



1407 W. North Temple
Salt Lake City, Utah 84116

September 30, 2022

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

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 03-035-14 – Quarterly Compliance Filing – 2022.Q2 Avoided Cost Input Changes**
Docket 22-035-36 – 2022.Q2 Avoided Cost Input Changes Quarterly Compliance Filing

PacifiCorp (dba Rocky Mountain Power) hereby respectfully submits an original and ten (10) copies of its quarterly Schedule 38 compliance filing. An electronic copy of this filing will be provided to psc@utah.gov.

Public Service Commission of Utah (Commission) orders dated October 31, 2005, and February 2, 2006, in Docket 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 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 June 30, 2022 (2206 OFPC).
2. **Generic Updates** – Update to various GRID model inputs, including hydro forecast, planned outage rates and short-term firm transmission capacity.

3. **Qualifying Facility (QF) Queue** – Update of signed contract queue and current potential QFs. The QF queue was revised to include 497 MW nameplate in this filing. The potential queue was 327 MW nameplate in the 2022.Q1 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 2022-2030, and the Utah North non-emitting peaking resource in 2031. The tracking solar QF resource partially displaces summer and winter FOTs during 2022-2025 and the Borah solar with storage resource in 2026. The wind QF resource partially displaces summer and winter FOTs during 2022-2025 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

Public Service Commission of Utah

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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,

A handwritten signature in black ink that reads "Joelle Steward". The signature is written in a cursive style with a large, stylized initial "J".

Joelle Steward
Vice President, Regulation

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

ROCKY MOUNTAIN POWER
DESCRIPTION OF AVOIDED COST INPUT CHANGES
2022.Q2 – September 2022

Appendix A

PacifiCorp Avoided Cost Partial Displacement Differential Revenue Requirement (“PDDRR”) Model Updates through September 2022 Docket 22-035-36 / Docket 03-035-14

Assumptions that have changed since the 2022.Q1 compliance filing are in **bold and underline**.

GRID Scenario Study Period

- January 1, 2022, through December 31, 2036 - 15-year study.
- Avoided cost prices starting in January 2022.

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

- **Updated to PacifiCorp’s June 30, 2022 OFPC (“2206 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 2022 through 2036.
- Levelized prices are for illustrative purposes only.

Load Forecast (Retail)

- 20-year load forecast dated August 10, 2021.

Long-Term Contracts

- Long-term contracts which have prices that are indexed to market are consistent with the **2206 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 **June 2022**.
- 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 June 2022.

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 December 2019. Planned outages are based on 48 months ended December 2021. 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.

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

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.

Total Signed MW		3.08	12.99			
No.	Potential QF Contracts	Partial Displacement	Name plate	CF	Capacity Contribution	Start Date
1	QF - 640 - WY - Wind	12.81	79.80	44.2%	16.1%	2024 08 01
2	QF - 658 - UT - Solar	12.05	80.00	29.9%	15.1%	2025 08 01
3	QF - 526 - WY - Gas	0.00	13.30	85.0%	0.0%	2023 01 01
4	QF - 661 - UT - Solar	7.59	50.00	29.2%	15.2%	2025 08 01
5	QF - 433 - UT - Gas	0.00	31.80	58.2%	0.0%	2023 01 01
6	QF - 434 - UT - Gas	0.00	6.20	85.0%	0.0%	2023 01 01
7	QF - 435 - UT - Gas	0.00	25.00	85.0%	0.0%	2023 01 01
8	QF - 999 - WY - Gas	0.00	98.00	75.0%	0.0%	2023 01 01
9	QF - 663 - WA - Solar	4.91	20.00	18.3%	24.6%	2026 01 01
10	QF - 665 - OR - Solar	5.21	20.00	19.4%	26.1%	2026 01 01
11	QF - 657 - UT - Solar	10.80	60.00	25.7%	18.0%	2024 12 01
Total Potential MW		53.37	484.10			
Total Partial Displacement		56.45	497.09			
12	Utah 2022.Q2	100.00	100.00	100.0%	100.0%	2022 01 01
Partial Displacement after QF		156.45	597.09			

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: **50** 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: **37** 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.

Year	IRP Additions (Nameplate MW)						Base Case Displacement (Nameplate MW)				
	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	-	-	-	3	3
2025	-	-	-	-	415	-	-	-	-	27	-
2026	-	200	600	545	-	-	-	50	37	-	-
2027	-	200	600	545	-	-	-	50	37	-	-
2028	500	200	683	800	-	-	-	50	37	-	-
2029	500	700	843	1,080	-	-	-	50	37	-	-
2030	500	700	1,320	1,080	-	-	-	50	37	-	-
2031	912	700	1,946	1,080	-	-	-	50	37	-	-
2032	912	700	3,046	1,080	-	-	-	50	37	-	-
2033	912	700	3,046	1,080	-	-	-	50	37	-	-
2034	912	700	3,046	1,080	-	-	-	50	37	-	-
2035	912	700	3,046	1,080	-	-	-	50	37	-	-
2036	912	700	3,046	1,080	-	-	-	50	37	-	-
2037	1,324	700	3,748	1,236	-	-	-	50	37	-	-
2038	2,737	700	3,748	1,686	-	-	-	50	37	-	-
2039	2,737	700	3,748	1,686	-	-	-	50	37	-	-
2040	2,737	700	3,748	1,954	-	418	-	50	37	-	-
2041	2,737	700	3,748	1,954	-	-	-	50	37	-	-

IRP Partial Displacements (Previous Filing)

Total partial displacement was 327 MW in the base case and 427 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	Kennecott Smelter Non Firm	0.0	31.8	58.2%	0.0%	2022 01 01
2	Kennecott Refinery Non Firm	0.0	6.2	85.0%	0.0%	2022 01 01
3	Tesoro Non Firm	0.0	25.0	85.0%	0.0%	2022 01 01
4	Exxon Mobil	0.0	98.0	75.0%	0.0%	2022 01 01
5	Simplot Phosphates	0.0	13.3	85.0%	0.0%	2022 01 01
6	Sunnyside Solar QF	0.45	4.99	32.08%	9.0%	2023 09 30

Total Signed MW		0.45	179.29			
No.	Potential QF Contracts	Partial Displacement	Name plate	CF	Capacity Contribution	Start Date
1	QF - 655 - OR - Wind	2.63	8.00	37.0%	32.9%	2022 02 01
2	QF - 657 - UT - Solar	10.80	60.00	23.1%	18.0%	2024 12 01
3	QF - 640 - UT - Wind	12.81	79.80	44.2%	16.1%	2024 08 01
Total Potential MW		26.24	147.80			

Total Partial Displacement		26.69	327.09			
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4	Utah 2022.Q1	100.00	100.00	100.0%	100.0%	2022 01 01
Partial Displacement after QF		126.69	427.09			

ROCKY MOUNTAIN POWER

UPDATE IMPACT – UPDATED AVOIDED COST STUDY

2022.Q2 – SEPTEMBER 2022

Appendix B.1
Avoided Cost Prices \$/MWh
Utah 2022.Q2 Sch 38

Year	Thermal	Solar Tracking	Wind	Thermal	Solar Tracking	Wind	Thermal	Solar Tracking	Wind
	UT 2022.Q2 100% CF (2)	UT 2022.Q2 32.25% CF (2)	UT 2022.Q2 29.5% CF (2)	UT 2022.Q1 100% CF (2)	UT 2022.Q1 32.25% CF (2)	UT 2022.Q1 29.5% CF (2)	Difference	Difference	Difference
2022	\$39.66	\$26.84	\$35.33	\$41.45	\$28.80	\$35.14	(\$1.79)	(\$1.96)	\$0.19
2023	\$43.68	\$26.88	\$38.11	\$37.59	\$24.50	\$32.60	\$6.09	\$2.37	\$5.51
2024	\$51.04	\$29.40	\$43.96	\$44.16	\$26.36	\$37.96	\$6.88	\$3.04	\$6.00
2025	\$35.98	\$19.08	\$30.97	\$29.07	\$16.84	\$25.64	\$6.91	\$2.24	\$5.33
2026	\$31.23	\$25.64	\$31.89	\$26.84	\$25.92	\$31.22	\$4.39	(\$0.28)	\$0.67
2027	\$30.18	\$26.33	\$32.54	\$28.87	\$27.34	\$32.51	\$1.31	(\$1.01)	\$0.04
2028	\$31.52	\$27.51	\$33.67	\$29.69	\$28.25	\$33.21	\$1.83	(\$0.74)	\$0.46
2029	\$33.09	\$29.78	\$34.87	\$30.47	\$30.48	\$34.00	\$2.62	(\$0.70)	\$0.87
2030	\$32.57	\$29.57	\$35.10	\$30.67	\$30.59	\$34.54	\$1.90	(\$1.01)	\$0.56
2031	\$42.70	\$30.55	\$36.45	\$41.91	\$31.54	\$36.16	\$0.79	(\$0.98)	\$0.29
2032	\$41.92	\$26.16	\$34.85	\$40.03	\$26.93	\$34.38	\$1.88	(\$0.77)	\$0.47
2033	\$43.79	\$30.45	\$36.66	\$41.18	\$30.77	\$36.36	\$2.61	(\$0.32)	\$0.29
2034	\$45.63	\$31.60	\$38.08	\$42.60	\$31.81	\$37.32	\$3.03	(\$0.20)	\$0.77
2035	\$47.00	\$32.55	\$38.87	\$43.79	\$32.80	\$38.02	\$3.22	(\$0.25)	\$0.85
2036	\$48.81	\$35.60	\$56.11	\$45.09	\$35.19	\$55.24	\$3.72	\$0.41	\$0.87

