF (2)	Solar Tracking UT 2022.Q3 32.25% CF (2)	Wind UT 2022.Q3 29.5% CF (2)	Thermal-Defer 2031 NonEmitPeaker Difference	Solar Tracking Difference	Wind Difference
2023	$68.35	$35.45	$59.09	$57.75	$33.74	$49.25	$10.60	$1.71	$9.84
2024	$73.20	$37.36	$64.28	$62.71	$35.74	$55.71	$10.49	$1.62	$8.57
2025	$54.14	$25.56	$46.86	$46.95	$24.30	$41.17	$7.20	$1.26	$5.70
2026	$55.36	$28.00	$36.70	$50.15	$30.90	$35.36	$5.20	($2.89)	$1.34
2027	$46.73	$28.74	$35.15	$46.05	$30.25	$33.80	$0.68	($1.51)	$1.35
2028	$47.28	$31.84	$35.50	$44.74	$31.24	$33.52	$2.54	$0.60	$1.98
2029	$46.49	$33.50	$36.53	$45.05	$33.41	$35.07	$1.44	$0.09	$1.47
2030	$46.05	$34.63	$38.25	$41.25	$33.11	$34.66	$4.79	$1.52	$3.58
2031	$52.87	$34.42	$38.44	$48.39	$32.30	$35.27	$4.49	$2.12	$3.17
2032	$51.72	$30.57	$36.70	$47.71	$28.03	$33.17	$4.01	$2.54	$3.52
2033	$51.51	$34.53	$38.11	$47.83	$32.44	$35.06	$3.68	$2.09	$3.05
2034	$50.61	$35.01	$38.51	$46.35	$32.60	$34.76	$4.27	$2.41	$3.75
2035	$52.41	$36.35	$39.50	$47.95	$33.63	$35.70	$4.45	$2.72	$3.80
2036	$54.16	$39.85	$56.36	$50.45	$36.73	$52.46	$3.71	$3.11	$3.90
2037	$61.83	$42.13	$57.26	$58.31	$37.45	$53.16	$3.52	$4.68	$4.10
15-Year Levelized Prices (Nominal) @ 6.88% Discount Rate (1) (3)									
2023-2037 $/MWh	$55.03	$33.16	$44.45	$49.82	$32.01	$40.18	$5.21	$1.15	$4.27
							10.5%	3.6%	10.6%

Footnotes:

(1) Discount Rate - 2021 IRP

(2) Total Avoided Costs with Capacity, based on stated CF

(3) 15-Years: 2023 - 2037, levelized monthly

Appendix C

ROCKY MOUNTAIN POWER

STEP STUDY BETWEEN PRIOR FILING AND CURRENT FILING

2022.Q4 – March 2023

Appendix C

Utah Quarterly Compliance Filing
Step Study between 2022.Q4 and 2022.Q3 Compliance Filing
Avoided Cost Impact of Changing Assumptions $/MWH (1)

Year	OFPC (2)	Queue	Total Impact
2023	$ 10.60	-	$ 10.60
2024	$ 10.67	$ (0.17)	$ 10.50
2025	$ 7.53	$ (0.34)	$ 7.20
2026	$ 5.38	$ (0.17)	$ 5.20
2027	$ 0.84	$ (0.15)	$ 0.68
2028	$ 2.67	$ (0.12)	$ 2.54
2029	$ 1.56	$ (0.12)	$ 1.44
2030	$ 4.84	$ (0.05)	$ 4.79
2031	$ 4.53	$ (0.04)	$ 4.49
2032	$ 4.06	$ (0.05)	$ 4.01
2033	$ 3.73	$ (0.05)	$ 3.68
2034	$ 4.29	$ (0.03)	$ 4.27
2035	$ 4.49	$ (0.04)	$ 4.45
2036	$ 3.74	$ (0.03)	$ 3.71
2037	$ 3.56	$ (0.04)	$ 3.52
2038	$ 3.04	$ (0.06)	$ 2.98
2039	$ 3.97	$ (0.02)	$ 3.95

Nominal Levelized Payment at 6.880% Discount Rate (3)

2023 - 2037	$ 5.31	$ (0.10)	$ 5.21
2024 - 2038	$ 4.64	$ (0.12)	$ 4.52
2025 - 2039	$ 3.96	$ (0.11)	$ 3.85

(1) Studies are sequential. The order of the studies would affect the price impact.
(2) Official Forward Price Curve Dated December 2022
(3) Discount Rate - 2021 IRP - Calculated Annually
(4) Capacity costs are allocated based on assumed 100% capacity factor.
(5) Avoided Capacity costs are bsed on Partial Displacement of non-emitting Peaker in 2031 from 2021 IRP Update Preferred Portfolio.

