ROCKY MOUNTAIN POWER
A DIVISION OF PACIFICORP

1407 W. North Temple, Suite 310
Salt Lake City, Utah 84116

March 31, 2017

VIA ELECTRONIC FILING

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

Attn: Gary Widerburg
Commission Secretary

Re: **Docket 03-035-14 – Quarterly Compliance Filing – 2016.Q4 Avoided Cost Input Changes**
Docket 16-035-29 – 2016.Q4 Avoided Cost Input Changes Quarterly Compliance Filing

PacifiCorp (dba Rocky Mountain Power) hereby respectfully submits its quarterly Schedule 38 compliance filing.

Public Service Commission of Utah (Commission) orders dated October 31, 2005, and February 2, 2006, in Docket 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.

No comments were filed challenging the Company's previous compliance filing, which was submitted to the Commission on December 30, 2016.

Routine Updates

The Company identifies five routine updates to its avoided cost inputs since the previous filing:

1. **Routine GRID Update** – Update GRID to include input assumptions based on information available as of January 10, 2017.

2. **Official Forward Price Curve (OFPC)** – Update to the curve dated December 31, 2016 (1612 OFPC).
3. **Load Forecast Update -** Update to load forecast dated October 4, 2016.

4. **Qualifying Facility (QF) Queue** – Update the QF queue to reflect current signed and potential QFs. The QF queue was 3,533 megawatts (MW) nameplate in the 2016.Q3 filing and was revised to 3,878 MW nameplate in this filing.

5. **Trapped Energy Correction** – Adjust the trapped energy discount settings in GRID to ensure volume attributed to constrained areas is not overstated. In the Wyoming Northeast and PP-GC GRID bubbles, trapped energy represents curtailment of wind or solar resources. To ensure that trapped energy is only assigned to constrained bubbles when other options are unavailable, the trapped energy discounts in GRID have been differentiated slightly. The previous modeling had identical discounts and resulted in GRID occasionally assigning trapped energy to these areas when transmission out of these areas was not fully utilized.

Non-Routine Updates

The Company has not identified any non-routine updates in this filing.

Additional Details

Additional detail is provided below:

1. **GRID Data Updates** – A number of data and modeling assumption updates have occurred in GRID since the previous compliance filing. **Appendix A** provides a summary of those updates.

2. **Proxy / Partial Displacement Differential Revenue Requirement (PDDRR) Avoided Cost Methodology** – The Proxy used in the PDDRR avoided cost methodology is consistent with the Company's 2015 Integrated Resource Plan (IRP) Update filed with the Commission on March 31, 2016. During the period 2016 through 2030 the proxy will be third quarter heavy load hour (HLH) only front office transactions (FOT). Starting January 2030 the proxy will be a 635 MW CCCT.

3. **Impact to Avoided Cost Prices ($/MWh)** – Provided as **Appendix B** is the $/MWh impact of the above mentioned updates on avoided costs, compared to the previous compliance filing. The updates reflect a total increase of approximately $0.07/MWh. Avoided costs presented in **Appendix B** were calculated assuming a 100 MW 85 percent capacity factor QF resource.

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

Work Papers

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

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

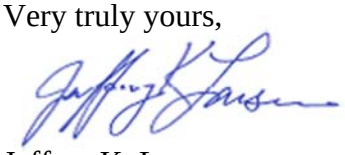
It is respectfully requested that all formal correspondence and requests regarding this compliance filing be addressed to:

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

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

Informal inquiries may be made to Bob Lively at (801) 220-4052, or Dan MacNeil at (503) 813-5523.

Very truly yours,



Jeffrey K. Larsen
Vice President, Regulation

cc: Service List (Docket No. 03-035-14)
Service List (Docket No. 16-035-29)

Appendix A

ROCKY MOUNTAIN POWER

DOCKET 03-035-14 AND DOCKET 16-035-29

DESCRIPTION OF AVOIDED COST INPUT CHANGES

2016.Q4 - March 2017

Appendix A

PacifiCorp Avoided Cost
(Partial Displacement Differential Revenue Requirement (PDDRR))
Model Updates through January 2017
Docket 03-035-14 / Docket 16-035-29

Assumptions that have changed since the 2016.Q3 compliance filing are in **bold and underline.**

GRID Scenario Study Period

- January 1, 2018 through December 31, 2032 - 15-year study.
- Avoided cost prices starting in January 2018.

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

- **Updated to PacifiCorp's December, 2016 OFPC (1612 OFPC)**
- OFPC reflecting the changes in forecasted prices inclusive of the impact of the United States (U.S.) Environmental Protection Agency's (EPA) Clean Power Plan final rule.

Fuel Prices (Coal)

- Average and incremental coal costs based on forecast dated August 2016.
- Coal burn expense reflects incremental coal costs and coal take or pay minimum burn levels.

Integrated Resource Plan (IRP) Resources

- 2015 IRP Update filed with the Public Service Commission of Utah (UPSC) on March 31, 2016.
- Resource additions, including generating resources, and front office transactions (FOT)**,** consistent with 2015 IRP Update (Table 5.3).
- Existing plant retirement consistent with 2015 IRP Update (Table 5.3).
- No transmission additions, consistent with 2015 IRP Update

Hydro Resources

- 2015 hydro forecast prepared September 2016.
- 2015 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

- 6.66 percent discount rate - 2015 IRP Update page 39 (unchanged from 2015 IRP).
- Discount rate is consistent with UPSC's order in Docket 11-035-T06.

Inflation Rates

- Company's inflation rate forecast dated **December 2016**.

Levelized Prices (Nominal) @ 6.66 percent Discount Rate

- 15 years 2018 through 2032.
- Calculated annually.
- Levelized prices are for illustrative purposes only.

Load Forecast (Retail)

- 20-year load forecast dated **October 2016**.

Long-Term Contracts

- Long-term contracts which have prices that are indexed to market are consistent with the **1612 OFPC**.
- Contracts are modeled based on 48 months ended June 2016.
- Qualifying Facility (QF) power purchase agreements (PPA) are assumed to terminate and not renew at the end of their current PPA term.
- No QFs were added as signed PPAs.

Market Capacity

- Capacity set at 48-month average of all short-term firm (STF) sales ended June 2016.
- 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 **January 2017**

Potential Environmental Costs

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

Regulating Margin

- Consistent with the 2014 Wind Integration Study (2014 WIS).
- Regulation reserves starting at 432 average megawatts (aMW) and increasing as necessary to provide wind integration.
- Increasing at 7.0 megawatts (MW) of regulation reserve per 100 MW of incremental east side wind.

- Reserve modeling reflects North American Electric Reliability Corporation (NERC) / Western Electricity Coordinating Council (WECC) reliability Standard BAL-003-1 related to frequency response.

Contingency Reserve Calculation

- Reserve modeling reflects NERC / WECC 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 2019.
- Typical week retail load reserve calculation thereafter.

Short-Term Firm (STF) Transactions

- Executed STF contracts as of **January 2017**.

Size of the Avoided Cost Resource

- The avoided cost thermal resource is a 100 MW and 85 percent capacity factor thermal resource 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 June 2016.