15-Year Levelized Prices (Nominal) @ 6.88% Discount Rate (1) (3)										
2022-2036	\$/MWh	\$39.37	\$27.77	\$36.52	\$36.26	\$27.65	\$34.67	\$3.11	\$0.12	\$1.85
								8.6%	0.4%	5.3%

Footnotes:

- (1) Discount Rate - 2021 IRP
- (2) Total Avoided Costs with Capacity, based on stated CF
- (3) 15-Years: 2022 - 2036, levelized monthly

Table 1
Avoided Cost Prices
Utah 2022.Q2 - 100.0 MW and 100.0% CF

Year	Capacity Price \$/kW-yr	Energy Only Price \$/MWh ⁽²⁾	Total Price @ 100.0% Capacity Factor \$/MWh
2022	\$0.00	\$39.66	\$39.66
2023	\$0.00	\$43.68	\$43.68
2024	\$0.00	\$51.04	\$51.04
2025	\$0.00	\$35.98	\$35.98
2026	\$0.00	\$31.23	\$31.23
2027	\$0.00	\$30.18	\$30.18
2028	\$0.00	\$31.52	\$31.52
2029	\$0.00	\$33.09	\$33.09
2030	\$0.00	\$32.57	\$32.57
2031	\$119.29	\$29.08	\$42.70
2032	\$121.85	\$28.05	\$41.92
2033	\$124.48	\$29.58	\$43.79
2034	\$127.16	\$31.11	\$45.63
2035	\$129.90	\$32.17	\$47.00
2036	\$132.70	\$33.70	\$48.81
2037	\$135.56	\$43.12	\$58.59

15 Year

Levelized Prices (Nominal) @ 6.88% Discount Rate (1) (3)

\$/kW	\$35.89		
\$/MWh		\$35.28	\$39.37

Table 2
Avoided Energy Costs - Scheduled Hours (\$/MWh)
Utah 2022.Q2 - 100.0 MW and 100.0% CF

Year	Annual	Winter Season					Summer Season				Winter Season		
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Energy Only													
2022	39.66	49.97	22.76	24.53	40.28	34.50	23.66	82.30	51.18	38.28	41.02	29.57	35.40
2023	43.68	45.02	33.49	30.90	28.15	24.05	29.36	102.90	62.59	49.85	41.72	33.47	40.54
2024	51.04	54.86	44.14	36.40	32.87	26.39	28.80	115.62	76.19	58.39	43.08	41.69	52.25
2025	35.98	17.77	26.12	24.86	24.94	21.47	24.35	105.99	55.34	37.72	31.09	27.92	32.34
2026	31.23	23.68	34.00	24.94	21.56	18.88	23.04	50.38	45.05	32.68	30.16	32.53	37.67
2027	30.18	33.81	33.07	22.04	20.87	14.72	21.21	36.03	44.03	33.21	30.66	33.60	38.84
2028	31.52	33.23	34.28	24.84	20.37	14.80	20.71	39.25	47.40	36.77	31.37	34.54	40.38
2029	33.09	34.41	36.27	24.76	21.71	13.94	20.23	41.11	50.42	40.63	33.87	36.41	43.16
2030	32.57	35.14	35.94	24.06	21.19	14.54	19.33	39.13	47.29	38.37	32.92	37.19	45.63
2031	29.08	30.90	30.28	23.36	19.74	14.12	19.07	38.34	47.18	31.95	29.01	31.87	32.80
2032	28.05	22.96	26.78	23.04	19.16	13.24	19.03	39.55	50.12	30.99	28.75	28.85	33.52
2033	29.58	25.75	28.94	24.36	20.11	13.71	19.19	43.18	50.87	31.42	30.23	31.09	35.47
2034	31.11	26.95	30.63	27.36	21.21	14.16	20.43	44.45	54.58	33.38	31.20	31.90	36.50
2035	32.17	27.35	31.84	27.39	22.77	14.32	20.71	46.04	56.47	34.14	32.82	33.12	38.51
2036	33.70	29.89	32.23	27.26	24.13	15.26	22.19	48.27	56.32	37.16	36.04	36.27	38.85
2037	43.12	46.56	48.02	33.75	28.13	17.21	26.00	53.97	62.49	48.45	41.82	49.13	61.68
2038	41.93	47.22	46.02	32.64	23.44	15.02	23.08	53.67	63.23	46.58	41.41	48.47	61.96
2039	43.58	51.16	49.35	32.25	25.04	16.46	25.09	53.50	65.27	47.77	43.41	49.59	63.71

Table 3
2021 IRP Update Non Emitting UTN Peaker Resource Costs
Non Emitting - 206 MW- East Side Resource (5,050')

Year	Estimated Capital Cost	Capital Cost at Real Levelized Rate	Network Upgrade	Fixed O&M	Variable O&M	Total O&M at Expected CF	Total Resource Fixed Costs	Fuel Cost	Total Resource Energy Cost	Total Resource Costs	Total Fixed Cost
	\$/kW	\$/kW-yr	\$/kW-yr	\$/kW-yr	\$/MWh	\$/kW-yr	\$/kW-yr	\$/MMBtu	\$/MWh	\$/MWh	\$/kW-yr
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(i)	(j)

Non Emitting - 206 MW- East Side Resource (5,050')

2020					\$ 21.294			\$ 26.72			
2021					\$21.75			\$27.30			
2022					\$22.22			\$27.89			
2023					\$22.70			\$28.49			
2024					\$23.19			\$29.10			
2025					\$23.69			\$29.73			
2026					\$24.20			\$30.37			
2027					\$24.72			\$31.02			
2028					\$25.25			\$31.69			
2029					\$25.79			\$32.37			
2030					\$26.35			\$33.07			
2031	\$1,319.93	\$98.96	12.46	\$0.00	\$26.92	\$77.82	\$189.24	\$33.78	\$335.64	\$401.10	\$111.42
2032		\$101.09	\$12.72	\$0.00	\$27.50	\$79.50	\$193.31	\$34.51	\$342.89	\$409.76	\$113.81
2033		\$103.27	\$12.99	\$0.00	\$28.09	\$81.20	\$197.46	\$35.25	\$350.24	\$418.55	\$116.26
2034		\$105.50	\$13.27	\$0.00	\$28.70	\$82.97	\$201.74	\$36.01	\$357.80	\$427.59	\$118.77
2035		\$107.77	\$13.56	\$0.00	\$29.32	\$84.76	\$206.09	\$36.79	\$365.55	\$436.84	\$121.33
2036		\$110.09	\$13.85	\$0.00	\$29.95	\$86.58	\$210.52	\$37.58	\$373.39	\$446.21	\$123.94
2037		\$112.46	\$14.15	\$0.00	\$30.60	\$88.46	\$215.07	\$38.39	\$381.44	\$455.84	\$126.61
2038		\$114.88	\$14.45	\$0.00	\$31.26	\$90.37	\$219.70	\$39.22	\$389.69	\$465.69	\$129.33
2039		\$117.36	\$14.76	\$0.00	\$31.93	\$92.30	\$224.42	\$40.07	\$398.14	\$475.77	\$132.12
2040		\$119.89	\$15.08	\$0.00	\$32.62	\$94.30	\$229.27	\$40.93	\$406.68	\$485.99	\$134.97
2041		\$122.47	\$15.40	\$0.00	\$33.32	\$96.32	\$234.19	\$41.81	\$415.42	\$496.43	\$137.87
2042		\$125.11	\$15.73	\$0.00	\$34.04	\$98.40	\$239.24	\$42.71	\$424.37	\$507.13	\$140.84

