



Salt Lake City, Utah 84116

December 29, 2021

***VIA ELECTRONIC FILING***

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

Attn: Gary Widerburg  
Commission Secretary

Re: **Docket 03-035-14 – Quarterly Compliance Filing – 2021.Q3 Avoided Cost Input Changes**  
**Docket 21-035-44 – 2021.Q3 Avoided Cost Input Changes Quarterly Compliance Filing**

PacifiCorp (“Rocky Mountain Power” or “the Company”) 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 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 September 30, 2021 (“2109 OFPC”).
2. **Qualifying Facility (“QF”) Queue** – Update of signed contract queue and current potential QFs. The QF queue was revised to include 845 MW nameplate in this filing. The potential queue was 1,164 MW nameplate in the 2021.Q2 filing.

3. **Integrated Resource Plan (“IRP”)** - Incorporate assumptions from the 2021 IRP.

### **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”) filed with the Commission on September 1, 2021. The 2021 IRP preferred portfolio includes cost-effective solar with storage, wind, wind with storage, stand storage and thermal resources. The thermal QF resource partially displaces summer and winter front office transactions (“FOTs”) during 2022-2032, and the Utah North Non-Emitting Peaker resource in 2033. 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, in accordance with the Utah Commission Order dated January 23, 2018, in Docket No. 17-035-37.
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 32.1 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](mailto:datarequest@pacificorp.com)

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By Regular Mail:                   Data Request Response Center  
PacifiCorp  
825 NE Multnomah Street, Suite 2000  
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Informal inquiries may be made to Jana Saba at (801) 220-2823, or Dan MacNeil at (503) 813-5523.

Very truly yours,

  
Joelle Steward  
Vice President, Regulation

cc:     Service List (Docket No. 03-035-14)  
       Service List (Docket No. 21-035-44)

**ROCKY MOUNTAIN POWER**  
**DESCRIPTION OF AVOIDED COST INPUT CHANGES**  
**2021.Q3 – DECEMBER 2021**

## Appendix A

### **PacifiCorp Avoided Cost (Partial Displacement Differential Revenue Requirement (“PDDRR”)) Model Updates through December 2021 Docket 21-035-44 / Docket 03-035-14**

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Assumptions that have changed since the 2021.Q2 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 September 30, 2021 OFPC (“2109 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 filed with the Public Service Commission of Utah (“UPSC”) on September 1, 2021.**
- **New solar, wind, battery storage, and thermal resources; as well as front office transactions (“FOT”), consistent with 2021 IRP (2021 IRP, Vol 1, Chapter 9).**
- **Existing plant retirement consistent with 2021 IRP (2019 IRP, Vol 1, Chapter 9).**
- **Transmission investment and capacity changes consistent with 2021 IRP (2021 IRP, Vol 1, Chapter 9 Table 9.16).**

#### **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.

#### **Hydro Resources**

- Hydro forecast prepared April 2021.

- 2020 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 **2109 OFPC**.
- Contracts are modeled based on 48 months ended December 2020.
- 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 2021.
- 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 **September 30, 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 (2021 IRP, Vol II, Appendix F: Flexible Reserve Study).
- The Company's 2021 IRP 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 September 2021.

## 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 32.1 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, planned outage, and heat rate levels based on 48 months ended December 2019.

## Wind and Solar Resources

- Existing wind and solar generation profiles modeled using generation shapes derived from 2018 actuals as modeled in the 2021 IRP.<sup>1,2</sup>

- Wind and solar generation shaped to hourly using **generation shapes derived from 2018 actuals as modeled in the 2021 IRP**.<sup>1,2</sup>
- Non-PTC wind and solar resources can be curtailed on an economic basis within the GRID model.<sup>3</sup>
- 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 2020.
- Transmission investment and capacity changes consistent with **2021 IRP (2021 IRP, Vol 1, Table 9.16)**.

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<sup>1</sup> 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.

<sup>2</sup> **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.**

<sup>3</sup> 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
Total Signed MW		0.00	0.00			
No.	Potential QF Contracts	Partial Displacement	Name plate	CF	Capacity Contribution	Start Date
1	QF - 635 - UT - Gas	11.20	11.20	99.9%	100.0%	2022 03 01
2	QF - 637 - WY - Solar	11.90	74.90	31.8%	15.9%	2023 11 01
3	QF - 639 - WY - Solar	13.16	74.90	34.4%	17.6%	2024 01 01
4	QF - 640 - UT - Wind	27.22	79.80	44.2%	34.1%	2024 08 01
5	QF - 643 - WA - Solar	1.60	80.00	34.2%	2.0%	2023 12 01
6	QF - 644 - UT - Solar	12.14	52.50	25.5%	23.1%	2024 12 01
7	QF - 645 - UT - Solar	12.14	52.50	25.5%	23.1%	2024 12 01
8	QF - 646 - UT - Solar	12.14	52.50	25.5%	23.1%	2024 12 01
9	QF - 647 - UT - Solar	12.14	52.50	25.5%	23.1%	2024 12 01
10	QF - 648 - UT - Solar	12.14	52.50	25.5%	23.1%	2024 12 01
11	QF - 649 - UT - Solar	12.14	52.50	25.5%	23.1%	2024 12 01
12	QF - 650 - UT - Solar	12.14	52.50	25.5%	23.1%	2024 12 01
13	QF - 651 - UT - Solar	12.14	52.50	25.5%	23.1%	2024 12 01
14	QF - 652 - UT - Solar	12.14	52.50	25.5%	23.1%	2024 12 01
15	QF - 653 - UT - Solar	12.14	52.50	25.5%	23.1%	2024 12 01
Total Potential MW		186.48	845.80			
Total Partial Displacement		<b>186.48</b>	<b>845.80</b>			
16	Utah 2021.Q3	100.00	100.0	100.0%	100.0%	2022 01 01
Partial Displacement after QF		<b>286.48</b>	<b>945.80</b>			

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 2033.**
- Tracking Solar: 178 nameplate MW of solar resources are displaced by the QF queue. After degradation and accounting for capacity contribution, the incremental solar QF displaces **13MW** of solar with storage resource located in **Borah** in **2026** along with **associated transmission, specifically the Boardman-to-Hemingway project.** The Company retains 100% of the RECs starting in **2026.**

- Wind: 66 MW of wind resources are displaced by the QF queue. Commission order issued on August 20, 2020 in Docket 19-035-18 approved RMP's non-routine update to use a Utah wind proxy for pricing Utah wind QFs, rather than the next cost-effective wind resource from the 2019 IRP Preferred Portfolio (*i.e.* 2024 Wyoming wind and transmission). This non-routine change was only applicable to 2029 IRP Update. The Schedule 38 methodology used in this filing for the the pricing for a Utah Wind QF is based on the displacement of next cost effective 2026 wind resource located in Portland North Coast from 2021 IRP Preferred Portfolio consistent with the Utah Commission Order dated January 23, 2018, in Docket No. 17-035-37. The Company retains 100% of the RECs starting in 2026.