Wind and Solar Resources

- Existing wind generation profiles modeled using 2015 actual generation shape.
- Wind generation shaped to hourly using 2015 actual generation shape[1].
- Solar generation modeled using 12x24 profiles.
- Integration cost methodology pursuant to UPSC orders in Docket 12-035-100 (issued August 16, 2013, and October 4, 2013).
- Wind integration costs set at $2.23 per megawatt-hour ($/MWh) (2017 through 2036) on a 20-year nominal levelized basis.
- Solar integration costs set at $2.83/MWh for fixed solar resources and $2.18/MWh for tracking solar resources.
- Capacity contribution applied to renewable resources consistent with the UPSC order in Docket 14-035-140 (issued June 26, 2015) - see table below:

[1] Starting in December 2013, the 2013.Q4 Compliance filing, wind and solar generation has been modeled hourly using actual generation shape. Potential resources were also modeled hourly when data was provided by the project developer. In this filing, all potential wind generation profiles have been shaped to an hourly profile using 2015 wind generation experienced by nearby PacifiCorp 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.

Renewable Type	Capacity Contribution Percent of Nameplate	
	East	West
Wind	14.5%	25.4%
Solar – Fixed Mount	34.1%	32.2%
Solar –Tracking	39.1%	36.7%

Transmission

- Short-term transmission modeled based on 48 months ended June 2016.
- Energy Gateway transmission rights - 2015 IRP (Scenario EG 1).
- Wyoming Central -> Wyoming Northeast transmission link included.
- **Trapped Energy Correction – In the Wyoming Northeast and PP-GC GRID bubbles, trapped energy represents curtailment of wind or solar resources. To ensure that trapped energy is only assigned to constrained bubbles when other options are unavailable, the trapped energy discounts in GRID have been differentiated slightly. The previous modeling had identical discounts and resulted in GRID occasionally assigning trapped energy to these areas when transmission out of these areas was not fully utilized.**

IRP Partial Displacements (This Filing)

Thermal partial displacement is 1,235.23 MW in the base case and 1,335.23 MW in the avoided cost case. Provided in the table below are the QFs that have executed a PPA or are actively negotiating for a PPA. Signed resources are new and were not included in the 2015 IRP Update.

QF Queue						
No.	QF	Partial Displacement	Name plate	CF	Capacity Contribution	Start Date
1	Pavant Solar III	7.82	20.00	29.5%	39.1%	2016 12 31
2	Sweetwater Solar	31.28	80.00	26.6%	39.1%	2018 11 01
3	Orchard Wind Farm	10.16	40.00	36.0%	25.4%	2020 10 01
4	Chevron Wind	2.39	16.50	29.5%	14.5%	2016 07 01
5	Surprise Valley Geothermal	3.70	3.70	85.0%	100.0%	2016 09 01
Total Signed MW		55.35	160.20			
1	QF - 245 - WY - Wind	11.60	80.00	44.9%	14.5%	2018 11 01
2	QF - 246 - WY - Wind	11.60	80.00	42.0%	14.5%	2018 11 01
3	QF - 247 - WY - Wind	11.60	80.00	37.4%	14.5%	2018 11 01
4	QF - 249 - OR - Solar	14.68	40.00	29.1%	36.7%	2017 12 31
5	QF - 256 - UT - Solar	26.59	68.00	32.3%	39.1%	2019 07 01
6	QF - 277 - WY - Solar	7.82	20.00	28.2%	39.1%	2019 10 01
7	QF - 278 - WY - Solar	7.82	20.00	28.2%	39.1%	2019 10 01
8	QF - 279 - OR - Solar	14.68	40.00	31.0%	36.7%	2018 06 30
9	QF - 280 - OR - Solar	14.68	40.00	27.9%	36.7%	2018 12 01
10	QF - 281 - OR - Solar	14.68	40.00	24.5%	36.7%	2018 12 01
11	QF - 282 - WY - Solar	29.29	74.90	30.6%	39.1%	2018 03 01
12	QF - 285 - WY - Wind	11.60	80.00	40.7%	14.5%	2018 12 31
13	QF - 286 - WY - Wind	11.60	80.00	40.7%	14.5%	2018 12 31
14	QF - 287 - WY - Wind	11.60	80.00	40.7%	14.5%	2018 12 31
15	QF - 288 - WY - Wind	11.60	80.00	40.7%	14.5%	2018 12 31
16	QF - 289 - UT - Solar	31.28	80.00	31.2%	39.1%	2018 12 01
17	QF - 290 - UT - Solar	31.28	80.00	31.5%	39.1%	2018 12 01
18	QF - 291 - UT - Solar	31.28	80.00	31.9%	39.1%	2018 12 01
19	QF - 302 - WY - Solar	6.26	16.00	29.3%	39.1%	2019 10 01
20	QF - 304 - WY - Solar	11.73	30.00	27.4%	39.1%	2019 06 30
21	QF - 305 - WY - Solar	31.28	80.00	27.4%	39.1%	2019 06 30
22	QF - 308 - WY - Wind	11.60	80.00	46.6%	14.5%	2020 01 01
23	QF - 309 - WY - Wind	11.60	80.00	46.6%	14.5%	2020 01 01
24	QF - 310 - WY - Wind	11.60	80.00	46.6%	14.5%	2020 01 01
25	QF - 311 - WY - Wind	5.80	40.00	46.6%	14.5%	2020 01 01
26	QF - 284 - OR - Solar	6.59	17.97	26.0%	36.7%	2018 01 01
27	QF - 313 - UT - Solar	31.28	80.00	29.6%	39.1%	2019 12 01
28	QF - 315 - UT - Solar	31.28	80.00	29.6%	39.1%	2019 12 01
29	QF - 317 - UT - Solar	31.28	80.00	29.6%	39.1%	2019 12 01
30	QF - 319 - UT - Solar	31.28	80.00	29.6%	39.1%	2019 12 01
31	QF - 321 - UT - Solar	31.28	80.00	29.6%	39.1%	2019 12 01
32	QF - 323 - UT - Solar	31.28	80.00	29.6%	39.1%	2019 12 01
33	QF - 325 - UT - Solar	31.28	80.00	29.6%	39.1%	2019 12 01
34	QF - 326 - UT - Solar	8.21	21.00	34.9%	39.1%	2019 12 01
35	QF - 327 - OR - Solar	2.94	8.00	28.5%	36.8%	2018 12 01
36	QF - 328 - OR - Solar	16.88	46.00	28.7%	36.7%	2018 12 01
37	QF - 336 - UT - Solar	22.68	58.00	33.9%	39.1%	2018 07 01
38	QF - 337 - WY - Solar	5.21	13.33	26.7%	39.1%	2018 08 01

