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BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

In the Matter of the Application of Rocky Mountain Power for Approval of a Significant Energy Resource Decision and Request to Construct Wind Resource and Transmission Facilities	Docket No. 17-035-40
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REBUTTAL TESTIMONY OF BRADLEY G. MULLINS

The Utah Association of Energy Users (“UAE”) and the Utah Industrial Energy Consumers (“UIEC”) hereby submit the Rebuttal Testimony of Bradley G. Mullins in this docket.

DATED this 16th day of January 2018

/s/ Phillip J. Russell _____

Gary A. Dodge

Phillip J. Russell

HATCH, JAMES & DODGE

Attorneys for the Utah Association of Energy Users

/s/ Chad C. Baker _____

William J. Evans

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Attorneys for UIEC, an intervention group

Certificate of Service
Docket No. 17-035-40

I hereby certify that a true and correct copy of the foregoing was served by email this day 16th day of January 2018, on the following:

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PUBLIC SERVICE COMMISSION OF UTAH**

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**REBUTTAL TESTIMONY OF BRADLEY G. MULLINS
ON BEHALF OF
THE UTAH ASSOCIATION OF ENERGY USERS
AND
THE UTAH INDUSTRIAL ENERGY CONSUMERS**

January 16, 2018

1 **Q. PLEASE STATE YOUR NAME.**

2 A. My name is Bradley G. Mullins.

3 **Q. ARE YOU THE SAME WITNESS WHO FILED DIRECT TESTIMONY IN THIS**
4 **MATTER?**

5 A. Yes. I filed Direct Testimony in this docket on December 5, 2017 on behalf of the Utah
6 Association of Energy Users (“UAE”) and the Utah Industrial Energy Consumers
7 (“UIEC”).

8 **Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?**

9 A. I respond to the Direct Testimony of the Division of Public Utilities (the “Division”), the
10 Office of Consumer Services (the “Office”), Western Resource Advocates, Utah Clean
11 Energy and the Interwest Energy Alliance regarding the request of Rocky Mountain
12 Power (“PacifiCorp” or the “Company”) for pre-approval of a its proposed resource
13 decisions to acquire the Wind Projects and the Transmission Projects, collectively the
14 Combined Projects, as described in PacifiCorp’s application.

15 **Q. DO OTHER PARTIES SHARE YOUR RECOMMENDATION FOR THE**
16 **COMMISSION TO DENY PACIFICORP’S REQUEST?**

17 A. Yes. Both the Division and the Office recommend the Commission deny PacifiCorp’s
18 request for pre-approval of the resource decisions underlying the Wind Projects and the
19 Transmission Projects. Both arrived at their recommendation for many of the same
20 reasons identified in my Direct Testimony.

21 **a. Response to the Office**

22 **Q. DID THE OFFICE RECOGNIZE THE UNCERTAINTY SURROUNDING THE**
23 **SPECIFIC RESOURCES IN PACIFICORP'S PROPOSAL?**

24 A. Similar to my Direct Testimony, testimony submitted by the Office notes that there is still
25 uncertainty over the investment decisions that PacifiCorp might propose in this matter
26 because the resource decisions might change depending on the results of the ongoing
27 request for proposal. Throughout his Direct Testimony, Office witness Philip Hayet
28 correctly notes that many project assumptions and risks are dependent on the request for
29 proposal, including the risks of budget overages, third party developer risks, the risk of
30 project delays, and tax reform risks. I agree with Mr. Hayet in this regard. As a result of
31 this uncertainty, parties have not had the opportunity to understand the full scope of risks
32 and costs that might be involved if the Company's resource decision were to change
33 materially in its Rebuttal Testimony.