Year	IRP Additions (Nameplate MW)					Base Case Displacement (Nameplate MW)				
	IRP Thermal	IRP Solar	IRP Wind	IRP FOT Summer	IRP FOT Winter	Thermal	Solar	Wind	FOT Summer	FOT Winter
2022	-	-	-	972	62	-	-	-	11	11
2023	-	-	-	232	5	-	-	-	11	5
2024	-	-	-	-	-	-	-	-	-	-
2025	-	-	-	-	-	-	-	-	-	-
2026	-	600	745	-	-	-	178	66	-	-
2027	-	600	745	-	-	-	178	66	-	-
2028	500	683	745	-	-	-	178	66	-	-
2029	500	683	745	-	-	-	178	66	-	-
2030	500	1,240	1,394	-	-	-	178	66	-	-
2031	500	2,060	1,394	-	-	-	178	66	-	-
2032	500	2,060	1,844	-	-	-	178	66	-	-
2033	902	3,160	1,844	-	-	12	178	66	-	-
2034	902	3,160	1,844	-	-	12	178	66	-	-
2035	902	3,160	1,844	-	-	12	178	66	-	-
2036	902	3,160	1,844	-	-	12	178	66	-	-
2037	902	4,169	1,844	-	-	12	178	66	-	-
2038	2,520	4,169	1,844	-	280	12	178	66	-	-
2039	2,520	4,169	1,844	-	30	12	178	66	-	-
2040	2,726	4,324	1,904	-	210	12	178	66	-	-
2041	2,726	4,324	1,904	-	-	12	178	66	-	-

## IRP Partial Displacements (Previous Filing)

Total partial displacement was 87.83 MW in the base case and 187.83 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	Capacity Contribution	Start Date
1	Cypress Creek Renewables - Merri	-1.5	-10.0	14.9%	2020 01 01
2	OR Solar 7, LLC (Jacksonville)	-1.5	-10.0	14.9%	2020 01 01
3	Graphite Solar I	5.7	80.0	7.1%	2022 01 01
4	Mariah Wind	-5.8	-10.0	57.5%	2020 01 01
5	Orem Family wind	-5.8	-10.0	57.5%	2020 01 01
6	Horseshoe Solar	6.2	75.0	8.3%	2022 11 01
7	Rocket Solar	6.6	80.0	8.2%	2022 11 01
8	Skysol Solar QF	6.4	55.0	11.6%	2023 03 01
9	Appaloosa Solar I-A	8.5	120.0	7.1%	2023 10 01
10	Appaloosa Solar I-B	5.7	80.0	7.1%	2023 10 01
11	Birch Creek Hydro QF PPA (pendin	1.4	2.7	53.1%	2022 04 01
12	Fall Creek Rural Electric Co-op QF	4.0	7.5	53.1%	2021 04 01
13	Captain Jack Solar QF PPA	0.4	2.7	14.8%	2021 10 01
14	Elektron Solar PPA 1	1.0	10.2	10.0%	2022 12 31
15	Elektron Solar PPA 2	6.9	69.8	9.9%	2022 12 31
16	Castle Solar, LLC, PPA	2.0	20.0	10.0%	2021 12 31
17	Tesoro Non Firm	0.0	25.0	0.0%	2021 01 01
18	Kennecott Smelter Non Firm	0.0	31.8	0.0%	2021 01 01
19	Kennecott Refinery Non Firm	0.0	6.2	0.0%	2021 01 01
20	Exxon Mobil	0.0	98.0	0.0%	2020 01 01
21	US MagCorp Non-Firm	0.0	36.0	0.0%	2021 01 01
22	Yakima Tieton Cowiche	0.4	1.47	26.5%	2021 01 01
23	Yakima Tieton Orchard	0.35	1.44	24.3%	2021 01 01

Total Signed MW		40.97	762.71		
No.	Potential QF Contracts	Partial Displacement	Name plate	Capacity Contribution	Start Date
1	QF - 605 - WY - Solar	10.38	80.00	13.0%	2023 10 01
2	QF - 635 - UT - Gas	11.20	11.20	100.0%	2022 03 01
3	QF - 637 - WY - Solar	6.90	74.90	9.2%	2023 11 01
4	QF - 639 - WY - Solar	7.24	74.90	9.7%	2024 01 01
5	QF - 640 - WY - Wind	9.54	79.80	12.0%	2024 08 01
6	QF - 643 - WA - Solar	1.60	80.00	2.0%	2023 12 01
Total Potential MW		46.86	400.80		

Total Partial Displacement		<b>87.83</b>	<b>1163.51</b>		
7	Utah 2021.Q2	100.00	100.0	100.0%	2021 01 01
Partial Displacement after QF		<b>187.83</b>	<b>1263.51</b>		

**ROCKY MOUNTAIN POWER**

**UPDATE IMPACT – UPDATED AVOIDED COST STUDY**

**2021.Q3 – December 2021**

**Appendix B.1**  
**Avoided Cost Prices \$/MWh**  
**Utah 2021.Q2 Sch 38**

Year	Thermal	Solar Tracking	Wind	Thermal	Solar Tracking	Wind (Defers UT	Thermal	Solar Tracking	Wind
	UT 2021.Q3 100% CF (2)	UT 2021.Q3 31.1% CF (2)	UT 2021.Q3 29.4% CF (2)	UT 2021.Q2 100% CF (2)	UT 2021.Q2 31.1% CF (2)	UT 2021.Q2 29.4% CF (2)	Difference	Difference	Difference
2022	\$33.35	\$24.60	\$30.86	\$27.92	\$20.86	\$23.30	\$5.43	\$3.74	\$7.56
2023	\$30.36	\$20.95	\$27.12	\$25.61	\$19.19	\$25.75	\$4.74	\$1.76	\$1.37
2024	\$31.58	\$19.42	\$28.66	\$17.91	\$15.62	\$27.04	\$13.66	\$3.80	\$1.63
2025	\$21.21	\$12.23	\$19.41	\$19.01	\$17.77	\$27.31	\$2.20	(\$5.54)	(\$7.90)
2026	\$19.41	\$22.10	\$29.21	\$32.49	\$18.79	\$28.51	(\$13.07)	\$3.31	\$0.70
2027	\$20.04	\$22.87	\$29.72	\$34.24	\$19.49	\$28.94	(\$14.20)	\$3.37	\$0.77
2028	\$21.08	\$23.75	\$30.64	\$37.79	\$21.52	\$30.49	(\$16.71)	\$2.23	\$0.15
2029	\$22.17	\$25.94	\$31.75	\$40.93	\$22.59	\$31.33	(\$18.76)	\$3.36	\$0.42
2030	\$22.33	\$25.97	\$32.21	\$39.34	\$20.86	\$31.92	(\$17.01)	\$5.11	\$0.30
2031	\$21.68	\$26.11	\$32.97	\$41.16	\$22.21	\$33.32	(\$19.48)	\$3.91	(\$0.35)
2032	\$21.90	\$26.53	\$33.86	\$42.30	\$22.98	\$33.98	(\$20.39)	\$3.54	(\$0.11)
2033	\$34.76	\$26.61	\$34.16	\$43.76	\$23.12	\$61.39	(\$9.00)	\$3.49	(\$27.23)
2034	\$35.84	\$26.81	\$35.20	\$44.86	\$24.17	\$62.64	(\$9.02)	\$2.64	(\$27.44)
2035	\$36.76	\$27.51	\$35.72	\$46.20	\$24.99	\$64.75	(\$9.44)	\$2.53	(\$29.03)
2036	\$38.23	\$29.84	\$52.65	\$48.12	\$26.32	\$65.96	(\$9.89)	\$3.52	(\$13.30)