QF Queue						
No.	QF	Partial Displacement	Name plate	CF	Capacity Contribution	Start Date
39	QF - 338 - UT - Solar	31.28	80.00	26.1%	39.1%	2019 08 01
40	QF - 339 - WY - Wind	11.01	75.90	46.9%	14.5%	2018 10 01
41	QF - 340 - WY - Solar	31.28	80.00	27.4%	39.1%	2019 06 01
42	QF - 342 - UT - Solar	31.28	80.00	28.9%	39.1%	2018 12 01
43	QF - 348 - WY - Solar	31.28	80.00	27.3%	39.1%	2019 12 01
44	QF - 349 - WY - Solar	31.28	80.00	27.0%	39.1%	2019 12 01
45	QF - 350 - UT - Solar	2.35	59.00	34.9%	4.0%	2019 12 01
46	QF - 351 - OR - Solar	20.19	55.00	28.0%	36.7%	2019 01 01
47	QF - 356 - UT - Solar	31.28	80.00	30.0%	39.1%	2018 12 01
48	QF - 357 - UT - Solar	31.28	80.00	27.9%	39.1%	2020 04 01
49	QF - 358 - UT - Solar	31.28	80.00	29.7%	39.1%	2019 12 01
50	QF - 359 - UT - Solar	31.28	80.00	29.7%	39.1%	2019 12 01
51	QF - 360 - UT - Solar	31.28	80.00	29.7%	39.1%	2019 12 01
52	QF - 361 - UT - Solar	31.28	80.00	29.7%	39.1%	2019 12 01
53	QF - 362 - UT - Solar	31.28	80.00	29.7%	39.1%	2019 12 01
54	QF - 363 - UT - Solar	31.28	80.00	29.7%	39.1%	2019 12 01
55	QF - 364 - UT - Solar	31.28	80.00	29.7%	39.1%	2019 12 01
56	QF - 254 - OR - Solar	20.19	55.00	24.6%	36.7%	2019 12 31
57	QF - 365 - UT - Wind	11.60	80.00	31.4%	14.5%	2019 01 01
Total Potential MW		1179.88	3718.10			

Total Partial Displacement	**1235.23**	**3878.30**

Pavant Solar III is a Utah non-QF solar resource added for the Utah Subscriber Solar Program.

Projects "QF - 256 - UT - Solar" and "QF - 326 - UT - Solar" are located in an area that PacifiCorp energy supply management (ESM), in its merchant capacity, is aware has significant transmission constraints. The existing transmission constraint conditions could lead to curtailment of these potential projects under certain circumstances, in accordance with the amended Network Operating Agreement between PacifiCorp ESM and PacifiCorp Transmission approved by the Federal Energy Regulatory Commission (FERC) on May 21, 2015.[2] As a result of the transmission constraint conditions, PacifiCorp provided these potential projects indicative avoided cost pricing that reflected certain transmission constraint-related adjustments. For example, the pricing reflected only projected delivered output from the potential projects, as well as a preliminary projected level of curtailment of that output, subject to further analysis. The projects' capacity deferral was also restricted based on the constraint conditions.

[2] *PacifiCorp*, 151 FERC ¶ 61,170 (2015).

Provided in the table below, is the partial displacement, adjusted for solar degradation:

Partial Displacement Adjusted for Solar Degradation
MW Capacity (July)

	a	b	c	d	e	f	g	h	i	j	k
Year	Signed & Potential QFs Adjusted For Solar Degradation			Cumulative 2015 IRP Update		Base Case Displacement		Avoided Cost Case			
								Nameplate		Displacement	
	Signed	Potential	Total	CCCT MW	FOT	CCCT	FOT	New QF	Total	CCCT	FOT
			a + b			MIN(c,d)	MIN(e,c - f)		c + h	MIN(d,i)	MIN(e,i - j)
2017	13.9	-	13.9	-	747.7	-	13.9	-	13.9	-	13.9
2018	11.5	87.9	99.4	-	1,093.9	-	99.4	100.0	199.4	-	199.4
2019	42.7	523.1	565.9	-	1,245.7	-	565.9	100.0	665.9	-	665.9
2020	42.4	1,177.0	1,219.5	-	1,203.0	-	1,203.0	100.0	1,319.5	-	1,203.0
2021	52.3	1,171.5	1,223.8	-	970.2	-	970.2	100.0	1,323.8	-	970.2
2022	48.3	1,165.9	1,214.2	-	1,060.0	-	1,060.0	100.0	1,314.2	-	1,060.0
2023	48.0	1,160.4	1,208.4	-	965.3	-	965.3	100.0	1,308.4	-	965.3
2024	47.8	1,154.9	1,202.7	-	993.0	-	993.0	100.0	1,302.7	-	993.0
2025	47.5	1,149.4	1,196.9	-	1,440.3	-	1,196.9	100.0	1,296.9	-	1,296.9
2026	47.2	1,144.0	1,191.2	-	1,440.1	-	1,191.2	100.0	1,291.2	-	1,291.2
2027	46.9	1,138.6	1,185.5	-	1,442.9	-	1,185.5	100.0	1,285.5	-	1,285.5
2028	46.6	1,133.2	1,179.9	1,112.0	1,177.3	1,112.0	67.9	100.0	1,279.9	1,112.0	167.9
2029	46.4	1,127.9	1,174.3	1,112.0	1,222.8	1,112.0	62.3	100.0	1,274.3	1,112.0	162.3
2030	46.1	1,122.6	1,168.7	1,747.0	1,442.9	1,168.7	-	100.0	1,268.7	1,268.7	-
2031	45.8	1,117.3	1,163.1	2,201.0	1,106.6	1,168.7	-	100.0	1,263.1	1,268.7	-
2032	45.6	1,112.0	1,157.6	2,201.0	1,174.0	1,168.7	-	100.0	1,257.6	1,268.7	-
2033	45.3	1,058.5	1,103.8	2,624.0	1,442.9	1,168.7	-	100.0	1,203.8	1,268.7	-
2034	45.0	829.5	874.6	2,624.0	1,442.9	1,168.7	-	100.0	974.6	1,268.7	-
2035	44.8	332.7	377.5	2,624.0	1,442.9	1,168.7	-	100.0	477.5	1,268.7	-
2036	44.5	331.5	376.0	2,624.0	1,442.9	1,168.7	-	100.0	476.0	1,268.7	-
2037	37.2	330.3	367.6	2,624.0	1,442.9	1,168.7	-	100.0	467.6	1,268.7	-
2038	37.0	296.7	333.7	2,624.0	1,442.9	1,168.7	-	100.0	433.7	1,268.7	-
2039	10.2	114.7	124.9	2,624.0	1,442.9	1,168.7	-	100.0	224.9	1,268.7	-
2040	10.2	-	10.2	2,624.0	1,442.9	1,168.7	-	100.0	110.2	1,268.7	-
2041	-	-	-	2,624.0	1,442.9	1,168.7	-	100.0	100.0	1,268.7	-
2042	-	-	-	2,624.0	1,442.9	1,168.7	-	100.0	100.0	1,268.7	-

CCCT Partial Displacement in 2030	Base Case	AC Case
Before Solar Degradation	1,235.23	1,335.23
After Solar Degradation	1,168.66	1,268.66

IRP Partial Displacements (Previous Filing)

Thermal partial displacement is 1,157.2 MW in the base case and 1,257.2 MW in the avoided cost case. Provided in the table below are the QFs that have executed a power purchase agreement or are actively negotiating for a power purchase agreement. Signed resources are new and were not included in the 2015 IRP Update.