Sources, Inputs and Assumptions

Source: (a)(c)(d) Plant Costs - 2021 IRP - Table 7.1 & 7.2
 (b) = (a) x 0.0749741404851062
 (f) = (e) x (8.76 x 33.0%) + (d)
 (g) = (b) + (f)
 (h) Table 4 - Burnertip Natural Gas Price Forecast
 (i) = 9,936 MMBtu/MWh x \$/MMBtu
 (i) = (g) / (8.76 x 'Capacity Factor') + (i)

Table 3
2021 IRP Update Non Emitting UTN Peaker Resource Costs
Non Emitting - 206 MW- East Side Resource (5,050')

Non Emitting - 206 MW- East Side Resource (5,050')

CCCT Statistics	MW	Percent	Cap Cost	Fixed
SCCT Dry "F" - Turbine	206	100.0%	\$1,320	\$0.00
	-	0.0%	\$0	\$0.00
Capacity Weighted	206	100.0%	\$1,320	\$0.00

CCCT Statistics	MW	CF	aMW	Percent	Variable	Heat Rate
SCCT Dry "F" - Turbine	206	33.0%	68.0	100.0%	\$21.29	9,936
	-	0.0%	-	0.0%	-	-
Energy Weighted	206	33.0%	68.0	100.0%	\$21.29	9,936

Rounded

	SCCT	Duct Firing		Plant Costs - 2021 IRP - Table 7.1 & 7.2	
				206	MW Plant Capacity
2031 \$	\$1,320				Plant Capacity Cost
	\$0.00				Fixed O&M & Capitalized O&M
	\$0.00				Fixed Pipeline
2020 \$	\$0.00				Fixed O&M Including Fixed Pipeline & Capitalized O&M (\$/kW-Yr)
2020 \$	\$ 21.29				Variable O&M Costs & Capitalized Variable O&M (\$/MWh)
	9,936				Heat Rate in btu/kWh
	7.497%				Payment Factor
	33%				Capacity Factor
		33.0%			Energy Weighted Capacity Factor
2031\$	12.46	Network Upgr	Utah N, Transmission Integration		
	26.72				Fuel Cost (\$/mmBtu)

Table 3
2021 IRP Update Non Emitting UTN Peaker Resource Costs
Non Emitting - 206 MW- East Side Resource (5,050')

Year	Estimated Capital Cost	Capital Cost at Real Levelized Rate	Network Upgrade	Fixed O&M	Variable O&M	Total O&M at Expected CF	Total Resource Fixed Costs	Fuel Cost	Total Resource Energy Cost	Total Resource Costs	Total Fixed Cost
	\$/kW	\$/kW-yr	\$/kW-yr	\$/kW-yr	\$/MWh	\$/kW-yr	\$/kW-yr	\$/MMBtu	\$/MWh	\$/MWh	\$/kW-yr
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(i)	(j)

Non Emitting - 206 MW- East Side Resource (5,050')

2020					\$ 21.294			\$ 26.72			
2021					\$21.75			\$27.30			
2022					\$22.22			\$27.89			
2023					\$22.70			\$28.49			
2024					\$23.19			\$29.10			
2025					\$23.69			\$29.73			
2026					\$24.20			\$30.37			
2027					\$24.72			\$31.02			
2028					\$25.25			\$31.69			
2029					\$25.79			\$32.37			
2030					\$26.35			\$33.07			
2031	\$1,319.93	\$98.96	12.46	\$0.00	\$26.92	\$77.82	\$189.24	\$33.78	\$335.64	\$401.10	\$111.42
2032		\$101.09	\$12.72	\$0.00	\$27.50	\$79.50	\$193.31	\$34.51	\$342.89	\$409.76	\$113.81
2033		\$103.27	\$12.99	\$0.00	\$28.09	\$81.20	\$197.46	\$35.25	\$350.24	\$418.55	\$116.26
2034		\$105.50	\$13.27	\$0.00	\$28.70	\$82.97	\$201.74	\$36.01	\$357.80	\$427.59	\$118.77
2035		\$107.77	\$13.56	\$0.00	\$29.32	\$84.76	\$206.09	\$36.79	\$365.55	\$436.84	\$121.33
2036		\$110.09	\$13.85	\$0.00	\$29.95	\$86.58	\$210.52	\$37.58	\$373.39	\$446.21	\$123.94
2037		\$112.46	\$14.15	\$0.00	\$30.60	\$88.46	\$215.07	\$38.39	\$381.44	\$455.84	\$126.61
2038		\$114.88	\$14.45	\$0.00	\$31.26	\$90.37	\$219.70	\$39.22	\$389.69	\$465.69	\$129.33
2039		\$117.36	\$14.76	\$0.00	\$31.93	\$92.30	\$224.42	\$40.07	\$398.14	\$475.77	\$132.12
2040		\$119.89	\$15.08	\$0.00	\$32.62	\$94.30	\$229.27	\$40.93	\$406.68	\$485.99	\$134.97
2041		\$122.47	\$15.40	\$0.00	\$33.32	\$96.32	\$234.19	\$41.81	\$415.42	\$496.43	\$137.87
2042		\$125.11	\$15.73	\$0.00	\$34.04	\$98.40	\$239.24	\$42.71	\$424.37	\$507.13	\$140.84

Sources, Inputs and Assumptions

Source: (a)(c)(d) Plant Costs - 2021 IRP - Table 7.1 & 7.2
 (b) = (a) x 0.0749741404851062
 (f) = (e) x (8.76 x 33.0%) + (d)
 (g) = (b) + (f)
 (h) Table 4 - Burnertip Natural Gas Price Forecast
 (i) = 9,936 MMBtu/MWh x \$/MMBtu
 (i) = (g) / (8.76 x 'Capacity Factor') + (i)

Table 4
Burnertip Natural Gas Price Forecast
Utah 2022.Q2 - 100.0 MW and 100.0% CF

Year	PacifiCorp			
	Delivered IRP - Utah Greenfield Fuel Cost	Delivered Naughton Fuel Cost	Delivered IRP West Side Fuel Cost	Delivered IRP - Wyo NE Fuel Cost
2019	\$2.42	\$2.43	\$4.31	\$2.09
2020	\$1.98	\$1.99	\$2.17	\$1.79
2021	\$4.15	\$4.16	\$4.03	\$6.36
2022	\$5.76	\$5.77	\$5.57	\$5.53
2023	\$4.83	\$4.84	\$4.39	\$4.51
2024	\$4.42	\$4.43	\$4.06	\$4.21
2025	\$4.22	\$4.23	\$4.04	\$4.09
2026	\$4.03	\$4.04	\$4.07	\$3.89
2027	\$3.91	\$3.92	\$4.07	\$3.78
2028	\$3.99	\$4.00	\$4.18	\$3.86
2029	\$4.07	\$4.08	\$4.28	\$3.93
2030	\$4.04	\$4.05	\$4.26	\$3.91
2031	\$4.20	\$4.21	\$4.43	\$4.06
2032	\$4.31	\$4.32	\$4.55	\$4.17
2033	\$4.49	\$4.50	\$4.73	\$4.35
2034	\$4.67	\$4.68	\$4.93	\$4.53
2035	\$4.76	\$4.77	\$5.03	\$4.62
2036	\$4.92	\$4.93	\$5.21	\$4.78
2037	\$5.18	\$5.19	\$5.49	\$5.04
2038	\$5.50	\$5.51	\$5.81	\$5.35
2039	\$5.83	\$5.84	\$6.16	\$5.68
2040	\$6.16	\$6.17	\$6.49	\$6.01

Official Forward Price Curve Forecast dated Jun 30, 2022

Table 5

Utah 2022.Q2 - 100.0 MW and 100.0% CF
 January 2022 through December 2036
 Nominal Avoided Costs Calculated Monthly

Study Name:

44,562
 Start Jan-22
 End Dec-36

Utah 2022.Q2
 Resource Capacity 100.0 MW
 100.00% CF

Discount Rate - 2021 IRP Update
 6.88% 0.556%

15 Year

Nominal NPV at 6.88% Discount Rate

\$ 292,587,222 \$ 33,985,259 \$ 326,572,481 8,294,447 \$39.37

Month	Energy	Capacity \$	Total	Total	AC Price
	Avoided \$	100.0% CF	Dollars	MWH	100.0% CF
Jan-22	3,717,529	-	3,717,529	74,400	49.97
Feb-22	1,529,704	-	1,529,704	67,200	22.76
Mar-22	1,824,982	-	1,824,982	74,400	24.53
Apr-22	2,900,442	-	2,900,442	72,000	40.28
May-22	2,566,503	-	2,566,503	74,400	34.50
Jun-22	1,703,214	-	1,703,214	72,000	23.66
Jul-22	6,123,090	-	6,123,090	74,400	82.30
Aug-22	3,807,761	-	3,807,761	74,400	51.18
Sep-22	2,755,902	-	2,755,902	72,000	38.28
Oct-22	3,051,823	-	3,051,823	74,400	41.02
Nov-22	2,128,878	-	2,128,878	72,000	29.57
Dec-22	2,633,514	-	2,633,514	74,400	35.40
Jan-36	2,223,492	1,105,817	3,329,309	74,400	44.75
Feb-36	2,243,114	1,105,817	3,348,931	69,600	48.12
Mar-36	2,028,245	1,105,817	3,134,062	74,400	42.12
Apr-36	1,737,619	1,105,817	2,843,437	72,000	39.49
May-36	1,135,273	1,105,817	2,241,090	74,400	30.12
Jun-36	1,597,644	1,105,817	2,703,461	72,000	37.55
Jul-36	3,591,609	1,105,817	4,697,426	74,400	63.14
Aug-36	4,189,970	1,105,817	5,295,788	74,400	71.18
Sep-36	2,675,244	1,105,817	3,781,061	72,000	52.51
Oct-36	2,681,163	1,105,817	3,786,981	74,400	50.90
Nov-36	2,611,607	1,105,817	3,717,425	72,000	51.63
Dec-36	2,890,100	1,105,817	3,995,918	74,400	53.71

Offset	Year	Date Test	Offset	
1	2022	Jan-22	386	Net Power Cost
2	2022	Feb-22	505	Avoided Cost Resource
3	2022	Mar-22		
4	2022	Apr-22		
5	2022	May-22	2022	34,743,342
6	2022	Jun-22	2023	38,261,138
7	2022	Jul-22	2024	44,832,841
8	2022	Aug-22	2025	31,521,321
9	2022	Sep-22	2026	27,359,855
10	2022	Oct-22	2027	26,440,313
11	2022	Nov-22	2028	27,684,968
12	2022	Dec-22	2029	28,984,187
			2030	28,533,559
53	2036	Jan-36		
54	2036	Feb-36		
55	2036	Mar-36		
56	2036	Apr-36		
57	2036	May-36		
58	2036	Jun-36		
59	2036	Jul-36		
60	2036	Aug-36		
61	2036	Sep-36		
62	2036	Oct-36		
63	2036	Nov-36		
64	2036	Dec-36		

Table 3
2021 IRP Update Non Emitting UTN Peaker Resource Costs
Non Emitting - 206 MW- East Side Resource (5,050')

Non Emitting - 206 MW- East Side Resource (5,050')

CCCT Statistics	MW	Percent	Cap Cost	Fixed
SCCT Dry "F" - Turbine	206	100.0%	\$1,320	\$0.00
	-	0.0%	\$0	\$0.00
Capacity Weighted	206	100.0%	\$1,320	\$0.00

CCCT Statistics	MW	CF	aMW	Percent	Variable	Heat Rate
SCCT Dry "F" - Turbine	206	33.0%	68.0	100.0%	\$21.29	9,936
	-	0.0%	-	0.0%	-	-
Energy Weighted	206	33.0%	68.0	100.0%	\$21.29	9,936

Rounded

	SCCT	Duct Firing		Plant Costs - 2021 IRP - Table 7.1 & 7.2	
				206	MW Plant Capacity
2031 \$	\$1,320				Plant Capacity Cost
	\$0.00				Fixed O&M & Capitalized O&M
	\$0.00				Fixed Pipeline
2020 \$	\$0.00				Fixed O&M Including Fixed Pipeline & Capitalized O&M (\$/kW-Yr)
2020 \$	\$ 21.29				Variable O&M Costs & Capitalized Variable O&M (\$/MWh)
	9,936				Heat Rate in btu/kWh
	7.497%				Payment Factor
	33%				Capacity Factor
		33.0%			Energy Weighted Capacity Factor
2031\$	12.46	Network Upgr	Utah N, Transmission Integration		
	26.72				Fuel Cost (\$/mmBtu)

Appendix B.2
Avoided Cost Prices \$/MWh
Utah 2022.Q2 Sch 38

Year	Thermal	Solar Tracking	Wind	Thermal	Solar Tracking	Wind	Thermal	Solar Tracking	Wind
	UT 2022.Q2 100% CF (2)	UT 2022.Q2 32.25% CF (2)	UT 2022.Q2 29.5% CF (2)	UT 2022.Q1 100% CF (2)	UT 2022.Q1 32.25% CF (2)	UT 2022.Q1 29.5% CF (2)	Difference	Difference	Difference
2022	\$39.66	\$26.84	\$35.33	\$41.45	\$28.80	\$35.14	(\$1.79)	(\$1.96)	\$0.19
2023	\$43.68	\$26.88	\$38.11	\$37.59	\$24.50	\$32.60	\$6.09	\$2.37	\$5.51
2024	\$51.04	\$29.40	\$43.96	\$44.16	\$26.36	\$37.96	\$6.88	\$3.04	\$6.00
2025	\$35.98	\$19.08	\$30.97	\$29.07	\$16.84	\$25.64	\$6.91	\$2.24	\$5.33
2026	\$31.23	\$25.64	\$31.89	\$26.84	\$25.92	\$31.22	\$4.39	(\$0.28)	\$0.67
2027	\$30.18	\$26.33	\$32.54	\$28.87	\$27.34	\$32.51	\$1.31	(\$1.01)	\$0.04
2028	\$31.52	\$27.51	\$33.67	\$29.69	\$28.25	\$33.21	\$1.83	(\$0.74)	\$0.46
2029	\$33.09	\$29.78	\$34.87	\$30.47	\$30.48	\$34.00	\$2.62	(\$0.70)	\$0.87
2030	\$32.57	\$29.57	\$35.10	\$30.67	\$30.59	\$34.54	\$1.90	(\$1.01)	\$0.56
2031	\$42.70	\$30.55	\$36.45	\$41.91	\$31.54	\$36.16	\$0.79	(\$0.98)	\$0.29
2032	\$41.92	\$26.16	\$34.85	\$40.03	\$26.93	\$34.38	\$1.88	(\$0.77)	\$0.47
2033	\$43.79	\$30.45	\$36.66	\$41.18	\$30.77	\$36.36	\$2.61	(\$0.32)	\$0.29
2034	\$45.63	\$31.60	\$38.08	\$42.60	\$31.81	\$37.32	\$3.03	(\$0.20)	\$0.77
2035	\$47.00	\$32.55	\$38.87	\$43.79	\$32.80	\$38.02	\$3.22	(\$0.25)	\$0.85
2036	\$48.81	\$35.60	\$56.11	\$45.09	\$35.19	\$55.24	\$3.72	\$0.41	\$0.87

15-Year Levelized Prices (Nominal) @ 6.88% Discount Rate (1) (3)										
2022-2036	\$/MWh	\$39.37	\$27.77	\$36.52	\$36.26	\$27.65	\$34.67	\$3.11	\$0.12	\$1.85
								8.6%	0.4%	5.3%

Footnotes:

- (1) Discount Rate - 2021 IRP
- (2) Total Avoided Costs with Capacity, based on stated CF
- (3) 15-Years: 2022 - 2036, levelized monthly

Table 1
Avoided Cost Prices
Utah 2022.Q2_Solar - 80.0 MW and 32.2% CF

	Total Price @		
Year	Capacity Price \$/kW-yr	Energy Only Price \$/MWh ⁽²⁾	32.2% Capacity Factor \$/MWh
2022	\$0.00	\$26.84	\$26.84
2023	\$0.00	\$26.88	\$26.88
2024	\$0.00	\$29.40	\$29.40
2025	\$0.00	\$19.08	\$19.08
2026	\$39.69	\$11.31	\$25.64
2027	\$40.55	\$11.61	\$26.33
2028	\$41.42	\$12.44	\$27.51
2029	\$42.31	\$14.26	\$29.78
2030	\$43.22	\$13.65	\$29.57
2031	\$44.16	\$14.20	\$30.55
2032	\$45.11	\$9.41	\$26.16
2033	\$46.08	\$13.21	\$30.45
2034	\$47.07	\$13.91	\$31.60
2035	\$48.09	\$14.38	\$32.55
2036	\$49.12	\$16.99	\$35.60
2037	\$50.18	\$18.74	\$37.89

15 Year

Levelized Prices (Nominal) @ 6.88% Discount Rate (1) (3)

\$/kW	\$28.26		
\$/MWh		\$17.76	\$27.77

Table 2
Avoided Energy Costs - Scheduled Hours (\$/MWh)
Utah 2022.Q2_Solar - 80.0 MW and 32.2% CF