15-Year Levelized Prices (Nominal) @ 6.88% Discount Rate (1) (3)										
2022-2036	\$/MWh	\$26.85	\$23.18	\$30.94	\$33.67	\$20.65	\$34.65	(\$6.82)	\$2.53	(\$3.71)
								-20%	12%	-11%

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 2021.Q3 - 100.0 MW and 100.0% CF**

Year	Capacity Price \$/kW-yr	Energy Only Price \$/MWh <sup>(2)</sup>	Total Price @ 100.0% Capacity Factor \$/MWh
2022	\$0.00	\$33.35	\$33.35
2023	\$0.00	\$30.36	\$30.36
2024	\$0.00	\$31.58	\$31.58
2025	\$0.00	\$21.21	\$21.21
2026	\$0.00	\$19.41	\$19.41
2027	\$0.00	\$20.04	\$20.04
2028	\$0.00	\$21.08	\$21.08
2029	\$0.00	\$22.17	\$22.17
2030	\$0.00	\$22.33	\$22.33
2031	\$0.00	\$21.68	\$21.68
2032	\$0.00	\$21.90	\$21.90
2033	\$119.86	\$21.08	\$34.76
2034	\$122.44	\$21.86	\$35.84
2035	\$125.09	\$22.48	\$36.76
2036	\$127.78	\$23.68	\$38.23
2037	\$130.54	\$25.73	\$40.63
2038	\$133.34	\$24.62	\$39.84
2039	\$136.21	\$25.73	\$41.27
2040	\$139.14	\$27.27	\$43.11

15 Year Starting 2022

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

\$/kW	\$21.98		
\$/MWh		\$24.34	\$26.85

15 Year Starting 2023

\$/kW	\$28.74	\$23.42	\$26.70
\$/MWh			

15 Year Starting 2024

\$/kW	\$36.06	\$22.72	\$26.83
\$/MWh			

**Table 2**  
**Avoided Energy Costs - Scheduled Hours (\$/MWh)**  
**Utah 2021.Q3 - 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
<b>Energy Only</b>													
2022	33.35	27.04	29.99	28.42	21.08	18.30	24.65	78.34	52.03	37.44	27.04	24.22	30.49
2023	30.36	20.36	24.89	22.93	20.04	18.58	20.55	76.92	44.28	36.36	23.86	23.97	30.33
2024	31.58	31.03	31.88	25.27	22.04	20.78	22.53	47.90	50.11	39.03	26.91	28.00	32.99
2025	21.21	16.56	21.05	17.33	16.07	14.83	16.93	30.92	33.55	25.88	18.75	19.93	22.48
2026	19.41	21.70	23.94	17.83	13.45	10.88	13.85	20.18	23.38	21.86	19.36	20.23	26.45
2027	20.04	23.12	24.74	18.58	13.71	11.25	14.26	20.95	24.18	22.11	19.37	21.35	27.05
2028	21.08	22.05	25.86	19.60	14.28	11.69	15.07	22.26	25.73	23.92	21.07	22.94	28.57
2029	22.17	24.30	26.71	20.90	15.33	12.34	15.60	22.50	27.27	26.78	22.15	22.77	29.62
2030	22.33	24.34	26.90	20.47	14.77	12.01	15.43	23.23	27.38	25.70	22.92	24.10	30.85
2031	21.68	24.51	26.49	20.11	14.98	11.64	15.30	22.33	25.92	24.58	20.87	23.29	30.31
2032	21.90	25.11	26.32	19.44	13.50	11.61	15.32	22.18	26.48	24.32	22.15	24.35	32.00
2033	21.08	24.81	27.58	18.59	12.62	11.02	14.44	21.16	25.08	21.35	21.23	23.87	31.42
2034	21.86	26.18	28.55	20.55	13.60	11.37	14.86	21.12	25.01	22.65	21.94	24.58	32.19
2035	22.48	27.92	29.12	19.60	14.16	11.84	14.97	21.45	28.02	24.48	22.28	23.54	32.59
2036	23.68	28.67	29.64	20.08	14.03	12.31	15.76	23.47	27.17	26.83	25.00	26.63	34.58
2037	25.73	33.68	34.83	23.41	14.06	11.85	16.41	22.54	28.98	29.53	28.90	28.16	36.85
2038	24.62	31.28	33.03	20.62	12.02	10.53	14.61	22.78	28.86	27.92	28.07	28.50	37.53
2039	25.73	33.50	35.01	22.01	12.61	11.55	15.42	23.51	29.24	29.54	29.04	29.43	38.24

**Table 4**  
**Burnertip Natural Gas Price Forecast**  
**Utah 2021.Q3 - 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	\$4.46	\$4.47	\$4.12	\$6.63
2022	\$4.70	\$4.71	\$4.22	\$4.30
2023	\$3.55	\$3.56	\$3.43	\$3.29
2024	\$3.34	\$3.35	\$3.17	\$2.98
2025	\$3.20	\$3.21	\$3.07	\$2.84
2026	\$3.00	\$3.01	\$2.92	\$2.64
2027	\$3.04	\$3.05	\$2.98	\$2.68
2028	\$3.11	\$3.12	\$3.03	\$2.75
2029	\$3.19	\$3.20	\$3.14	\$2.82
2030	\$3.36	\$3.37	\$3.27	\$2.99
2031	\$3.50	\$3.51	\$3.39	\$3.14
2032	\$3.57	\$3.58	\$3.46	\$3.21
2033	\$3.57	\$3.58	\$3.47	\$3.20
2034	\$3.72	\$3.73	\$3.59	\$3.35
2035	\$3.83	\$3.84	\$3.66	\$3.47
2036	\$3.91	\$3.92	\$3.71	\$3.54
2037	\$4.02	\$4.03	\$3.83	\$3.65
2038	\$4.21	\$4.22	\$3.95	\$3.84
2039	\$4.41	\$4.42	\$4.15	\$4.04
2040	\$4.57	\$4.59	\$4.26	\$4.20

Official Forward Price Curve Forecast dated Sep 30, 2021



**Table 5**

**Utah 2021.Q3 - 100.0 MW and 100.0% CF  
January 2022 through December 2036**

**Nominal Avoided Costs Calculated Monthly**

<b>15 Year Starting 2023</b>	\$ 194,238,255	\$ 27,210,098	\$ 221,448,353	8,294,848	\$26.70
<b>Nominal NPV at 6.88% Discount Rate</b>					
<b>15 Year Starting 2022</b>	\$ 201,869,849	\$ 20,816,512	\$ 222,686,360	8,294,447	\$26.85
<b>15 Year Starting 2024</b>	\$ 188,433,109	\$ 34,150,181	\$ 222,583,290	8,295,276	\$26.83