QF Queue						
No.	QF	Partial Displacement	Nameplate	CF	Capacity Contribution	Start Date
1	Pavant Solar III	7.82	20.00	29.5%	39.1%	2016 12 31
2	Sweetwater Solar	31.28	80.00	26.6%	39.1%	2018 11 01
3	Orchard Wind Farm	10.16	40.00	36.0%	25.4%	2020 10 01
4	Chevron Wind	2.39	16.50	29.5%	14.5%	2016 07 01
5	Surprise Valley Geothermal	3.70	3.70	85.0%	100.0%	2016 09 01
Total Signed MW		55.35	160.20			
1	QF - 245 - WY - Wind	11.60	80.00	44.9%	14.5%	2018 11 01
2	QF - 246 - WY - Wind	11.60	80.00	42.0%	14.5%	2018 11 01
3	QF - 247 - WY - Wind	11.60	80.00	37.4%	14.5%	2018 11 01
4	QF - 249 - OR - Solar	14.68	40.00	29.1%	36.7%	2017 12 31
5	QF - 254 - OR - Solar	20.19	55.00	24.6%	36.7%	2017 12 31
6	QF - 256 - UT - Solar	26.59	68.00	32.3%	39.1%	2019 07 01
7	QF - 271 - UT - Solar	15.64	40.00	30.7%	39.1%	2018 12 01
8	QF - 277 - WY - Solar	7.82	20.00	28.2%	39.1%	2019 10 01
9	QF - 278 - WY - Solar	7.82	20.00	28.2%	39.1%	2019 10 01
10	QF - 279 - OR - Solar	14.68	40.00	31.0%	36.7%	2018 06 30
11	QF - 280 - OR - Solar	14.68	40.00	27.9%	36.7%	2018 12 01
12	QF - 281 - OR - Solar	14.68	40.00	24.5%	36.7%	2018 12 01
13	QF - 282 - WY - Solar	29.29	74.90	30.6%	39.1%	2018 03 01
14	QF - 284 - OR - Solar	4.40	12.00	26.0%	36.7%	2018 01 01
15	QF - 285 - WY - Wind	11.60	80.00	40.7%	14.5%	2018 12 31
16	QF - 286 - WY - Wind	11.60	80.00	40.7%	14.5%	2018 12 31
17	QF - 287 - WY - Wind	11.60	80.00	40.7%	14.5%	2018 12 31
18	QF - 288 - WY - Wind	11.60	80.00	40.7%	14.5%	2018 12 31
19	QF - 289 - UT - Solar	31.28	80.00	31.2%	39.1%	2018 12 01
20	QF - 290 - UT - Solar	31.28	80.00	31.5%	39.1%	2018 12 01
21	QF - 291 - UT - Solar	31.28	80.00	31.9%	39.1%	2018 12 01
22	QF - 292 - OR - Solar	14.68	40.00	28.3%	36.7%	2019 12 31
23	QF - 293 - OR - Solar	18.35	50.00	26.7%	36.7%	2019 12 31
24	QF - 295 - UT - Solar	31.28	80.00	27.5%	39.1%	2019 06 30
25	QF - 296 - UT - Solar	31.28	80.00	26.8%	39.1%	2019 06 30
26	QF - 297 - UT - Solar	15.64	40.00	25.8%	39.1%	2019 06 30
27	QF - 298 - UT - Solar	31.28	80.00	27.8%	39.1%	2019 06 30
28	QF - 299 - UT - Solar	7.04	18.00	26.9%	39.1%	2019 06 30
29	QF - 300 - OR - Solar	5.51	15.00	29.3%	36.7%	2018 12 01
30	QF - 301 - OR - Solar	16.52	45.00	28.8%	36.7%	2018 12 01
31	QF - 302 - WY - Solar	6.26	16.00	29.3%	39.1%	2019 10 01
32	QF - 304 - WY - Solar	11.73	30.00	27.4%	39.1%	2019 06 30
33	QF - 305 - WY - Solar	31.28	80.00	27.4%	39.1%	2019 06 30

QF Queue						
No.	QF	Partial Displacement	Nameplate	CF	Capacity Contribution	Start Date
34	QF - 308 - WY - Wind	11.60	80.00	46.6%	14.5%	2020 01 01
35	QF - 309 - WY - Wind	11.60	80.00	46.6%	14.5%	2020 01 01
36	QF - 310 - WY - Wind	11.60	80.00	46.6%	14.5%	2020 01 01
37	QF - 311 - WY - Wind	5.80	40.00	46.6%	14.5%	2020 01 01
38	QF - 313 - UT - Solar	31.28	80.00	29.6%	39.1%	2019 12 01
39	QF - 315 - UT - Solar	31.28	80.00	29.6%	39.1%	2019 12 01
40	QF - 317 - UT - Solar	31.28	80.00	29.6%	39.1%	2019 12 01
41	QF - 319 - UT - Solar	31.28	80.00	29.6%	39.1%	2019 12 01
42	QF - 321 - UT - Solar	31.28	80.00	29.6%	39.1%	2019 12 01
43	QF - 323 - UT - Solar	31.28	80.00	29.6%	39.1%	2019 12 01
44	QF - 325 - UT - Solar	31.28	80.00	29.6%	39.1%	2019 12 01
45	QF - 326 - UT - Solar	8.21	21.00	34.9%	39.1%	2019 12 01
46	QF - 327 - OR - Solar	2.94	8.00	28.5%	36.8%	2018 12 01
47	QF - 328 - OR - Solar	16.88	46.00	28.7%	36.7%	2018 12 01
48	QF - 329 - UT - Solar	31.28	80.00	29.7%	39.1%	2018 12 01
49	QF - 330 - UT - Solar	31.28	80.00	29.7%	39.1%	2018 12 01
50	QF - 331 - UT - Solar	31.28	80.00	29.7%	39.1%	2018 12 01
51	QF - 332 - UT - Solar	31.28	80.00	29.7%	39.1%	2018 12 01
52	QF - 333 - UT - Solar	31.28	80.00	29.7%	39.1%	2018 12 01
53	QF - 334 - UT - Solar	31.28	80.00	29.7%	39.1%	2018 12 01
54	QF - 335 - UT - Solar	31.28	80.00	29.7%	39.1%	2018 12 01
55	QF - 336 - UT - Solar	22.68	58.00	33.9%	39.1%	2018 07 01
56	QF - 337 - WY - Solar	6.26	16.00	22.2%	39.1%	2018 08 01
Total Potential MW		1101.85	3372.90			

Total Partial Displacement	**1157.20**	**3533.10**

Pavant Solar III is a Utah non-QF solar resource added for the Utah Subscriber Solar Program.

Projects "QF - 256 - UT - Solar" and "QF - 257 - UT - Solar" are located in an area that PacifiCorp energy supply management (ESM), in its merchant capacity, is aware has significant transmission constraints. The existing transmission constraint conditions could lead to curtailment of these potential projects under certain circumstances, in accordance with the amended Network Operating Agreement between PacifiCorp ESM and PacifiCorp Transmission approved by the FERC on May 21, 2015.[3] As a result of the transmission constraint conditions, PacifiCorp provided these potential projects indicative avoided cost pricing that reflected certain transmission constraint-related adjustments. For example, the pricing reflected only projected delivered output from the potential projects, as well as a preliminary projected level of potential curtailment of that output, subject to further analysis. The projects' capacity deferral was also restricted based on the constraint conditions.