Year	Annual	Winter Season					Summer Season				Winter Season		
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Energy Only													
2022	26.84	34.91	15.75	17.50	22.60	22.78	20.84	45.14	39.17	25.96	26.06	17.62	20.64
2023	26.88	34.04	19.33	19.46	17.83	17.71	21.69	53.42	37.90	27.18	21.62	18.43	22.37
2024	29.40	32.97	21.12	20.12	19.84	18.02	20.59	58.91	43.74	30.78	25.89	21.94	28.12
2025	19.08	10.66	12.33	10.08	11.62	12.35	15.66	50.61	28.71	16.34	14.17	11.48	16.90
2026	11.31	11.61	10.41	6.10	5.53	8.09	11.83	17.45	17.13	11.19	9.90	9.75	15.90
2027	11.61	16.46	10.99	7.17	6.17	6.27	10.87	16.23	17.11	11.78	11.76	10.80	17.51
2028	12.44	14.98	11.69	8.32	4.96	6.00	9.91	18.63	21.66	13.75	11.04	12.86	18.52
2029	14.26	18.91	13.68	9.24	7.46	5.85	10.85	20.39	23.96	15.45	14.50	15.13	21.10
2030	13.65	18.78	13.03	9.39	7.61	5.68	9.84	18.57	21.72	13.88	14.39	16.66	22.11
2031	14.20	20.65	15.46	10.05	7.66	5.34	10.18	18.05	23.01	14.81	14.77	17.56	22.73
2032	9.41	8.98	9.03	6.25	3.62	2.22	5.85	15.45	19.26	8.30	10.63	10.46	17.21
2033	13.21	15.03	13.20	9.52	6.53	3.69	7.88	20.27	23.32	14.29	14.59	15.69	20.95
2034	13.91	15.23	14.85	11.36	6.69	3.95	9.11	20.34	24.46	14.62	15.20	17.06	20.77
2035	14.38	14.40	15.00	10.48	6.31	4.03	9.46	20.58	24.58	15.12	16.58	19.89	25.45
2036	16.99	18.90	16.21	12.76	9.29	5.20	10.75	21.80	26.75	20.57	21.05	23.24	28.64
2037	18.74	22.96	18.11	14.13	8.34	5.33	11.90	25.87	30.76	21.31	21.87	24.52	32.63
2038	17.52	23.42	16.33	11.07	7.06	3.89	9.45	24.58	29.52	19.92	20.32	25.54	35.40
2039	18.38	26.39	16.60	11.28	6.35	4.68	9.45	25.67	31.82	20.50	22.76	26.69	34.47

**Table 3
2021 IRP Update Borah Solar with Storage
28% Capacity Factor**

Year	Estimated Capital Cost \$/kW	Fixed Capital Cost at Real Levelized Rate \$/kW-yr	Fixed O&M \$/kW-yr	Fixed Costs \$/MWh	Variable O&M \$/MWh	Total Resource Cost \$/MWh	Total Resource Costs \$/kW-yr	Total Fixed Cost \$/kW-yr
	(a)	(b)	(c)	(c)	(f)	(g)	(h)	(i)

2021 IRP Update Borah Solar with Storage - 28% Capacity Factor

2016								
2017								
2018								\$0.00
2019								\$0.00
2020								\$0.00
2021								\$0.00
2022								\$0.00
2023								\$0.00
2024								\$0.00
2025								\$0.00
2026	\$2,696	\$146.08	\$37.57	\$75.14		\$75.14	\$183.64	\$183.64
2027		\$149.23	\$38.38	\$76.76		\$76.76	\$187.61	\$187.61
2028		\$152.45	\$39.21	\$78.42		\$78.42	\$191.66	\$191.66
2029		\$155.74	\$40.05	\$80.11		\$80.11	\$195.79	\$195.79
2030		\$159.10	\$40.91	\$81.84		\$81.84	\$200.01	\$200.01
2031		\$162.53	\$41.79	\$83.60		\$83.60	\$204.32	\$204.32
2032		\$166.03	\$42.69	\$85.40		\$85.40	\$208.72	\$208.72
2033		\$169.61	\$43.61	\$87.24		\$87.24	\$213.22	\$213.22
2034		\$173.27	\$44.55	\$89.12		\$89.12	\$217.82	\$217.82
2035		\$177.00	\$45.51	\$91.04		\$91.04	\$222.51	\$222.51
2036		\$180.81	\$46.49	\$93.00		\$93.00	\$227.30	\$227.30
2037		\$184.71	\$47.49	\$95.01		\$95.01	\$232.20	\$232.20
2038		\$188.69	\$48.51	\$97.05		\$97.05	\$237.20	\$237.20
2039		\$192.76	\$49.56	\$99.15		\$99.15	\$242.32	\$242.32
2040		\$196.91	\$50.63	\$101.28		\$101.28	\$247.54	\$247.54
2041		\$201.15	\$51.72	\$103.46		\$103.46	\$252.87	\$252.87
2042		\$205.48	\$52.83	\$105.69		\$105.69	\$258.31	\$258.31
2043		\$209.91	\$53.97	\$107.97		\$107.97	\$263.88	\$263.88

Sources, Inputs and Assumptions

Source:	(c)(f)	Plant Costs - 2021 IRP Update - Table 7.1 & 7.2
	(a)	Plant capacity cost
	(b)	= (a) x 0.0541878056575824
	(d)	= ((b) + (c)) / (8.76 x 27.9%)
	(g)	= (e) + (f)
	(h)	Plant Costs - 2021 IRP Update - Table 7.1 & 7.2

2021 IRP Update Borah Solar with Storage - 28% Capacity Factor	
Wind	Cost and Input Assumptions

2020 \$	Plant capacity cost
2020 \$	Fixed O&M, plus on-going capital cost

2020 \$	Wheeling (\$ MWh)	
	Variable O&M	
	Tax Credit \$/MWh	First Year real levelized

5.419%	Payment Factor
27.9%	Capacity Factor

COD
600.0 MW

Table 4
Burnertip Natural Gas Price Forecast
Utah 2022.Q2_Solar - 80.0 MW and 32.2% CF

Year	PacifiCorp			
	Delivered IRP - Utah Greenfield Fuel Cost	Delivered Naughton Fuel Cost	Delivered IRP West Side Fuel Cost	Delivered IRP - Wyo NE Fuel Cost
2019	\$2.42	\$2.43	\$4.31	\$2.09
2020	\$1.98	\$1.99	\$2.17	\$1.79
2021	\$4.15	\$4.16	\$4.03	\$6.36
2022	\$5.76	\$5.77	\$5.57	\$5.53
2023	\$4.83	\$4.84	\$4.39	\$4.51
2024	\$4.42	\$4.43	\$4.06	\$4.21
2025	\$4.22	\$4.23	\$4.04	\$4.09
2026	\$4.03	\$4.04	\$4.07	\$3.89
2027	\$3.91	\$3.92	\$4.07	\$3.78
2028	\$3.99	\$4.00	\$4.18	\$3.86
2029	\$4.07	\$4.08	\$4.28	\$3.93
2030	\$4.04	\$4.05	\$4.26	\$3.91
2031	\$4.20	\$4.21	\$4.43	\$4.06
2032	\$4.31	\$4.32	\$4.55	\$4.17
2033	\$4.49	\$4.50	\$4.73	\$4.35
2034	\$4.67	\$4.68	\$4.93	\$4.53
2035	\$4.76	\$4.77	\$5.03	\$4.62
2036	\$4.92	\$4.93	\$5.21	\$4.78
2037	\$5.18	\$5.19	\$5.49	\$5.04
2038	\$5.50	\$5.51	\$5.81	\$5.35
2039	\$5.83	\$5.84	\$6.16	\$5.68
2040	\$6.16	\$6.17	\$6.49	\$6.01

Official Forward Price Curve Forecast dated Jun 30, 2022

Table 5

**Utah 2022.Q2_Solar - 80.0 MW and 32.2% CF
January 2022 through December 2036
Nominal Avoided Costs Calculated Monthly**