Month	Energy	Capacity \$	Total	Total	AC Price
	Avoided \$	100.0% CF	Dollars	MWH	100.0% CF
Jan-22	2,011,549	-	2,011,549	74,400	27.04
Feb-22	2,015,473	-	2,015,473	67,200	29.99
Mar-22	2,114,225	-	2,114,225	74,400	28.42
Apr-22	1,517,794	-	1,517,794	72,000	21.08
May-22	1,361,307	-	1,361,307	74,400	18.30
Jun-22	1,774,889	-	1,774,889	72,000	24.65
Jul-22	5,828,682	-	5,828,682	74,400	78.34
Aug-22	3,871,146	-	3,871,146	74,400	52.03
Sep-22	2,695,468	-	2,695,468	72,000	37.44
Oct-22	2,011,938	-	2,011,938	74,400	27.04
Nov-22	1,743,658	-	1,743,658	72,000	24.22
Dec-22	2,268,224	-	2,268,224	74,400	30.49

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

Year	Estimated Capital Cost	Fixed Capital Cost at Real Levelized	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			12.46		\$26.92			\$33.78			
2032			\$12.72		\$27.50			\$34.51			
2033	\$1,319.93	\$98.96	\$12.99	\$0.00	\$28.09	\$81.20	\$193.15	\$35.25	\$350.24	\$417.06	\$111.95
2034		\$101.09	\$13.27	\$0.00	\$28.70	\$82.97	\$197.33	\$36.01	\$357.80	\$426.06	\$114.36
2035		\$103.27	\$13.56	\$0.00	\$29.32	\$84.76	\$201.59	\$36.79	\$365.55	\$435.29	\$116.83
2036		\$105.50	\$13.85	\$0.00	\$29.95	\$86.58	\$205.93	\$37.58	\$373.39	\$444.63	\$119.35
2037		\$107.77	\$14.15	\$0.00	\$30.60	\$88.46	\$210.38	\$38.39	\$381.44	\$454.22	\$121.92
2038		\$110.09	\$14.45	\$0.00	\$31.26	\$90.37	\$214.91	\$39.22	\$389.69	\$464.03	\$124.54
2039		\$112.46	\$14.76	\$0.00	\$31.93	\$92.30	\$219.52	\$40.07	\$398.14	\$474.08	\$127.22
2040		\$114.88	\$15.08	\$0.00	\$32.62	\$94.30	\$224.26	\$40.93	\$406.68	\$484.26	\$129.96
2041		\$117.36	\$15.40	\$0.00	\$33.32	\$96.32	\$229.08	\$41.81	\$415.42	\$494.66	\$132.76
2042		\$119.89	\$15.73	\$0.00	\$34.04	\$98.40	\$234.02	\$42.71	\$424.37	\$505.32	\$135.62

**Sources, Inputs and Assumptions**

- Source: (a)(c)(d) Plant Costs - 2019 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 Non Emitting UTN Peaker Resource Costs**  
**Non Emitting - 206 MW- East Side Resource (5,050')**

<b>Non Emitting - 206 MW- East Side Resource (5,050')</b>
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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 - 2019 IRP - Table 7.1 & 7.2
	206			MW Plant Capacity
2033 \$	\$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 2021.Q3 Sch 38**

Year	Thermal	Solar Tracking	Wind	Thermal	Solar Tracking	Wind (Defers UT	Thermal	Solar Tracking	Wind
	UT 2021.Q3 100% CF (2)	UT 2021.Q3 31.1% CF (2)	UT 2021.Q3 29.4% CF (2)	UT 2021.Q2 100% CF (2)	UT 2021.Q2 31.1% CF (2)	UT 2021.Q2 29.4% CF (2)	Difference	Difference	Difference
2022	\$33.35	\$24.60	\$30.86	\$27.92	\$20.86	\$23.30	\$5.43	\$3.74	\$7.56
2023	\$30.36	\$20.95	\$27.12	\$25.61	\$19.19	\$25.75	\$4.74	\$1.76	\$1.37
2024	\$31.58	\$19.42	\$28.66	\$17.91	\$15.62	\$27.04	\$13.66	\$3.80	\$1.63
2025	\$21.21	\$12.23	\$19.41	\$19.01	\$17.77	\$27.31	\$2.20	(\$5.54)	(\$7.90)
2026	\$19.41	\$22.10	\$29.21	\$32.49	\$18.79	\$28.51	(\$13.07)	\$3.31	\$0.70
2027	\$20.04	\$22.87	\$29.72	\$34.24	\$19.49	\$28.94	(\$14.20)	\$3.37	\$0.77
2028	\$21.08	\$23.75	\$30.64	\$37.79	\$21.52	\$30.49	(\$16.71)	\$2.23	\$0.15
2029	\$22.17	\$25.94	\$31.75	\$40.93	\$22.59	\$31.33	(\$18.76)	\$3.36	\$0.42
2030	\$22.33	\$25.97	\$32.21	\$39.34	\$20.86	\$31.92	(\$17.01)	\$5.11	\$0.30
2031	\$21.68	\$26.11	\$32.97	\$41.16	\$22.21	\$33.32	(\$19.48)	\$3.91	(\$0.35)
2032	\$21.90	\$26.53	\$33.86	\$42.30	\$22.98	\$33.98	(\$20.39)	\$3.54	(\$0.11)
2033	\$34.76	\$26.61	\$34.16	\$43.76	\$23.12	\$61.39	(\$9.00)	\$3.49	(\$27.23)
2034	\$35.84	\$26.81	\$35.20	\$44.86	\$24.17	\$62.64	(\$9.02)	\$2.64	(\$27.44)
2035	\$36.76	\$27.51	\$35.72	\$46.20	\$24.99	\$64.75	(\$9.44)	\$2.53	(\$29.03)
2036	\$38.23	\$29.84	\$52.65	\$48.12	\$26.32	\$65.96	(\$9.89)	\$3.52	(\$13.30)

2022-2036	15-Year Levelized Prices (Nominal) @ 6.88% Discount Rate (1) (3)									
	\$/MWh	\$26.85	\$23.18	\$30.94	\$33.67	\$20.65	\$34.65	(\$6.82)	\$2.53	(\$3.71)
								-20%	12%	-11%

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 2021.Q3\_Solar - 80.0 MW and 32.1% CF**

Year	Capacity Price \$/kW-yr	Energy Only Price \$/MWh <sup>(2)</sup>	32.1% Capacity Factor \$/MWh
2022	\$0.00	\$24.60	\$24.60
2023	\$0.00	\$20.95	\$20.95
2024	\$0.00	\$19.42	\$19.42
2025	\$0.00	\$12.23	\$12.23
2026	\$39.69	\$7.69	\$22.10
2027	\$40.58	\$8.06	\$22.87
2028	\$41.49	\$8.58	\$23.75
2029	\$42.40	\$10.32	\$25.94
2030	\$43.33	\$9.92	\$25.97
2031	\$44.28	\$9.63	\$26.11
2032	\$45.25	\$9.64	\$26.53
2033	\$46.24	\$9.22	\$26.61
2034	\$47.26	\$8.96	\$26.81
2035	\$48.29	\$9.18	\$27.51
2036	\$49.34	\$11.06	\$29.84
2037	\$50.43	\$12.12	\$31.46
2038	\$51.53	\$11.19	\$31.05
2039	\$52.66	\$11.92	\$32.32
2040	\$53.81	\$12.89	\$33.78