34 **Q. DO YOU AGREE WITH THE OFFICE REGARDING THE POTENTIAL**
35 **IMPACTS OF TAX REFORM?**

36 A. Generally, yes. I expect tax reform to have material impacts on the economic case
37 underlying the Company's resource proposal. On behalf of the Office, Donna Ramas
38 provided testimony regarding her review of the active tax reform proposals that were
39 under consideration at the time of filing Direct Testimony.¹ Since then, H.R. 1 of the
40 115th Congress, the Tax Cuts and Jobs Act was signed into law in late December 2017,
41 and thus, there is now a fuller understanding of the provisions that will impact the
42 economics of the PacifiCorp's resource decision. Before studying the impacts of the new

¹ Direct Testimony of Donna Ramas at Lines 323-480.

43 tax provisions on the Combined Projects, however, more information is required from
44 PacifiCorp.

45 **Q. HAS PACIFICORP UPDATED ITS ECONOMIC ANALYSIS TO REFLECT THE**
46 **IMPACT OF TAX REFORM?**

47 A. UAE submitted Data Request 3.1 requesting PacifiCorp to update its economic analysis
48 to reflect the impact of tax reform on the Combined Projects.² PacifiCorp did not provide
49 the updated economic analysis. PacifiCorp stated that it would include updated tax
50 calculations in its Rebuttal Testimony. I will respond to PacifiCorp's calculations and
51 testimony related to tax reform at the appropriate time.

52 **b. Response to the Division**

53 **Q. DO YOU AGREE WITH THE MANY RISKS THAT THE DIVISION**
54 **IDENTIFIED WITH RESPECT TO THE COMBINED PROJECTS?**

55 A. Yes. Division witness Peaco identified a series of risks which were not adequately
56 considered in PacifiCorp's analysis.³

57 **Q. DID MR. PEACO IDENTIFY MARKET PRICE FORECASTING AS A MAJOR**
58 **RISK ASSOCIATED WITH THE COMBINED PROJECTS?**

59 A. Yes. Mr. Peaco testified that there is ratepayer risk associated with PacifiCorp's natural
60 gas price assumptions.⁴ Mr. Peaco addresses the lack of analytical support for
61 PacifiCorp's current price projections and focuses on the risks associated with PacifiCorp
62 being wrong about those assumptions. I reached similar conclusions in my Direct

² UAE-UIEC Exhibit 2.1, Pages 1-4.

³ Direct Testimony of Daniel Peaco Lines 682-1042.

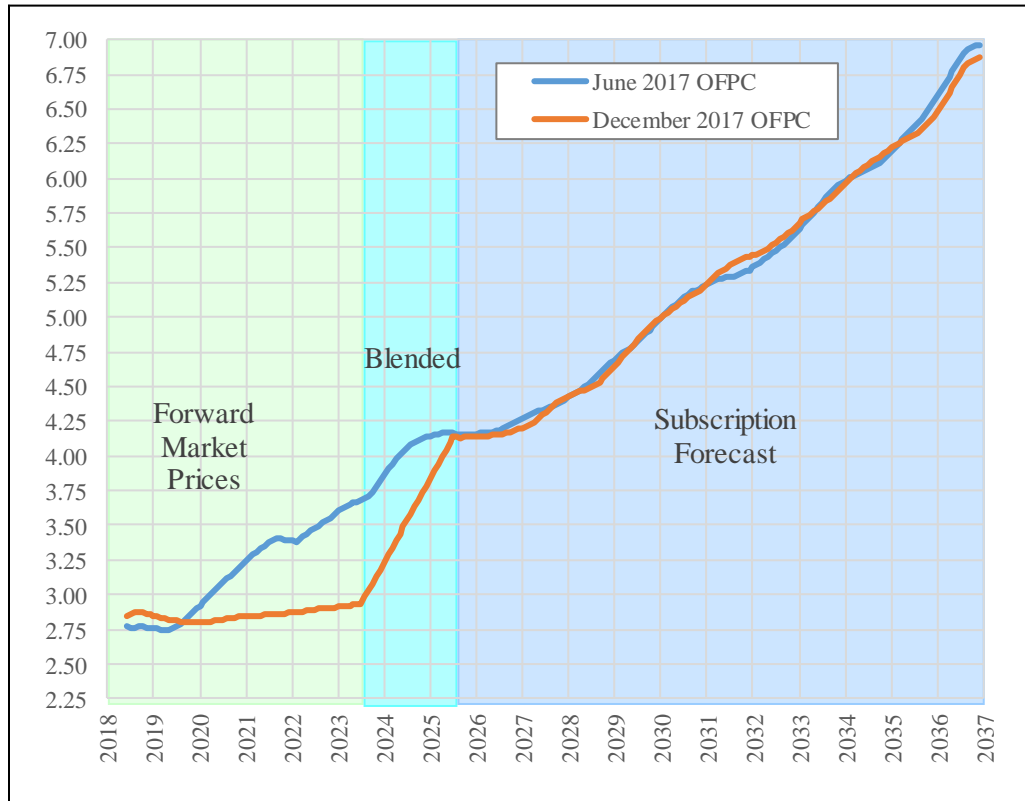
⁴ Id. Lines 355, 696-772.