Nominal NPV at 6.88% Discount Rate

15 Year \$ 36,944,875 \$ 20,809,557 \$ 57,754,432 2,079,766 \$27.77

Month	Energy	Capacity \$	Total	Total	AC Price
	Avoided \$	31.8% CF	Dollars	MWH	31.8% CF
Jan-22	434,712	-	434,712	12,454	34.91
Feb-22	191,285	-	191,285	12,147	15.75
Mar-22	298,066	-	298,066	17,034	17.50
Apr-22	453,604	-	453,604	20,073	22.60
May-22	625,858	-	625,858	27,470	22.78
Jun-22	524,559	-	524,559	25,167	20.84
Jul-22	1,158,798	-	1,158,798	25,671	45.14
Aug-22	902,429	-	902,429	23,041	39.17
Sep-22	570,651	-	570,651	21,985	25.96
Oct-22	478,791	-	478,791	18,370	26.06
Nov-22	228,813	-	228,813	12,983	17.62
Dec-22	197,885	-	197,885	9,588	20.64
Jan-36	219,458	327,484	546,942	11,610	47.11
Feb-36	192,925	327,484	520,409	11,901	43.73
Mar-36	202,644	327,484	530,128	15,879	33.38
Apr-36	173,896	327,484	501,380	18,713	26.79
May-36	133,280	327,484	460,764	25,608	17.99
Jun-36	252,190	327,484	579,674	23,462	24.71
Jul-36	521,588	327,484	849,072	23,931	35.48
Aug-36	574,598	327,484	902,082	21,480	42.00
Sep-36	421,574	327,484	749,058	20,495	36.55
Oct-36	360,499	327,484	687,983	17,125	40.17
Nov-36	281,259	327,484	608,743	12,103	50.30
Dec-36	255,955	327,484	583,439	8,938	65.27

Appendix B.3
Avoided Cost Prices \$/MWh
Utah 2022.Q2 Sch 38

Year	Thermal	Solar Tracking	Wind	Thermal	Solar Tracking	Wind	Thermal	Solar Tracking	Wind
	UT 2022.Q2 100% CF (2)	UT 2022.Q2 32.25% CF (2)	UT 2022.Q2 29.5% CF (2)	UT 2022.Q1 100% CF (2)	UT 2022.Q1 32.25% CF (2)	UT 2022.Q1 29.5% CF (2)	Difference	Difference	Difference
2022	\$39.66	\$26.84	\$35.33	\$41.45	\$28.80	\$35.14	(\$1.79)	(\$1.96)	\$0.19
2023	\$43.68	\$26.88	\$38.11	\$37.59	\$24.50	\$32.60	\$6.09	\$2.37	\$5.51
2024	\$51.04	\$29.40	\$43.96	\$44.16	\$26.36	\$37.96	\$6.88	\$3.04	\$6.00
2025	\$35.98	\$19.08	\$30.97	\$29.07	\$16.84	\$25.64	\$6.91	\$2.24	\$5.33
2026	\$31.23	\$25.64	\$31.89	\$26.84	\$25.92	\$31.22	\$4.39	(\$0.28)	\$0.67
2027	\$30.18	\$26.33	\$32.54	\$28.87	\$27.34	\$32.51	\$1.31	(\$1.01)	\$0.04
2028	\$31.52	\$27.51	\$33.67	\$29.69	\$28.25	\$33.21	\$1.83	(\$0.74)	\$0.46
2029	\$33.09	\$29.78	\$34.87	\$30.47	\$30.48	\$34.00	\$2.62	(\$0.70)	\$0.87
2030	\$32.57	\$29.57	\$35.10	\$30.67	\$30.59	\$34.54	\$1.90	(\$1.01)	\$0.56
2031	\$42.70	\$30.55	\$36.45	\$41.91	\$31.54	\$36.16	\$0.79	(\$0.98)	\$0.29
2032	\$41.92	\$26.16	\$34.85	\$40.03	\$26.93	\$34.38	\$1.88	(\$0.77)	\$0.47
2033	\$43.79	\$30.45	\$36.66	\$41.18	\$30.77	\$36.36	\$2.61	(\$0.32)	\$0.29
2034	\$45.63	\$31.60	\$38.08	\$42.60	\$31.81	\$37.32	\$3.03	(\$0.20)	\$0.77
2035	\$47.00	\$32.55	\$38.87	\$43.79	\$32.80	\$38.02	\$3.22	(\$0.25)	\$0.85
2036	\$48.81	\$35.60	\$56.11	\$45.09	\$35.19	\$55.24	\$3.72	\$0.41	\$0.87

15-Year Levelized Prices (Nominal) @ 6.88% Discount Rate (1) (3)										
2022-2036	\$/MWh	\$39.37	\$27.77	\$36.52	\$36.26	\$27.65	\$34.67	\$3.11	\$0.12	\$1.85
								8.6%	0.4%	5.3%

Footnotes:

- (1) Discount Rate - 2021 IRP
- (2) Total Avoided Costs with Capacity, based on stated CF
- (3) 15-Years: 2022 - 2036, levelized monthly

Table 1
Avoided Cost Prices
Utah 2022.Q2_Wind - 80.0 MW and 29.5% CF

Year	Capacity Price \$/kW-yr	Energy Only Price \$/MWh ⁽²⁾	29.5% Capacity Factor \$/MWh
2022	\$0.00	\$35.33	\$35.33
2023	\$0.00	\$38.11	\$38.11
2024	\$0.00	\$43.96	\$43.96
2025	\$0.00	\$30.97	\$30.97
2026	\$87.98	(\$2.21)	\$31.89
2027	\$89.88	(\$2.29)	\$32.54
2028	\$91.81	(\$1.80)	\$33.67
2029	\$93.80	(\$1.48)	\$34.87
2030	\$95.82	(\$2.04)	\$35.10
2031	\$97.88	(\$1.49)	\$36.45
2032	\$99.99	(\$3.78)	\$34.85
2033	\$102.14	(\$2.93)	\$36.66
2034	\$104.35	(\$2.36)	\$38.08
2035	\$106.59	(\$2.44)	\$38.87
2036	\$108.89	\$14.04	\$56.11
2037	\$111.23	\$16.18	\$59.29

15 Year

Levelized Prices (Nominal) @ 6.88% Discount Rate (1) (3)

\$/kW	\$60.69	
\$/MWh		\$13.00
		\$36.52

Table 2
Avoided Energy Costs - Scheduled Hours (\$/MWh)
Utah 2022.Q2_Wind - 80.0 MW and 29.5% CF

Year	Annual	Winter Season					Summer Season				Winter Season		
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Energy Only													
2022	35.33	39.32	22.11	23.49	35.90	31.43	22.11	78.58	53.47	35.74	40.14	28.94	39.73
2023	38.11	36.44	31.50	29.37	26.37	22.00	25.74	99.07	67.88	43.95	40.39	31.89	45.03
2024	43.96	47.66	42.38	33.40	29.93	24.65	25.97	108.82	71.56	54.31	41.23	37.85	53.82
2025	30.97	19.93	25.20	24.11	21.00	19.87	21.45	104.84	49.62	35.37	30.47	25.42	34.90
2026	(2.21)	12.70	13.10	2.96	(3.91)	(7.42)	(15.28)	(30.87)	(37.90)	(10.38)	4.22	5.76	9.82
2027	(2.29)	18.39	12.75	1.29	(3.62)	(8.78)	(16.11)	(31.18)	(40.03)	(11.20)	3.52	4.81	10.53
2028	(1.80)	18.56	12.50	2.38	(4.28)	(8.56)	(16.25)	(31.44)	(36.00)	(12.45)	4.34	5.28	12.78
2029	(1.48)	19.94	13.60	3.51	(4.27)	(9.28)	(16.36)	(32.55)	(37.16)	(13.52)	5.29	7.02	13.30
2030	(2.04)	20.18	12.90	1.56	(4.72)	(9.38)	(16.78)	(32.38)	(38.75)	(13.36)	4.03	6.23	13.80
2031	(1.49)	21.27	14.85	3.01	(4.60)	(9.47)	(16.65)	(30.83)	(37.93)	(11.77)	3.65	6.22	11.95
2032	(3.78)	14.05	10.08	1.21	(5.69)	(11.17)	(18.49)	(32.14)	(41.61)	(13.27)	3.21	5.11	11.46
2033	(2.93)	15.94	13.11	1.55	(4.41)	(11.40)	(19.61)	(31.69)	(43.19)	(13.32)	4.84	6.42	13.83
2034	(2.36)	16.07	14.43	3.15	(3.81)	(10.67)	(18.48)	(32.81)	(41.21)	(14.15)	4.60	6.81	14.21
2035	(2.44)	16.93	14.95	3.07	(4.42)	(11.37)	(19.11)	(35.02)	(44.25)	(13.92)	4.06	8.22	16.49
2036	14.04	28.00	24.07	15.78	10.31	6.36	3.44	(4.94)	(13.36)	9.73	19.29	21.27	28.55
2037	16.18	33.41	31.18	18.24	12.79	7.47	4.52	(6.11)	(16.72)	8.90	20.63	24.98	29.79
2038	15.91	35.26	30.35	16.10	9.29	6.32	5.12	(3.35)	(20.08)	9.24	20.12	26.13	32.92
2039	17.27	36.83	33.63	17.32	10.98	7.53	4.85	(2.14)	(13.31)	8.32	22.67	25.98	31.89