15 Year Starting 2022

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

\$/kW	\$28.33		
\$/MWh		\$13.10	\$23.18

15 Year Starting 2023

\$/kW	\$32.53	\$11.77	\$23.34
\$/MWh			

15 Year Starting 2024

\$/kW	\$37.09	\$10.71	\$23.90
\$/MWh			

**Table 2**  
**Avoided Energy Costs - Scheduled Hours (\$/MWh)**  
**Utah 2021.Q3\_Solar - 80.0 MW and 32.1% CF**

Year	Annual	Winter Season					Summer Season				Winter Season		
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Energy Only</b>													
2022	24.60	30.07	18.28	19.76	16.57	15.82	20.02	46.51	37.98	25.24	18.00	16.60	19.32
2023	20.95	16.17	15.98	17.00	15.30	15.75	17.30	40.60	28.22	21.93	16.50	16.41	19.23
2024	19.42	17.02	16.02	16.64	15.15	15.19	16.80	29.95	27.15	20.53	16.21	17.07	19.87
2025	12.23	8.81	9.45	8.75	7.94	9.56	12.03	19.37	19.33	12.76	8.43	11.86	13.84
2026	7.69	8.40	5.22	6.54	3.60	4.12	7.12	11.08	12.46	7.73	6.34	8.91	12.54
2027	8.06	9.67	5.92	7.36	4.01	4.27	7.09	11.03	12.79	8.29	6.81	9.65	12.26
2028	8.58	8.33	5.87	8.10	4.06	4.27	7.42	12.18	13.99	9.38	7.11	10.52	13.86
2029	10.32	12.73	8.83	9.54	5.74	5.08	8.52	12.84	15.33	11.85	9.55	12.33	16.19
2030	9.92	12.49	8.56	9.37	5.14	4.44	7.95	12.44	14.88	10.86	9.68	13.11	15.43
2031	9.63	9.86	8.44	10.18	5.40	3.71	7.56	12.26	14.44	10.91	9.24	12.42	16.57
2032	9.64	11.46	9.77	9.42	3.94	3.42	7.54	12.29	14.55	10.04	10.07	13.47	17.06
2033	9.22	10.57	9.97	9.47	3.38	2.62	6.92	11.92	14.02	9.19	10.31	13.67	16.50
2034	8.96	12.32	9.97	9.37	3.72	1.97	6.72	11.07	13.55	8.92	9.27	12.79	17.11
2035	9.18	11.86	10.03	8.81	3.76	2.05	5.97	12.66	14.09	9.03	9.23	13.96	18.01
2036	11.06	13.34	11.31	10.02	4.62	2.83	7.15	14.00	15.85	13.64	13.87	15.95	19.57
2037	12.12	16.29	14.04	13.23	5.73	3.47	8.91	13.60	15.16	14.78	15.08	16.43	20.11
2038	11.19	13.84	11.64	10.57	4.54	2.95	7.07	13.25	14.98	14.38	14.49	16.75	20.76
2039	11.92	13.68	12.29	11.75	4.59	3.18	8.28	14.16	17.03	15.51	15.28	16.21	20.72

**Table 4**  
**Burnertip Natural Gas Price Forecast**  
**Utah 2021.Q3\_Solar - 80.0 MW and 32.1% 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	\$4.46	\$4.47	\$4.12	\$6.63
2022	\$4.70	\$4.71	\$4.22	\$4.30
2023	\$3.55	\$3.56	\$3.43	\$3.29
2024	\$3.34	\$3.35	\$3.17	\$2.98
2025	\$3.20	\$3.21	\$3.07	\$2.84
2026	\$3.00	\$3.01	\$2.92	\$2.64
2027	\$3.04	\$3.05	\$2.98	\$2.68
2028	\$3.11	\$3.12	\$3.03	\$2.75
2029	\$3.19	\$3.20	\$3.14	\$2.82
2030	\$3.36	\$3.37	\$3.27	\$2.99
2031	\$3.50	\$3.51	\$3.39	\$3.14
2032	\$3.57	\$3.58	\$3.46	\$3.21
2033	\$3.57	\$3.58	\$3.47	\$3.20
2034	\$3.72	\$3.73	\$3.59	\$3.35
2035	\$3.83	\$3.84	\$3.66	\$3.47
2036	\$3.91	\$3.92	\$3.71	\$3.54
2037	\$4.02	\$4.03	\$3.83	\$3.65
2038	\$4.21	\$4.22	\$3.95	\$3.84
2039	\$4.41	\$4.42	\$4.15	\$4.04
2040	\$4.57	\$4.59	\$4.26	\$4.20

Official Forward Price Curve Forecast dated Sep 30, 2021

**Table 5**

**Utah 2021.Q3\_Solar - 80.0 MW and 32.1% CF  
January 2022 through December 2036  
Nominal Avoided Costs Calculated Monthly**

<b>15 Year Starting 2023</b>	\$ 24,225,709	\$ 23,829,213	\$ 48,054,922	2,059,127	\$23.34
<b>Nominal NPV at 6.88% Discount Rate</b>					
<b>15 Year Starting 2022</b>	\$ 27,103,315	\$ 20,860,728	\$ 47,964,043	2,069,367	\$23.18
<b>15 Year Starting 2024</b>	\$ 21,943,933	\$ 27,035,498	\$ 48,979,431	2,048,945	\$23.90

Month	Energy	Capacity \$	Total	Total	AC Price
	Avoided \$	31.7% CF	Dollars	MWH	31.7% CF
Jan-22	372,647	-	372,647	12,392	30.07
Feb-22	220,894	-	220,894	12,086	18.28
Mar-22	334,954	-	334,954	16,948	19.76
Apr-22	330,897	-	330,897	19,973	16.57
May-22	432,291	-	432,291	27,333	15.82
Jun-22	501,300	-	501,300	25,042	20.02
Jul-22	1,187,924	-	1,187,924	25,543	46.51
Aug-22	870,760	-	870,760	22,926	37.98
Sep-22	552,125	-	552,125	21,875	25.24
Oct-22	329,023	-	329,023	18,278	18.00
Nov-22	214,370	-	214,370	12,918	16.60
Dec-22	184,343	-	184,343	9,540	19.32



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

Year	Estimated Capital Cost	Fixed Capital Cost at Real Levelized Rate	Fixed O&M	Network Upgrade	Fixed Costs	Variable O&M	Total Resource Cost	Total Resource Costs	Total Fixed Cost
	\$/kW	\$/kW-yr	\$/kW-yr	\$/kW-yr	\$/MWh	\$/MWh	\$/MWh	\$/kW-yr	\$/kW-yr
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
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 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  
2026\$ 54.44 Network Upgrade (\$/kw-yr) B2H Borah - to - Hemingway, Expansion  
  