[3] *PacifiCorp*, 151 FERC ¶ 61,170 (2015).

Provided in the table below, is the partial displacement, adjusted for solar degradation:

Partial Displacement Adjusted for Solar Degradation
MW Capacity (July)

	a	b	c	d	e	f	g	h	i	j	k
Year	Signed & Potential QFs Adjusted For Solar Degradation			Cummulative 2015 IRP		Base Case Displacement		Avoided Cost Case Nameplate		Displacement	
	Signed	Potential	Total	CCCT MW	FOT	CCCT	FOT	New QF	Total	CCCT	FOT
			a + b			MIN(c,d)	MIN(e,c - f)		c + h	MIN(d,i)	MIN(e,i - j)
2017	13.9	-	13.9	-	747.7	-	13.9	-	13.9	-	13.9
2018	11.5	105.9	117.4	-	1,093.9	-	117.4	100.0	217.4	-	217.4
2019	42.7	778.6	821.3	-	1,245.7	-	821.3	100.0	921.3	-	921.3
2020	42.4	1,097.5	1,140.0	-	1,203.0	-	1,140.0	100.0	1,240.0	-	1,203.0
2021	52.3	1,092.4	1,144.7	-	970.2	-	970.2	100.0	1,244.7	-	970.2
2022	48.3	1,087.3	1,135.6	-	1,060.0	-	1,060.0	100.0	1,235.6	-	1,060.0
2023	48.0	1,082.1	1,130.2	-	965.3	-	965.3	100.0	1,230.2	-	965.3
2024	47.8	1,077.1	1,124.8	-	993.0	-	993.0	100.0	1,224.8	-	993.0
2025	47.5	1,072.0	1,119.5	-	1,440.3	-	1,119.5	100.0	1,219.5	-	1,219.5
2026	47.2	1,067.0	1,114.2	-	1,440.1	-	1,114.2	100.0	1,214.2	-	1,214.2
2027	46.9	1,062.0	1,108.9	-	1,442.9	-	1,108.9	100.0	1,208.9	-	1,208.9
2028	46.6	1,057.0	1,103.7	1,112.0	1,177.3	1,103.7	-	100.0	1,203.7	1,112.0	91.7
2029	46.4	1,052.1	1,098.4	1,112.0	1,222.8	1,103.7	-	100.0	1,198.4	1,112.0	86.4
2030	46.1	1,047.1	1,093.2	1,747.0	1,442.9	1,103.7	-	100.0	1,193.2	1,193.2	-
2031	45.8	1,042.2	1,088.1	2,201.0	1,106.6	1,103.7	-	100.0	1,188.1	1,193.2	-
2032	45.6	1,037.3	1,082.9	2,201.0	1,174.0	1,103.7	-	100.0	1,182.9	1,193.2	-
2033	45.3	984.3	1,029.6	2,624.0	1,442.9	1,103.7	-	100.0	1,129.6	1,193.2	-
2034	45.0	518.3	563.3	2,624.0	1,442.9	1,103.7	-	100.0	663.3	1,193.2	-
2035	44.8	305.5	350.3	2,624.0	1,442.9	1,103.7	-	100.0	450.3	1,193.2	-
2036	44.5	304.5	349.1	2,624.0	1,442.9	1,103.7	-	100.0	449.1	1,193.2	-
2037	37.2	303.6	340.8	2,624.0	1,442.9	1,103.7	-	100.0	440.8	1,193.2	-
2038	37.0	254.2	291.2	2,624.0	1,442.9	1,103.7	-	100.0	391.2	1,193.2	-
2039	10.2	89.9	100.1	2,624.0	1,442.9	1,103.7	-	100.0	200.1	1,193.2	-
2040	10.2	-	10.2	2,624.0	1,442.9	1,103.7	-	100.0	110.2	1,193.2	-
2041	-	-	-	2,624.0	1,442.9	1,103.7	-	100.0	100.0	1,193.2	-
2042	-	-	-	2,624.0	1,442.9	1,103.7	-	100.0	100.0	1,193.2	-

CCCT Partial Displacement in 2030	Base Case	AC Case
Before Solar Degradation	1,157.20	1,257.20
After Solar Degradation	1,103.66	1,193.24

Appendix B

ROCKY MOUNTAIN POWER

DOCKET 03-035-14 AND DOCKET 16-035-29

UPDATE IMPACT – UPDATED AVOIDED COST STUDY

2016.Q4 - March 2017

Appendix B

Avoided Cost Prices $/MWh
Utah 2016.Q4 - 100.0 MW and 85.0% CF

Year	Avoided Cost at 85.0% CF (2)	Utah 2016.Q3 Filing	Difference
2018	$23.29	$21.58	$1.71
2019	$19.81	$19.97	($0.16)
2020	$18.69	$18.50	$0.19
2021	$19.31	$19.62	($0.31)
2022	$20.94	$21.56	($0.63)
2023	$23.20	$24.56	($1.36)
2024	$25.83	$25.91	($0.08)
2025	$28.58	$29.39	($0.82)
2026	$32.73	$30.21	$2.52
2027	$35.49	$31.63	$3.86
2028	$35.17	$37.48	($2.31)
2029	$38.00	$40.81	($2.81)
2030	$54.05	$53.59	$0.46
2031	$55.61	$55.52	$0.10
2032	$57.15	$57.00	$0.14
15-Year Levelized Prices (Nominal) @ 6.660% Discount Rate (1) (3)			
$/MWh	$29.37 (4)	$29.30 (4)	$0.07

Footnotes:

(1) Discount Rate - 2015 IRP Page 141

(2) Total Avoided Costs with Capacity included at an 85.0% capacity factor

(3) 15-Year NPC is 2018 - 2032

(4) Levelized Annually. Avoided costs levelized monthly are $29.37/MWH
The levelized monthly calculation is more accurate when the QF has seasonal loads or when the QF project doesn't start in January.

Table 1
Avoided Cost Prices
Utah 2016.Q4 - 100.0 MW and 85.0% CF

Year	Capacity Price $/kW-yr		Energy Only Price $/MWh [2]	Total Price @ 85.0% Capacity Factor $/MWh
2018	$0.00		$23.29	$23.29
2019	$0.00		$19.81	$19.81
2020	$0.00		$18.69	$18.69
2021	$0.00		$19.31	$19.31
2022	$0.00		$20.94	$20.94
2023	$0.00		$23.20	$23.20
2024	$0.00		$25.83	$25.83
2025	$0.00		$28.58	$28.58
2026	$0.00		$32.73	$32.73
2027	$0.00		$35.49	$35.49
2028	$0.00		$35.17	$35.17
2029	$0.00		$38.00	$38.00
2030	$146.88	(4)	$34.32	$54.05
2031	$150.27		$35.43	$55.61
2032	$153.72		$36.56	$57.15

Levelized Prices (Nominal) @ 6.66% Discount Rate (1) (3)

$/kW	$19.64		
$/MWh		$26.73	$29.37 (5)

Footnotes:

(1) Discount Rate - 2015 IRP Page 141

(2) 'Energy Only' is the GRID calculated costs and includes some capacity costs.