Appendix C

Utah Quarterly Compliance Filing
Step Study between 2022.Q4 and 2022.Q3 Compliance Filing
Total Avoided Cost Prices $/MWH (1) (4)

Year	2022.Q3 As Filed	OFPC (2)	Queue (5)
2023	$57.75	$68.35	$68.35
2024	$62.71	$73.38	$73.20
2025	$46.95	$54.48	$54.14
2026	$50.15	$55.53	$55.36
2027	$46.05	$46.88	$46.73
2028	$44.74	$47.40	$47.28
2029	$45.05	$46.61	$46.49
2030	$41.25	$46.09	$46.05
2031	$48.39	$52.92	$52.87
2032	$47.71	$51.76	$51.72
2033	$47.83	$51.56	$51.51
2034	$46.35	$50.64	$50.62
2035	$47.95	$52.45	$52.41
2036	$50.45	$54.19	$54.16
2037	$58.32	$61.87	$61.83
2038	$59.43	$62.47	$62.41
2039	$59.56	$63.53	$63.50

Nominal Levelized Payment at 6.880% Discount Rate (3)

2023 - 2037	$49.89	$55.20	$55.10
2024 - 2038	$49.42	$54.06	$53.94
2025 - 2039	$48.38	$52.34	$52.23

(1) Studies are sequential. The order of the studies would affect the price impact.
(2) Official Forward Price Curve Dated December 2022
(3) Discount Rate - 2021 IRP - Calculated Annually
(4) Capacity costs are allocated based on assumed 100% capacity factor.
(5) Avoided Capacity costs are bsed on Partial Displacement of non-emitting Peaker in 2031 from 2021 IRP Update Preferred Portfolio.

Discount Rate - 2021 IRP

Appendix C

Utah Quarterly Compliance Filing
Step Study between 2022.Q4 and 2022.Q3 Compliance Filing
GRID Calculated Energy Avoided Cost Prices $/MWH (1)

Year	2022.Q3 As Filed	OFPC (2)	Queue (4)
2023	$57.75	$68.35	$68.35
2024	$62.71	$73.38	$73.20
2025	$46.95	$54.48	$54.14
2026	$50.15	$55.53	$55.36
2027	$46.05	$46.88	$46.73
2028	$44.74	$47.40	$47.28
2029	$45.05	$46.61	$46.49
2030	$41.25	$46.09	$46.05
2031	$34.77	$39.30	$39.26
2032	$33.84	$37.89	$37.85
2033	$33.62	$37.35	$37.30
2034	$31.83	$36.12	$36.10
2035	$33.13	$37.62	$37.58
2036	$35.35	$39.09	$39.06
2037	$42.84	$46.40	$46.36
2038	$43.63	$46.67	$46.61
2039	$43.41	$47.38	$47.36

Nominal Levelized Payment at 6.88% Discount Rate (3)			
2023 - 2037	$44.89	$50.20	$50.10
2024 - 2038	$43.44	$48.08	$47.97
2025 - 2039	$41.34	$45.30	$45.19

(1) Studies are sequential. The order of the studies would affect the price impact.
(2) Official Forward Price Curve Dated December 2022
(3) Discount Rate - 2021 IRP - Calculated Annually

Appendix C

Utah Quarterly Compliance Filing
Step Study between 2022.Q4 and 2022.Q3 Compliance Filing
Capacity Avoided Cost Prices

	$/kW-Year			$/MWH (1)		
Year	2022.Q3	OFPC	2022.Q4	2022.Q3	OFPC	2022.Q4
2023	-	-	-	-	-	-
2024	-	-	-	-	-	-
2025	-	-	-	-	-	-
2026	-	-	-	-	-	-
2027	-	-	-	-	-	-
2028	-	-	-	-	-	-
2029	-	-	-	-	-	-
2030	-	-	-	-	-	-
2031	$ 119.29	$ 119.29	$ 119.29	$ 13.62	$ 13.62	$ 13.62
2032	$ 121.85	$ 121.85	$ 121.85	$ 13.87	$ 13.87	$ 13.87
2033	$ 124.48	$ 124.48	$ 124.48	$ 14.21	$ 14.21	$ 14.21
2034	$ 127.16	$ 127.16	$ 127.16	$ 14.52	$ 14.52	$ 14.52
2035	$ 129.90	$ 129.90	$ 129.90	$ 14.83	$ 14.83	$ 14.83
2036	$ 132.70	$ 132.70	$ 132.70	$ 15.11	$ 15.11	$ 15.11
2037	$ 135.56	$ 135.56	$ 135.56	$ 15.47	$ 15.47	$ 15.47
2038	$ 138.47	$ 138.47	$ 138.47	$ 15.81	$ 15.81	$ 15.81
2039	$ 141.46	$ 141.46	$ 141.46	$ 16.15	$ 16.15	$ 16.15
Nominal Levelized Payment at 6.880% Discount Rate (2)						
2023 - 2037	$43.83	$43.83	$43.83	$5.00	$5.00	$5.00
2024 - 2038	$52.40	$52.40	$52.40	$5.98	$5.98	$5.98
2025 - 2039	$61.69	$61.69	$61.69	$7.04	$7.04	$7.04

(1) Capacity costs are allocated based on assumed 100% capacity factor.
(2) Discount Rate - 2021 IRP
(3) No Capacity costs - No deferrable thermal resources