5.419% Payment Factor  
27.9% Capacity Factor

**Appendix B.3**  
**Avoided Cost Prices \$/MWh**  
**Utah 2021.Q3 Sch 38**

Year	Thermal	Solar Tracking	Wind	Thermal	Solar Tracking	Wind (Defers UT	Thermal	Solar Tracking	Wind
	UT 2021.Q3 100% CF (2)	UT 2021.Q3 31.1% CF (2)	UT 2021.Q3 29.4% CF (2)	UT 2021.Q2 100% CF (2)	UT 2021.Q2 31.1% CF (2)	UT 2021.Q2 29.4% CF (2)	Difference	Difference	Difference
2022	\$33.35	\$24.60	\$30.86	\$27.92	\$20.86	\$23.30	\$5.43	\$3.74	\$7.56
2023	\$30.36	\$20.95	\$27.12	\$25.61	\$19.19	\$25.75	\$4.74	\$1.76	\$1.37
2024	\$31.58	\$19.42	\$28.66	\$17.91	\$15.62	\$27.04	\$13.66	\$3.80	\$1.63
2025	\$21.21	\$12.23	\$19.41	\$19.01	\$17.77	\$27.31	\$2.20	(\$5.54)	(\$7.90)
2026	\$19.41	\$22.10	\$29.21	\$32.49	\$18.79	\$28.51	(\$13.07)	\$3.31	\$0.70
2027	\$20.04	\$22.87	\$29.72	\$34.24	\$19.49	\$28.94	(\$14.20)	\$3.37	\$0.77
2028	\$21.08	\$23.75	\$30.64	\$37.79	\$21.52	\$30.49	(\$16.71)	\$2.23	\$0.15
2029	\$22.17	\$25.94	\$31.75	\$40.93	\$22.59	\$31.33	(\$18.76)	\$3.36	\$0.42
2030	\$22.33	\$25.97	\$32.21	\$39.34	\$20.86	\$31.92	(\$17.01)	\$5.11	\$0.30
2031	\$21.68	\$26.11	\$32.97	\$41.16	\$22.21	\$33.32	(\$19.48)	\$3.91	(\$0.35)
2032	\$21.90	\$26.53	\$33.86	\$42.30	\$22.98	\$33.98	(\$20.39)	\$3.54	(\$0.11)
2033	\$34.76	\$26.61	\$34.16	\$43.76	\$23.12	\$61.39	(\$9.00)	\$3.49	(\$27.23)
2034	\$35.84	\$26.81	\$35.20	\$44.86	\$24.17	\$62.64	(\$9.02)	\$2.64	(\$27.44)
2035	\$36.76	\$27.51	\$35.72	\$46.20	\$24.99	\$64.75	(\$9.44)	\$2.53	(\$29.03)
2036	\$38.23	\$29.84	\$52.65	\$48.12	\$26.32	\$65.96	(\$9.89)	\$3.52	(\$13.30)

15-Year Levelized Prices (Nominal) @ 6.88% Discount Rate (1) (3)										
2022-2036	\$/MWh	\$26.85	\$23.18	\$30.94	\$33.67	\$20.65	\$34.65	(\$6.82)	\$2.53	(\$3.71)
								-20%	12%	-11%

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 2021.Q3\_Wind - 80.0 MW and 29.5% CF**

Year	Capacity Price \$/kW-yr	Energy Only Price \$/MWh <sup>(2)</sup>	29.5% Capacity Factor \$/MWh
2022	\$0.00	\$30.86	\$30.86
2023	\$0.00	\$27.12	\$27.12
2024	\$0.00	\$28.66	\$28.66
2025	\$0.00	\$19.41	\$19.41
2026	\$87.98	(\$4.89)	\$29.21
2027	\$89.88	(\$5.12)	\$29.72
2028	\$91.81	(\$4.84)	\$30.64
2029	\$93.80	(\$4.60)	\$31.75
2030	\$95.82	(\$4.92)	\$32.21
2031	\$97.88	(\$4.96)	\$32.97
2032	\$99.99	(\$4.77)	\$33.86
2033	\$102.14	(\$5.43)	\$34.16
2034	\$104.35	(\$5.24)	\$35.20
2035	\$106.59	(\$5.59)	\$35.72
2036	\$108.89	\$10.58	\$52.65
2037	\$111.23	\$11.63	\$54.74
2038	\$113.63	\$11.06	\$55.09
2039	\$116.08	\$11.66	\$56.65
2040	\$118.58	\$12.61	\$58.43

15 Year Starting 2022

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

\$/kW	\$60.69		
\$/MWh		\$7.41	\$30.94

15 Year Starting 2023

\$/kW	\$69.31	\$5.04	\$31.90
\$/MWh			

15 Year Starting 2024

\$/kW	\$78.62	\$2.88	\$33.35
\$/MWh			

**Table 2**  
**Avoided Energy Costs - Scheduled Hours (\$/MWh)**  
**Utah 2021.Q3\_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
<b>Energy Only</b>													
2022	30.86	35.94	28.23	27.18	20.33	17.33	22.75	76.10	51.81	34.43	26.95	23.97	33.20
2023	27.12	20.85	23.85	22.20	19.39	17.63	19.42	74.66	47.29	32.65	23.21	23.25	32.34
2024	28.66	32.62	30.91	23.33	20.23	19.55	20.63	45.87	47.19	36.25	26.42	26.22	34.38
2025	19.41	17.99	20.68	16.71	13.91	14.29	15.45	32.07	30.45	24.30	18.27	18.71	23.38
2026	(4.89)	9.12	6.27	(0.64)	(5.62)	(8.75)	(15.23)	(26.76)	(32.37)	(12.50)	(0.94)	(0.08)	4.00
2027	(5.12)	9.92	6.74	(0.65)	(5.88)	(8.91)	(15.76)	(27.89)	(33.17)	(13.27)	(1.60)	(0.64)	3.73
2028	(4.84)	9.53	6.95	(0.14)	(5.97)	(8.87)	(15.75)	(27.95)	(32.06)	(14.05)	(0.56)	(0.07)	4.76
2029	(4.60)	10.70	7.54	1.03	(5.10)	(8.99)	(14.75)	(29.30)	(32.66)	(14.25)	(0.94)	(0.23)	4.31
2030	(4.92)	10.81	7.92	(0.13)	(6.07)	(9.53)	(15.47)	(30.08)	(33.55)	(14.92)	(1.07)	0.28	5.35
2031	(4.96)	10.60	8.37	0.41	(6.40)	(9.61)	(15.84)	(29.37)	(34.11)	(14.00)	(1.08)	(0.71)	4.62
2032	(4.77)	11.14	7.33	(0.33)	(6.63)	(9.59)	(15.25)	(29.15)	(33.82)	(14.48)	(0.08)	0.87	5.52
2033	(5.43)	10.37	9.02	(1.27)	(7.15)	(10.18)	(16.63)	(29.47)	(35.44)	(16.26)	(1.07)	0.54	4.73
2034	(5.24)	11.08	9.17	(0.78)	(6.91)	(10.19)	(17.04)	(29.29)	(34.40)	(16.53)	(1.04)	0.37	4.97
2035	(5.59)	12.43	8.60	(1.02)	(7.01)	(10.51)	(16.77)	(30.82)	(36.55)	(16.45)	(2.14)	(0.39)	4.39
2036	10.58	21.16	18.84	11.11	6.39	6.70	4.87	(0.45)	(6.40)	6.01	13.76	13.10	18.56
2037	11.63	24.48	23.08	12.69	6.07	6.20	5.44	(2.56)	(6.65)	6.37	16.15	14.62	18.21
2038	11.06	23.04	22.54	10.74	4.97	5.23	4.26	(1.53)	(8.01)	6.02	15.94	15.51	20.07
2039	11.66	24.57	23.71	12.04	5.91	5.68	4.38	(1.39)	(6.60)	5.00	16.10	15.06	20.60