Table 3
2021 IRP Update Portland North Coast Wind Resource
37% Capacity Factor

Year	Estimated Capital Cost	Fixed Capital Cost at Real Levelized Rate	Fixed O&M	Network Upgrade	Fixed Costs	Variable O&M	60% PTC	Total Resource Cost	Total Resource Costs	Total Fixed Cost
	\$/kW	\$/kW-yr	\$/kW-yr	\$/kW-yr	\$/MWh	\$/MWh	\$/MWh	\$/MWh	\$/kW-yr	\$/kW-yr
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(i)

2021 IRP Update Portland North Coast Wind Resource - 37% Capacity Factor

2016										
2017										
2018										
2019										
2020										
2021										
2022										
2023										
2024										
2025										
2026	\$1,418	\$98.97	\$67.89	24.74	\$59.03	\$0.00	(\$22.28)	\$36.75	\$119.29	\$191.59
2027		\$101.10	\$69.35	\$25.27	\$60.30	\$0.00	(\$23.07)	\$37.23	\$120.84	\$195.72
2028		\$103.28	\$70.84	\$25.81	\$61.60	\$0.00	(\$23.07)	\$38.53	\$125.05	\$199.93
2029		\$105.51	\$72.37	\$26.37	\$62.93	\$0.00	(\$23.87)	\$39.06	\$126.78	\$204.25
2030		\$107.78	\$73.93	\$26.94	\$64.29	\$0.00	(\$24.67)	\$39.62	\$128.59	\$208.65
2031		\$110.10	\$75.52	\$27.52	\$65.67	\$0.00	(\$24.67)	\$41.00	\$133.08	\$213.14
2032		\$112.47	\$77.15	\$28.11	\$67.09	\$0.00	(\$25.46)	\$41.63	\$135.10	\$217.73
2033		\$114.89	\$78.81	\$28.72	\$68.53	\$0.00	(\$26.26)	\$42.27	\$137.20	\$222.42
2034		\$117.37	\$80.51	\$29.34	\$70.01	\$0.00	(\$26.26)	\$43.75	\$142.00	\$227.22
2035		\$119.90	\$82.24	\$29.97	\$71.52	\$0.00	(\$27.05)	\$44.46	\$144.30	\$232.11
2036		\$122.48	\$84.01	\$30.62	\$73.06	\$0.00	\$0.00	\$73.06	\$237.11	\$237.11
2037		\$125.12	\$85.82	\$31.28	\$74.63	\$0.00	\$0.00	\$74.63	\$242.22	\$242.22
2038		\$127.82	\$87.67	\$31.95	\$76.24	\$0.00	\$0.00	\$76.24	\$247.44	\$247.44
2039		\$130.57	\$89.56	\$32.64	\$77.88	\$0.00	\$0.00	\$77.88	\$252.77	\$252.77
2040		\$133.38	\$91.49	\$33.34	\$79.56	\$0.00	\$0.00	\$79.56	\$258.21	\$258.21
2041		\$136.25	\$93.46	\$34.06	\$81.27	\$0.00	\$0.00	\$81.27	\$263.77	\$263.77
2042		\$139.19	\$95.47	\$34.79	\$83.02	\$0.00	\$0.00	\$83.02	\$269.45	\$269.45
2043		\$142.19	\$97.53	\$35.54	\$84.81	\$0.00	\$0.00	\$84.81	\$275.26	\$275.26

Sources, Inputs and Assumptions

Source:	(c)(f)	Plant Costs - 2021 IRP Update - Table 7.1 & 7.2
	(a)	Plant capacity cost
	(b)	= (a) x 0.0697927885163824
	(e)	= ((b) + (c)) / (8.76 x 37.0%)
	(h)	= (e) + (f) + (g)
	(i)	Plant Costs - 2021 IRP Update - Table 7.1 & 7.2

2021 IRP Update Portland North Coast Wind Resource - 37% Capacity Factor	
Wind	Cost and Input Assumptions

2026\$	\$1,418	Plant capacity cost
2026\$	\$67.89	Fixed O&M, plus on-going capital cost
		Wheeling (\$ MWh)
		Variable O&M
		Tax Credit \$/MWh
2026\$	24.74	Network Upgrade (\$/kw-yr) Portland NC, Transmission Integration
	6.979%	Payment Factor
	37.0%	Capacity Factor

First Year real levelized

COD
130 MW

Table 4
Burnertip Natural Gas Price Forecast
Utah 2022.Q2_Wind - 80.0 MW and 29.5% CF

Year	PacifiCorp			
	Delivered IRP - Utah Greenfield Fuel Cost	Delivered Naughton Fuel Cost	Delivered IRP West Side Fuel Cost	Delivered IRP - Wyo NE Fuel Cost
2019	\$2.42	\$2.43	\$4.31	\$2.09
2020	\$1.98	\$1.99	\$2.17	\$1.79
2021	\$4.15	\$4.16	\$4.03	\$6.36
2022	\$5.76	\$5.77	\$5.57	\$5.53
2023	\$4.83	\$4.84	\$4.39	\$4.51
2024	\$4.42	\$4.43	\$4.06	\$4.21
2025	\$4.22	\$4.23	\$4.04	\$4.09
2026	\$4.03	\$4.04	\$4.07	\$3.89
2027	\$3.91	\$3.92	\$4.07	\$3.78
2028	\$3.99	\$4.00	\$4.18	\$3.86
2029	\$4.07	\$4.08	\$4.28	\$3.93
2030	\$4.04	\$4.05	\$4.26	\$3.91
2031	\$4.20	\$4.21	\$4.43	\$4.06
2032	\$4.31	\$4.32	\$4.55	\$4.17
2033	\$4.49	\$4.50	\$4.73	\$4.35
2034	\$4.67	\$4.68	\$4.93	\$4.53
2035	\$4.76	\$4.77	\$5.03	\$4.62
2036	\$4.92	\$4.93	\$5.21	\$4.78
2037	\$5.18	\$5.19	\$5.49	\$5.04
2038	\$5.50	\$5.51	\$5.81	\$5.35
2039	\$5.83	\$5.84	\$6.16	\$5.68
2040	\$6.16	\$6.17	\$6.49	\$6.01

Official Forward Price Curve Forecast dated Jun 30, 2022

Table 5

Study Name:

Utah 2022_Q2_Wind - 80.0 MW and 29.5% CF
January 2022 through December 2036
Nominal Avoided Costs Calculated Monthly

Table with columns: Start, End, Resource Capacity, MW, CF, 15 Year Starting 2025, 15 Year Starting 2024, 15 Year Starting 2023, 15 Year. Values include 44,562, Jan-22, Dec-36, 80.0, 29.45%, 228, 49, 37, 25, 13.

15 Year Nominal NPV at 6.88% Discount Rate \$ 25,494,119 \$ 46,128,030 \$ 71,622,149 1,961,058 \$36.52

Discount Rate - 2021 IRP Update 6.88% 0.556%

Main data table with columns: Month, Energy, Capacity, Total, Total, AC Price. Rows from Jan-22 to Jun-32.

Table with columns: Offset, Year, Date Test, Net Power Cost, Offset, Total, energy, capacity. Rows from 1 to 6.