(3) 15 Year NPC is 2018 - 2032

(4) The capacity payment is derived from:

2030 - Utah - 635 MW - CCCT Dry "F" 2x1 - East Side Resource (5,050') (100.0%)

(5) Avoided Costs calculated monthly starting January 2018
Avoided Costs calculated annually are $29.38/MWH
The levelized monthly calculation is more accurate when the QF has seasonal loads or when the QF project doesn't start in January.

Table 2
Avoided Energy Costs - Scheduled Hours ($/MWh)
Utah 2016.Q4 - 100.0 MW and 85.0% CF

Year		Winter Season					Summer Season				Winter Season		
	Annual	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Energy Only													
2018	$23.29	$24.84	$26.10	$23.13	$18.48	$17.40	$18.45	$28.96	$29.85	$29.46	$19.58	$21.92	$21.37
2019	$19.81	$19.61	$18.84	$18.75	$18.59	$17.76	$17.84	$24.12	$22.46	$22.13	$19.07	$18.62	$19.72
2020	$18.69	$21.12	$19.10	$17.71	$18.39	$17.61	$16.80	$19.07	$19.49	$18.76	$18.71	$17.93	$19.49
2021	$19.31	$19.58	$19.70	$21.27	$17.23	$17.22	$17.61	$18.92	$19.36	$18.91	$19.35	$20.97	$21.52
2022	$20.94	$22.45	$22.83	$21.24	$18.80	$18.12	$18.25	$20.98	$21.19	$20.03	$21.16	$22.61	$23.64
2023	$23.20	$22.73	$25.71	$23.17	$20.89	$19.62	$20.34	$23.10	$22.89	$23.88	$24.87	$26.03	$25.40
2024	$25.83	$24.09	$26.95	$25.08	$22.81	$22.48	$22.59	$23.60	$27.41	$29.50	$27.72	$29.62	$28.25
2025	$28.58	$31.26	$29.34	$28.79	$27.39	$25.45	$24.67	$29.90	$27.12	$28.50	$29.60	$29.91	$30.93
2026	$32.73	$30.45	$33.58	$30.07	$27.09	$25.40	$25.91	$44.24	$43.70	$45.43	$29.87	$26.20	$30.75
2027	$35.49	$35.07	$34.08	$32.89	$28.66	$26.27	$27.09	$45.45	$44.48	$47.68	$31.79	$35.96	$36.24
2028	$35.17	$35.38	$33.72	$33.36	$31.59	$29.60	$29.41	$40.95	$39.75	$36.53	$35.95	$38.43	$37.17
2029	$38.00	$40.39	$38.65	$36.87	$32.88	$31.65	$32.59	$43.61	$40.68	$40.82	$38.28	$39.89	$39.57
2030	$34.07	$35.48	$35.48	$34.11	$32.74	$32.30	$32.29	$32.77	$33.85	$34.34	$34.66	$35.48	$35.48
2031	$35.14	$36.49	$36.49	$36.49	$36.05	$33.10	$32.81	$34.03	$33.11	$35.02	$35.37	$36.36	$36.49
2032	$36.11	$37.56	$37.56	$37.27	$37.56	$33.45	$33.72	$34.29	$35.23	$35.54	$36.29	$37.40	$37.56
2033	$37.73	$38.84	$38.84	$38.84	$38.84	$35.40	$35.40	$36.01	$37.36	$37.48	$38.14	$38.84	$38.84

(1) See Table 3, Column (h).
Consistent with Docket No. 03-035-14, QFs requesting a tolling option will have variable energy priced at the IRP Resource Energy Cost (heat rate times the cost of fuel). Additionally, the energy price for unscheduled or non-firm deliveries is capped at the IRP Resource Energy Cost.

Table 3
CCCT Resource Costs - 2015 Integrated Resource Plan
Utah - 635 MW - CCCT Dry "F" 2x1 - East Side Resource (5,050')

Year	Estimated Capital Cost $/kW	Capital Cost at Real Levelized Rate $/kW-yr	Fixed O&M $/kW-yr	Variable O&M $/MWh	Total O&M at Expected CF $/kW-yr	Total Resource Fixed Costs $/kW-yr	Fuel Cost $/MMBtu	Total Resource Energy Cost $/MWh	Total Resource Costs $/MWh
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
Utah - 635 MW - CCCT Dry "F" 2x1 - East Side Resource (5,050')									
2014	$1,026	$78.82	$15.83	$1.52	$24.82	$103.64			
2015		$79.29	$15.92	$1.53	$24.97	$104.26			
2016		$80.32	$16.13	$1.55	$25.30	$105.62			
2017		$82.25	$16.52	$1.59	$25.92	$108.17			
2018		$84.22	$16.92	$1.63	$26.56	$110.78			
2019		$86.24	$17.33	$1.67	$27.20	$113.44			
2020		$88.31	$17.75	$1.71	$27.86	$116.17			
2021		$90.43	$18.18	$1.75	$28.53	$118.96			
2022		$92.60	$18.62	$1.79	$29.20	$121.80			
2023		$94.92	$19.09	$1.83	$29.91	$124.83			
2024		$97.29	$19.57	$1.88	$30.69	$127.98			
2025		$99.72	$20.06	$1.93	$31.47	$131.19			
2026		$102.21	$20.56	$1.98	$32.27	$134.48			
2027		$104.56	$21.03	$2.03	$33.03	$137.59			
2028		$106.86	$21.49	$2.07	$33.73	$140.59			
2029		$109.21	$21.96	$2.12	$34.50	$143.71			
2030		$111.61	$22.44	$2.17	$35.27	$146.88	$5.28	$35.48	$60.32
2031		$114.18	$22.96	$2.22	$36.09	$150.27	$5.43	$36.49	$61.90
2032		$116.81	$23.49	$2.27	$36.91	$153.72	$5.59	$37.56	$63.56

Sources, Inputs and Assumptions

Source: (a)(c)(d) Plant Costs - 2015 IRP - Table 6.1 & 6.2 - Page 92

(b) = (a) x 0.07682

(e) = (d) x (8.76 x 67.5%) + (c)

(f) = (b) + (e)

(g) Table 4 - Burnertip Natural Gas Price Forecast

(h) = 6,720 MMBtu/MWH x $/MMBtu

(i) = (f) / (8.76 x 'Capacity Factor') + (h)

Table 3
CCCT Resource Costs - 2015 Integrated Resource Plan
Utah - 635 MW - CCCT Dry "F" 2x1 - East Side Resource (5,050')

Utah - 635 MW - CCCT Dry "F" 2x1 - East Side Resource (5,050')

CCCT Statistics	MW	Percent	Cap Cost	Fixed
CCCT Dry "J" - Turbine	534	84.1%	$1,077	$16.07
CCCT Dry "J" - Duct Firing	101	15.9%	$755	$14.56
Capacity Weighted	635	100.0%	$1,026	$15.83