**Table 4**  
**Burnertip Natural Gas Price Forecast**  
**Utah 2021.Q3\_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	\$4.46	\$4.47	\$4.12	\$6.63
2022	\$4.70	\$4.71	\$4.22	\$4.30
2023	\$3.55	\$3.56	\$3.43	\$3.29
2024	\$3.34	\$3.35	\$3.17	\$2.98
2025	\$3.20	\$3.21	\$3.07	\$2.84
2026	\$3.00	\$3.01	\$2.92	\$2.64
2027	\$3.04	\$3.05	\$2.98	\$2.68
2028	\$3.11	\$3.12	\$3.03	\$2.75
2029	\$3.19	\$3.20	\$3.14	\$2.82
2030	\$3.36	\$3.37	\$3.27	\$2.99
2031	\$3.50	\$3.51	\$3.39	\$3.14
2032	\$3.57	\$3.58	\$3.46	\$3.21
2033	\$3.57	\$3.58	\$3.47	\$3.20
2034	\$3.72	\$3.73	\$3.59	\$3.35
2035	\$3.83	\$3.84	\$3.66	\$3.47
2036	\$3.91	\$3.92	\$3.71	\$3.54
2037	\$4.02	\$4.03	\$3.83	\$3.65
2038	\$4.21	\$4.22	\$3.95	\$3.84
2039	\$4.41	\$4.42	\$4.15	\$4.04
2040	\$4.57	\$4.59	\$4.26	\$4.20

Official Forward Price Curve Forecast dated Sep 30, 2021

**Table 5**

**Utah 2021.Q3\_Wind - 80.0 MW and 29.5% CF  
January 2022 through December 2036  
Nominal Avoided Costs Calculated Monthly**

<b>15 Year Starting 2023</b>	\$	9,874,482	\$	52,683,873	\$	62,558,355	1,961,163	\$31.90
<b>Nominal NPV at 6.88% Discount Rate</b>								
<b>15 Year Starting 2022</b>	\$	14,537,790	\$	46,128,030	\$	60,665,820	1,961,058	\$30.94
<b>15 Year Starting 2024</b>	\$	5,651,124	\$	59,763,646	\$	65,414,771	1,961,274	\$33.35

Month	Energy	Capacity \$	Total	Total	AC Price
	Avoided \$	29.5% CF	Dollars	MWH	29.5% CF
Jan-22	751,517	-	751,517	20,908	35.94
Feb-22	560,838	-	560,838	19,864	28.23
Mar-22	686,851	-	686,851	25,269	27.18
Apr-22	415,076	-	415,076	20,415	20.33
May-22	355,986	-	355,986	20,545	17.33
Jun-22	378,946	-	378,946	16,657	22.75
Jul-22	931,223	-	931,223	12,238	76.10
Aug-22	508,623	-	508,623	9,818	51.81
Sep-22	436,031	-	436,031	12,664	34.43
Oct-22	471,965	-	471,965	17,510	26.95
Nov-22	365,208	-	365,208	15,239	23.97
Dec-22	507,766	-	507,766	15,292	33.20

**Table 3**  
**2021 IRP 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 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 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	First Year real levelized
2026\$	24.74	Network Upgrade (\$/kw-yr)	Portland NC, Transmission Integration
	6.979%	Payment Factor	
	37.0%	Capacity Factor	

**ROCKY MOUNTAIN POWER**

**STEP STUDY BETWEEN PRIOR FILING AND CURRENT FILING**

**2021.Q3 – DECEMBER 2021**



**Nominal Levelized Payment at 6.880% Discount Rate**

	<b>2022 - 2036</b>	<b>2023 - 2037</b>	<b>2024 - 2038</b>
2021.Q2 As Filed	\$33.72	\$35.02	\$36.69
OFPC	-\$1.59	-\$2.37	-\$3.15
Queue	\$0.61	\$0.67	\$0.75
2021 IRP	-\$5.85	-\$6.58	-\$7.42
2021.Q3 As Filed	\$26.89	\$26.74	\$26.87

## Appendix C

### Utah Quarterly Compliance Filing Step Study between 2021.Q3 and 2021.Q2 Compliance Filing Avoided Cost Impact of Changing Assumptions \$/MWH (1)

Year	OFPC (2)	Queue	2021 IRP	Total Impact
2022	\$ 3.66	-	\$ 1.77	\$ 5.44
2023	\$ 2.88	-	\$ 1.87	\$ 4.74
2024	\$ 1.44	\$ 1.18	\$ 11.05	\$ 13.67
2025	\$ 0.96	\$ 1.00	\$ 0.24	\$ 2.20
2026	\$ (1.42)	\$ 0.66	\$ (12.32)	\$ (13.08)
2027	\$ (1.90)	\$ 0.62	\$ (12.92)	\$ (14.20)
2028	\$ (3.13)	\$ 0.65	\$ (14.24)	\$ (16.71)
2029	\$ (4.30)	\$ 0.68	\$ (15.13)	\$ (18.76)
2030	\$ (4.03)	\$ 0.69	\$ (13.67)	\$ (17.01)
2031	\$ (4.28)	\$ 0.66	\$ (15.86)	\$ (19.48)
2032	\$ (4.60)	\$ 0.71	\$ (16.51)	\$ (20.39)
2033	\$ (5.44)	\$ 0.67	\$ (4.23)	\$ (9.00)
2034	\$ (5.28)	\$ 0.68	\$ (4.42)	\$ (9.02)
2035	\$ (5.41)	\$ 0.67	\$ (4.69)	\$ (9.44)
2036	\$ (5.91)	\$ 0.61	\$ (4.59)	\$ (9.89)
2037	\$ (6.91)	\$ 0.71	\$ (3.52)	\$ (9.71)
2038	\$ (7.56)	\$ 0.67	\$ (4.49)	\$ (11.38)

#### Nominal Levelized Payment at 6.880% Discount Rate (3)

2022 - 2036	\$ (1.59)	\$ 0.61	\$ (5.85)	\$ (6.83)
2023 - 2037	\$ (2.37)	\$ 0.67	\$ (6.58)	\$ (8.28)
2024 - 2038	\$ (3.15)	\$ 0.75	\$ (7.42)	\$ (9.82)

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

## Appendix C

### Utah Quarterly Compliance Filing Step Study between 2021.Q3 and 2021.Q2 Compliance Filing Total Avoided Cost Prices \$/MWH (1) (4)