ROCKY MOUNTAIN POWER

STEP STUDY BETWEEN PRIOR FILING AND CURRENT FILING

2022.Q2 – SEPTEMBER 2022

Nominal Levelized Payment at 6.880% Discount Rate

	2022 - 2036	2023 - 2037	2024 - 2038
2022.Q1 As Filed	\$36.31	\$36.47	\$37.06
OFPC	\$2.63	\$3.41	\$3.36
Queue	-\$0.53	-\$0.51	-\$0.53
Generic	\$1.04	\$0.82	\$0.63
2022.Q2 As Filed	\$39.45	\$40.19	\$40.52

Appendix C

Utah Quarterly Compliance Filing Step Study between 2022.Q2 and 2022.Q1 Compliance Filing Avoided Cost Impact of Changing Assumptions \$/MWH (1)

Year	OFPC (2)	Queue	Generic	Total Impact
2022	\$ (4.54)	-	\$ 2.74	\$ (1.79)
2023	\$ 3.77	\$ (0.00)	\$ 2.32	\$ 6.09
2024	\$ 5.84	\$ (0.59)	\$ 1.64	\$ 6.88
2025	\$ 6.36	\$ (0.59)	\$ 1.15	\$ 6.91
2026	\$ 4.87	\$ (1.15)	\$ 0.68	\$ 4.39
2027	\$ 1.48	\$ (0.70)	\$ 0.54	\$ 1.31
2028	\$ 2.02	\$ (0.59)	\$ 0.41	\$ 1.83
2029	\$ 3.08	\$ (0.96)	\$ 0.50	\$ 2.62
2030	\$ 2.21	\$ (0.69)	\$ 0.39	\$ 1.90
2031	\$ 0.73	\$ (0.38)	\$ 0.43	\$ 0.79
2032	\$ 1.89	\$ (0.43)	\$ 0.42	\$ 1.88
2033	\$ 3.17	\$ (0.98)	\$ 0.42	\$ 2.61
2034	\$ 3.22	\$ (0.59)	\$ 0.41	\$ 3.03
2035	\$ 3.27	\$ (0.50)	\$ 0.45	\$ 3.22
2036	\$ 3.55	\$ (0.25)	\$ 0.42	\$ 3.72
2037	\$ 2.47	\$ 1.62	\$ 0.30	\$ 4.39
2038	\$ 3.08	\$ 0.33	\$ 0.07	\$ 3.48

Nominal Levelized Payment at 6.880% Discount Rate (3)

2022 - 2036	\$ 2.63	\$ (0.53)	\$ 1.04	\$ 3.14
2023 - 2037	\$ 3.41	\$ (0.51)	\$ 0.82	\$ 3.72
2024 - 2038	\$ 3.36	\$ (0.53)	\$ 0.63	\$ 3.46

- (1) Studies are sequential. The order of the studies would affect the price impact.
- (2) Official Forward Price Curve Dated June 2022
- (3) Discount Rate - 2021 IRP - Calculated Annually
- (4) Capacity costs are allocated based on assumed 100% capacity factor.
- (5) Avoided Capacity costs are based 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.Q2 and 2022.Q1 Compliance Filing Total Avoided Cost Prices \$/MWH (1) (4)

Year	2022.Q1 As Filed	OFPC (2)	Queue	Generic (5)
2022	\$41.46	\$36.92	\$36.92	\$39.66
2023	\$37.59	\$41.36	\$41.36	\$43.68
2024	\$44.16	\$49.99	\$49.40	\$51.04
2025	\$29.07	\$35.43	\$34.83	\$35.98
2026	\$26.84	\$31.71	\$30.56	\$31.23
2027	\$28.87	\$30.35	\$29.65	\$30.18
2028	\$29.69	\$31.70	\$31.11	\$31.52
2029	\$30.47	\$33.55	\$32.59	\$33.09
2030	\$30.67	\$32.88	\$32.19	\$32.57
2031	\$41.91	\$42.64	\$42.27	\$42.70
2032	\$40.03	\$41.93	\$41.49	\$41.92
2033	\$41.18	\$44.35	\$43.37	\$43.79
2034	\$42.60	\$45.81	\$45.22	\$45.63
2035	\$43.79	\$47.06	\$46.56	\$47.00
2036	\$45.09	\$48.64	\$48.39	\$48.81
2037	\$54.20	\$56.67	\$58.29	\$58.59
2038	\$54.26	\$57.33	\$57.67	\$57.74

Nominal Levelized Payment at 6.880% Discount Rate (3)

2022 - 2036	\$36.31	\$38.94	\$38.41	\$39.45
2023 - 2037	\$36.47	\$39.88	\$39.37	\$40.19
2024 - 2038	\$37.06	\$40.42	\$39.89	\$40.52

- (1) Studies are sequential. The order of the studies would affect the price impact.
 - (2) Official Forward Price Curve Dated June 2022
 - (3) Discount Rate - 2021 IRP - Calculated Annually
 - (4) Capacity costs are allocated based on assumed 100% capacity factor.
 - (5) Avoided Capacity costs are based 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.Q2 and 2022.Q1 Compliance Filing GRID Calculated Energy Avoided Cost Prices \$/MWH (1)

Year	2022.Q1 As Filed	OFPC (2)	Queue	Generic (4)
2022	\$41.46	\$36.92	\$36.92	\$39.66
2023	\$37.59	\$41.36	\$41.36	\$43.68
2024	\$44.16	\$49.99	\$49.40	\$51.04
2025	\$29.07	\$35.43	\$34.83	\$35.98
2026	\$26.84	\$31.71	\$30.56	\$31.23
2027	\$28.87	\$30.35	\$29.65	\$30.18
2028	\$29.69	\$31.70	\$31.11	\$31.52
2029	\$30.47	\$33.55	\$32.59	\$33.09
2030	\$30.67	\$32.88	\$32.19	\$32.57
2031	\$28.29	\$29.03	\$28.65	\$29.08
2032	\$26.16	\$28.05	\$27.62	\$28.05
2033	\$26.97	\$30.14	\$29.16	\$29.58
2034	\$28.08	\$31.30	\$30.71	\$31.11
2035	\$28.96	\$32.23	\$31.73	\$32.18
2036	\$29.98	\$33.53	\$33.28	\$33.70
2037	\$38.72	\$41.19	\$42.82	\$43.12
2038	\$38.45	\$41.53	\$41.86	\$41.93

Nominal Levelized Payment at 6.88% Discount Rate (3)

2022 - 2036	\$32.22	\$34.85	\$34.31	\$35.35
2023 - 2037	\$31.47	\$34.88	\$34.37	\$35.19
2024 - 2038	\$31.09	\$34.44	\$33.91	\$34.54

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

Appendix C
Utah Quarterly Compliance Filing
Step Study between 2022.Q2 and 2022.Q1 Compliance Filing
Capacity Avoided Cost Prices

Year	\$/kW-Year				\$/MWH (1)			
	2022.Q1	OFPC	Queue	2022.Q2	2022.Q1	OFPC	Queue	2022.Q2
2022	-	-	-	-	-	-	-	-
2023	-	-	-	-	-	-	-	-
2024	-	-	-	-	-	-	-	-
2025	-	-	-	-	-	-	-	-
2026	-	-	-	-	-	-	-	-
2027	-	-	-	-	-	-	-	-
2028	-	-	-	-	-	-	-	-
2029	-	-	-	-	-	-	-	-
2030	-	-	-	-	-	-	-	-
2031	\$ 119.29	\$ 119.29	\$ 119.29	\$ 119.29	\$ 13.62	\$ 13.62	\$ 13.62	\$ 13.62
2032	\$ 121.85	\$ 121.85	\$ 121.85	\$ 121.85	\$ 13.87	\$ 13.87	\$ 13.87	\$ 13.87
2033	\$ 124.48	\$ 124.48	\$ 124.48	\$ 124.48	\$ 14.21	\$ 14.21	\$ 14.21	\$ 14.21
2034	\$ 127.16	\$ 127.16	\$ 127.16	\$ 127.16	\$ 14.52	\$ 14.52	\$ 14.52	\$ 14.52
2035	\$ 129.90	\$ 129.90	\$ 129.90	\$ 129.90	\$ 14.83	\$ 14.83	\$ 14.83	\$ 14.83
2036	\$ 132.70	\$ 132.70	\$ 132.70	\$ 132.70	\$ 15.11	\$ 15.11	\$ 15.11	\$ 15.11
2037	\$ 135.56	\$ 135.56	\$ 135.56	\$ 135.56	\$ 15.47	\$ 15.47	\$ 15.47	\$ 15.47
2038	\$ 138.47	\$ 138.47	\$ 138.47	\$ 138.47	\$ 15.81	\$ 15.81	\$ 15.81	\$ 15.81

Nominal Levelized Payment at 6.880% Discount Rate (2)

2022 - 2036	\$35.91	\$35.91	\$35.91	\$35.91	\$4.10	\$4.10	\$4.10	\$4.10
2023 - 2037	\$43.83	\$43.83	\$43.83	\$43.83	\$5.00	\$5.00	\$5.00	\$5.00
2024 - 2038	\$52.40	\$52.40	\$52.40	\$52.40	\$5.98	\$5.98	\$5.98	\$5.98

(1) Capacity costs are allocated based on assumed 100% capacity factor.

(2) Discount Rate - 2021 IRP

(3) No Capacity costs - No deferrable thermal resources

CERTIFICATE OF SERVICE

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

I hereby certify that on September 30, 2022, a true and correct copy of the foregoing was served by electronic mail to the following:

Utah Office of Consumer Services

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ocs@utah.gov

Division of Public Utilities

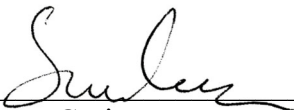
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