CCCT Statistics	MW	CF	aMW	Percent	Variable	Heat Rate
CCCT Dry "J" - Turbine	534	78.0%	416.5	97.2%	$1.56	6,637
CCCT Dry "J" - Duct Firing	101	12.0%	12.1	2.8%	0.11	9,561
Energy Weighted	635	67.5%	428.6	100.0%	$1.52	6,720

Rounded

CCCT	Duct Firing	Plant Costs - 2015 IRP - Table 6.1 & 6.2 - Page 92
534	101	MW Plant Capacity
$1,077	$755	Plant Capacity Cost
$5.96	$0.00	Fixed O&M & Capitalized O&M
$10.11	$14.56	Fixed Pipeline
$16.07	$14.56	Fixed O&M Including Fixed Pipeline & Capitalized O&M ($/kW-Yr)
$1.56	$0.11	Variable O&M Costs & Capitalized Variable O&M ($/MWh)
6,637	9,561	Heat Rate in btu/kWh
7.682%	7.682%	Payment Factor
78%	12%	Capacity Factor
	67.5%	Energy Weighted Capacity Factor

Company Official Inflation Forecast Dated December 30, 2016

2015	0.6%	2024	2.5%	2033	2.3%
2016	1.3%	2025	2.5%	2034	2.3%
2017	2.4%	2026	2.5%	2035	2.3%
2018	2.4%	2027	2.3%	2036	2.3%
2019	2.4%	2028	2.2%	2037	2.3%
2020	2.4%	2029	2.2%	2038	2.3%
2021	2.4%	2030	2.2%	2039	2.3%
2022	2.4%	2031	2.3%	2040	2.3%
2023	2.5%	2032	2.3%	2041	2.3%

Table 4
Burnertip Natural Gas Price Forecast
Utah 2016.Q4 - 100.0 MW and 85.0% CF

Year	PacifiCorp Delivered IRP - Utah Greenfield Fuel Cost
2018	$2.92
2019	$2.65
2020	$2.67
2021	$2.74
2022	$2.79
2023	$3.44
2024	$4.14
2025	$4.35
2026	$4.46
2027	$4.71
2028	$4.84
2029	$4.98
2030	$5.28
2031	$5.43
2032	$5.59

Official Forward Price Curve Forecast dated Dec 30, 2016

Table 5

Utah 2016.Q4 - 100.0 MW and 85.0% CF
January 2018 through December 2032
Nominal Avoided Costs Calculated Monthly

Nominal NPV at 6.66% Discount Rate

$ 190,938,266	$ 18,841,476	$ 209,779,741	7,142,918	$29.37

	Energy	Capacity $	Total	Total	AC Price
Month	Avoided $	85.0% CF	Dollars	MWH	85.0% CF
Jan-18	1,570,627	-	1,570,627	63,240	24.84
Feb-18	1,490,893	-	1,490,893	57,120	26.10
Mar-18	1,462,583	-	1,462,583	63,240	23.13
Apr-18	1,130,674	-	1,130,674	61,200	18.48
May-18	1,100,565	-	1,100,565	63,240	17.40
Jun-18	1,128,915	-	1,128,915	61,200	18.45
Jul-18	1,831,404	-	1,831,404	63,240	28.96
Aug-18	1,888,019	-	1,888,019	63,240	29.85
Sep-18	1,803,038	-	1,803,038	61,200	29.46
Oct-18	1,238,465	-	1,238,465	63,240	19.58
Nov-18	1,341,772	-	1,341,772	61,200	21.92
Dec-18	1,351,338	-	1,351,338	63,240	21.37
Jan-19	1,240,107	-	1,240,107	63,240	19.61
Feb-19	1,076,420	-	1,076,420	57,120	18.84
Mar-19	1,185,710	-	1,185,710	63,240	18.75
Apr-19	1,137,904	-	1,137,904	61,200	18.59
May-19	1,123,166	-	1,123,166	63,240	17.76
Jun-19	1,091,601	-	1,091,601	61,200	17.84
Jul-19	1,525,477	-	1,525,477	63,240	24.12
Aug-19	1,420,353	-	1,420,353	63,240	22.46
Sep-19	1,354,087	-	1,354,087	61,200	22.13
Oct-19	1,205,725	-	1,205,725	63,240	19.07
Nov-19	1,139,697	-	1,139,697	61,200	18.62
Dec-19	1,247,259	-	1,247,259	63,240	19.72
Jan-32	2,463,617	1,281,000	3,744,617	63,240	59.21
Feb-32	2,324,054	1,281,000	3,605,054	59,160	60.94
Mar-32	2,357,220	1,281,000	3,638,220	63,240	57.53
Apr-32	2,343,659	1,281,000	3,624,659	61,200	59.23
May-32	2,115,205	1,281,000	3,396,205	63,240	53.70
Jun-32	2,063,425	1,281,000	3,344,425	61,200	54.65
Jul-32	2,168,302	1,281,000	3,449,302	63,240	54.54
Aug-32	2,228,162	1,281,000	3,509,162	63,240	55.49
Sep-32	2,175,177	1,281,000	3,456,177	61,200	56.47
Oct-32	2,295,107	1,281,000	3,576,107	63,240	56.55
Nov-32	2,289,002	1,281,000	3,570,002	61,200	58.33
Dec-32	2,473,638	1,281,000	3,754,638	63,240	59.37

Appendix C

ROCKY MOUNTAIN POWER

DOCKET 03-035-14 AND DOCKET 16-035-29

STEP STUDY BETWEEN PRIOR FILING AND CURRENT FILING

2016.Q4 - March 2017

Appendix C

Utah Quarterly Compliance Filing
Step Study between 2016.Q4 and 2016.Q3 Compliance Filing
Avoided Cost Impact of Changing Assumptions $/MWH (1) (4)

Year	1612 OFPC (2)	Generic Update	Load Forecast	QF Queue	Trapped Energy	Total Impact
2018	$ 0.38	$ 1.35	$ (0.02)	$ (0.00)	$ (0.00)	$ 1.71
2019	$ (0.12)	$ (0.06)	$ (0.06)	$ 0.08	-	$ (0.16)
2020	$ (0.39)	$ (0.05)	$ 0.27	$ 0.58	$ (0.22)	$ 0.19
2021	$ (0.53)	$ (0.05)	$ (0.12)	$ 0.66	$ (0.27)	$ (0.31)
2022	$ (0.83)	$ (0.04)	$ 0.05	$ 0.48	$ (0.28)	$ (0.63)
2023	$ (0.85)	$ (0.08)	$ (0.45)	$ 0.13	$ (0.10)	$ (1.36)
2024	$ 0.61	$ (0.18)	$ (0.53)	$ 0.16	$ (0.14)	$ (0.08)
2025	$ 1.33	$ (1.88)	$ (0.66)	$ 0.45	$ (0.06)	$ (0.82)
2026	$ 1.81	$ (0.26)	$ (0.54)	$ 1.61	$ (0.09)	$ 2.53
2027	$ 2.00	$ (0.29)	$ (0.55)	$ 2.77	$ (0.08)	$ 3.86
2028	$ 1.26	$ (1.13)	$ (0.23)	$ (2.10)	$ (0.12)	$ (2.31)
2029	$ 0.81	$ (1.99)	$ (0.31)	$ (1.14)	$ (0.19)	$ (2.81)
2030	$ 1.78	-	$ (0.62)	$ (0.59)	$ (0.11)	$ 0.46
2031	$ 0.94	-	$ (0.04)	$ (0.75)	$ (0.05)	$ 0.10
2032	$ 1.11	-	$ (0.10)	$ (0.81)	$ (0.06)	$ 0.14
Nominal Levelized Payment at 6.660% Discount Rate (3)						
2018 - 2032	$ 0.44	$ (0.21)	$ (0.23)	$ 0.19	$ (0.12)	$ 0.08

(1) Studies are sequential. The order of the studies would affect the price impact.
(2) Official Forward Price Curve Dated December 2016
(3) Discount Rate - 2015 IRP Page 141
(4) Capacity costs are allocated assuming an 85% capacity factor.