Year	2021.Q2 As Filed	OFPC	Queue	2021 IRP (2)
<b>2022</b>	\$27.92	\$31.58	\$31.58	\$33.35
<b>2023</b>	\$25.61	\$28.49	\$28.49	\$30.36
<b>2024</b>	\$17.91	\$19.36	\$20.53	\$31.58
<b>2025</b>	\$19.01	\$19.97	\$20.97	\$21.21
<b>2026</b>	\$32.49	\$31.07	\$31.73	\$19.41
<b>2027</b>	\$34.24	\$32.34	\$32.96	\$20.04
<b>2028</b>	\$37.79	\$34.66	\$35.32	\$21.08
<b>2029</b>	\$40.93	\$36.63	\$37.31	\$22.17
<b>2030</b>	\$39.34	\$35.31	\$36.00	\$22.33
<b>2031</b>	\$41.16	\$36.88	\$37.54	\$21.68
<b>2032</b>	\$42.30	\$37.70	\$38.41	\$21.90
<b>2033</b>	\$43.76	\$38.32	\$38.99	\$34.76
<b>2034</b>	\$44.86	\$39.57	\$40.26	\$35.84
<b>2035</b>	\$46.20	\$40.78	\$41.45	\$36.76
<b>2036</b>	\$48.12	\$42.21	\$42.82	\$38.23
<b>2037</b>	\$50.35	\$43.44	\$44.15	\$40.63
<b>2038</b>	\$51.23	\$43.67	\$44.33	\$39.84

#### Nominal Levelized Payment at 6.880% Discount Rate (3)

2022 - 2036	\$33.72	\$32.13	\$32.74	\$26.89
2023 - 2037	\$35.02	\$32.65	\$33.32	\$26.74
2024 - 2038	\$36.69	\$33.54	\$34.29	\$26.87

- (1) Studies are sequential. The order of the studies would affect the price impact.
- (2) Official Forward Price Curve Dated September 2021
- (3) Discount Rate - 2021 IRP - Calculated Annually
- (4) Capacity costs are allocated based on assumed 100% capacity factor.

### Appendix C

#### Utah Quarterly Compliance Filing Step Study between 2021.Q3 and 2021.Q2 Compliance Filing GRID Calculated Energy Avoided Cost Prices \$/MWH (1)

Year	2021.Q2 As Filed	OFPC	Queue	2021 IRP (2)
<b>2022</b>	\$27.92	\$31.58	\$31.58	\$33.35
<b>2023</b>	\$25.61	\$28.49	\$28.49	\$30.36
<b>2024</b>	\$17.91	\$19.36	\$20.53	\$31.58
<b>2025</b>	\$19.01	\$19.97	\$20.97	\$21.21
<b>2026</b>	\$19.31	\$17.89	\$18.55	\$19.41
<b>2027</b>	\$20.75	\$18.85	\$19.47	\$20.04
<b>2028</b>	\$24.03	\$20.91	\$21.56	\$21.08
<b>2029</b>	\$26.80	\$22.50	\$23.18	\$22.17
<b>2030</b>	\$24.88	\$20.85	\$21.54	\$22.33
<b>2031</b>	\$26.37	\$22.09	\$22.75	\$21.68
<b>2032</b>	\$27.21	\$22.61	\$23.32	\$21.90
<b>2033</b>	\$28.29	\$22.85	\$23.52	\$21.08
<b>2034</b>	\$29.03	\$23.74	\$24.43	\$21.86
<b>2035</b>	\$30.00	\$24.59	\$25.26	\$22.48
<b>2036</b>	\$31.60	\$25.69	\$26.30	\$23.68
<b>2037</b>	\$33.40	\$26.49	\$27.20	\$25.73
<b>2038</b>	\$33.89	\$26.33	\$27.00	\$24.62

#### Nominal Levelized Payment at 6.88% Discount Rate (3)

2022 - 2036	\$24.53	\$22.95	\$23.55	\$24.38
2023 - 2037	\$24.52	\$22.15	\$22.82	\$23.46
2024 - 2038	\$24.77	\$21.62	\$22.37	\$22.75

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

**Appendix C**  
**Utah Quarterly Compliance Filing**  
**Step Study between 2021.Q3 and 2021.Q2 Compliance Filing**  
**Capacity Avoided Cost Prices**

Year	\$/kW-Year				\$/MWH (1)			
	2021.Q2	OFPC	Queue	2021.Q3	2021.Q2	OFPC	Queue	2021.Q3
2022	-	-	-	-	-	-	-	-
2023	-	-	-	-	-	-	-	-
2024	-	-	-	-	-	-	-	-
2025	-	-	-	-	-	-	-	-
2026	\$ 115.47	\$ 115.47	\$ 115.47	-	\$ 13.18	\$ 13.18	\$ 13.18	-
2027	\$ 118.12	\$ 118.12	\$ 118.12	-	\$ 13.48	\$ 13.48	\$ 13.48	-
2028	\$ 120.86	\$ 120.86	\$ 120.86	-	\$ 13.76	\$ 13.76	\$ 13.76	-
2029	\$ 123.76	\$ 123.76	\$ 123.76	-	\$ 14.13	\$ 14.13	\$ 14.13	-
2030	\$ 126.63	\$ 126.63	\$ 126.63	-	\$ 14.46	\$ 14.46	\$ 14.46	-
2031	\$ 129.53	\$ 129.53	\$ 129.53	-	\$ 14.79	\$ 14.79	\$ 14.79	-
2032	\$ 132.52	\$ 132.52	\$ 132.52	-	\$ 15.09	\$ 15.09	\$ 15.09	-
2033	\$ 135.54	\$ 135.54	\$ 135.54	\$ 119.86	\$ 15.47	\$ 15.47	\$ 15.47	\$ 13.68
2034	\$ 138.67	\$ 138.67	\$ 138.67	\$ 122.44	\$ 15.83	\$ 15.83	\$ 15.83	\$ 13.98
2035	\$ 141.83	\$ 141.83	\$ 141.83	\$ 125.09	\$ 16.19	\$ 16.19	\$ 16.19	\$ 14.28
2036	\$ 145.11	\$ 145.11	\$ 145.11	\$ 127.78	\$ 16.52	\$ 16.52	\$ 16.52	\$ 14.55
2037	\$ 148.47	\$ 148.47	\$ 148.47	\$ 130.54	\$ 16.95	\$ 16.95	\$ 16.95	\$ 14.90
2038	\$ 151.88	\$ 151.88	\$ 151.88	\$ 133.34	\$ 17.34	\$ 17.34	\$ 17.34	\$ 15.22

Nominal Levelized Payment at 6.880% Discount Rate (2)

2022 - 2036	\$80.55	\$80.55	\$80.55	\$22.00	\$9.19	\$9.19	\$9.19	\$2.51
2023 - 2037	\$92.05	\$92.05	\$92.05	\$28.75	\$10.50	\$10.50	\$10.50	\$3.28
2024 - 2038	\$104.49	\$104.49	\$104.49	\$36.09	\$11.92	\$11.92	\$11.92	\$4.12

- (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 Nos. 21-035-44/03-035-14

I hereby certify that a true and correct copy of the foregoing **2021.Q3 Avoided Cost Input Changes Quarterly Compliance Filing** was served upon the following by email on December 29, 2021.

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Adviser, Regulatory Operations