Appendix C

Utah Quarterly Compliance Filing
Step Study between 2016.Q4 and 2016.Q3 Compliance Filing
Total Avoided Cost Prices $/MWH (1) (4)

Year	2016.Q3 As Filed	1612 OFPC	Generic Update	Load Forecast	QF Queue	Trapped Energy
2018	$21.58	$21.96	$23.31	$23.29	$23.29	$23.28
2019	$19.97	$19.85	$19.79	$19.73	$19.81	$19.81
2020	$18.50	$18.11	$18.06	$18.33	$18.69	$18.46
2021	$19.62	$19.09	$19.04	$18.92	$19.31	$19.04
2022	$21.56	$20.73	$20.69	$20.74	$20.94	$20.66
2023	$24.56	$23.71	$23.63	$23.17	$23.20	$23.11
2024	$25.91	$26.52	$26.34	$25.82	$25.83	$25.69
2025	$29.39	$30.72	$28.85	$28.19	$28.58	$28.52
2026	$30.21	$32.02	$31.76	$31.22	$32.74	$32.64
2027	$31.63	$33.63	$33.34	$32.79	$35.49	$35.41
2028	$37.48	$38.75	$37.62	$37.40	$35.18	$35.06
2029	$40.81	$41.62	$39.63	$39.33	$38.00	$37.81
2030	$53.59	$55.36	$55.36	$54.75	$54.05	$53.94
2031	$55.52	$56.46	$56.46	$56.42	$55.61	$55.56
2032	$57.01	$58.11	$58.11	$58.02	$57.15	$57.09
Nominal Levelized Payment at 6.660% Discount Rate (3)						
2018 - 2032	$29.30	$29.74	$29.53	$29.31	$29.38	$29.26

(1) Studies are sequential. The order of the studies would affect the price impact.
(2) Official Forward Price Curve Dated December 2016
(3) Discount Rate - 2015 IRP Page 141
(4) Capacity costs are allocated assuming an 85% capacity factor.

Appendix C

Utah Quarterly Compliance Filing
Step Study between 2016.Q4 and 2016.Q3 Compliance Filing
GRID Calculated Energy Avoided Cost Prices $/MWH (1)

Year	2016.Q3 As Filed	1612 OFPC	Generic Update	Load Forecast	QF Queue	Trapped Energy
2018	$21.58	$21.96	$23.31	$23.29	$23.29	$23.28
2019	$19.97	$19.85	$19.79	$19.73	$19.81	$19.81
2020	$18.50	$18.11	$18.06	$18.33	$18.69	$18.46
2021	$19.62	$19.09	$19.04	$18.92	$19.31	$19.04
2022	$21.56	$20.73	$20.69	$20.74	$20.94	$20.66
2023	$24.56	$23.71	$23.63	$23.17	$23.20	$23.11
2024	$25.91	$26.52	$26.34	$25.82	$25.83	$25.69
2025	$29.39	$30.72	$28.85	$28.19	$28.58	$28.52
2026	$30.21	$32.02	$31.76	$31.22	$32.74	$32.64
2027	$31.63	$33.63	$33.34	$32.79	$35.49	$35.41
2028	$35.64	$36.86	$35.73	$35.51	$35.18	$35.06
2029	$38.92	$39.69	$37.70	$37.39	$38.00	$37.81
2030	$34.17	$35.50	$35.50	$34.88	$34.33	$34.22
2031	$35.67	$36.13	$36.13	$36.10	$35.43	$35.38
2032	$36.77	$37.38	$37.38	$37.28	$36.56	$36.50
Nominal Levelized Payment at 6.66% Discount Rate (3) (4)						
2018 - 2032	$26.51	$26.89	$26.68	$26.46	$26.74	$26.62

(1) Studies are sequential. The order of the studies would affect the price impact.
(2) Official Forward Price Curve Dated December 2016
(3) Discount Rate - 2015 IRP Page 141
(4) 15-Year Nominal Levelized Payment (2018-2032)

Appendix C

Utah Quarterly Compliance Filing
Step Study between 2016.Q4 and 2016.Q3 Compliance Filing
Capacity Avoided Cost Prices

Year	$/kW-Year			$/MWH (1)		
	2016.Q3 (3)	1612 OFPC (4)	2016.Q4 (5)	2016.Q3 (3)	1612 OFPC (4)	2016.Q4 (5)
2018	-	-	-	-	-	-
2019	-	-	-	-	-	-
2020	-	-	-	-	-	-
2021	-	-	-	-	-	-
2022	-	-	-	-	-	-
2023	-	-	-	-	-	-
2024	-	-	-	-	-	-
2025	-	-	-	-	-	-
2026	-	-	-	-	-	-
2027	-	-	-	-	-	-
2028	$ 13.77	$ 14.08	-	$ 1.84	$ 1.89	-
2029	$ 14.07	$ 14.39	-	$ 1.89	$ 1.93	-
2030	$ 144.61	$ 147.93	$ 146.88	$ 19.42	$ 19.87	$ 19.73
2031	$ 147.80	$ 151.34	$ 150.27	$ 19.85	$ 20.32	$ 20.18
2032	$ 151.07	$ 154.81	$ 153.72	$ 20.23	$ 20.73	$ 20.59
Nominal Levelized Payment at 6.660% Discount Rate (2)						
2018 - 2032	$20.76	$21.25	$19.65	$2.79	$2.85	$2.64

(1) Capacity costs are allocated assuming an 85% capacity factor.
(2) Discount Rate - 2015 IRP Page 141
(3) Capacity costs reflect - 2028 - West M - 477 MW - CCCT Dry "J", Adv 1x1 - West Side Resource (1,500') (9.3%)
(4) Capacity costs reflect - 2028 - West M - 477 MW - CCCT Dry "J", Adv 1x1 - West Side Resource (1,500') (9.3%)
(5) Capacity costs reflect -
2030 - Utah - 635 MW - CCCT Dry "F" 2x1 - East Side Resource (5,050') (100.0%)

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing **Quarterly Compliance Filing – Avoided Cost Input Changes** in Docket Nos. 03-035-14 and 16-035-29 was served upon the following by email on March 31, 2017.

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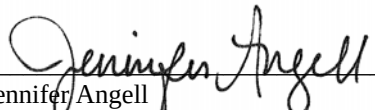

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