63 Testimony with respect to the accuracy of the Company's forecast and agree with Mr.
64 Peaco that the current price projections are not reasonable.

65 **Q. DO RECENT MARKET DEVELOPMENTS SUPPORT THE DIVISION'S**
66 **CONCERNS ABOUT PACIFICORP'S PRICE PROJECTIONS?**

67 A. Yes. In response to UAE Data Request 3.2, PacifiCorp provided its most recent
68 December 2017 Official Forward Price Curve ("OFPC"). In the short-term portion of the
69 December OFPC, the shape of the forward curve has changed materially. While spot
70 prices have remained relatively flat, large price reductions have been observed in the
71 forward periods. For example, the forward market prices for calendar year 2022 declined
72 by approximately 35% in PacifiCorp's December 2017 OFPC, relative to the June 2017
73 curve used in the Company's most recent analysis in this matter. This can be observed in
74 Figure 1, below.

FIGURE 1
Rolling 12 Mo Average Henry Hub Forward Price \$/MMBtu
Source: PacifiCorp Non-Confidential Official Forward Price Curve



75 **Q. WHAT IS DRIVING THE REDUCTION IN FORWARD MARKET PRICES?**

76 A. It is difficult to say with certainty. PacifiCorp produced its response to UAE Data
77 Request 3.2 only a few days before this Rebuttal Testimony was due and I will need
78 additional time to determine what factors have contributed to the reduction in forward
79 market prices. However, it would not be surprising if tax reform has been one of the
80 factors contributing to the reduction in forward market prices.

81 **Q. WERE SIMILAR REDUCTIONS OBSERVED IN THE LONG-TERM PORTION**
82 **OF THE PRICE CURVE?**

83 A. Notwithstanding the sharp reductions in forward market prices, which look forward 72
84 months, similar reductions were not observed in the long-term portion of the price curve
85 (beyond 72 months), which relies on a subscription forecast from a third-party vendor.
86 As can be seen in Figure 1, PacifiCorp's long-term forecast remains largely unchanged,
87 steadily escalating to about \$7.00/MMbtu in 2036. The lack of any material change in
88 the long-term natural gas price forecast used in the December 2017 OFPC may be due to
89 the fact that it was published on November 21, 2017, before the effects of tax reform and
90 current changes in forward markets might have been considered.⁵ The Company
91 confirmed in response to UAE Data Request 3.2(f) that the impact of the tax reform was
92 not considered in its long-term natural gas price forecast.⁶ It also confirmed in response
93 to UAE Data Request 3.1(p) that it had not undertaken any consideration of whether tax
94 reform might have an impact on market prices for natural gas and electricity, asserting
95 that consideration of such an impact would be speculative.⁷

96 **Q. DO YOU AGREE WITH THE DIVISION REGARDING THE RISK**
97 **ASSOCIATED WITH PRODUCTION ESTIMATES?**

98 A. Yes. Mr. Peaco identified production estimates as a major risk that the Company has not
99 adequately addressed in its analysis.⁸ I agree. Past experience with wind resources in
100 Wyoming demonstrates that there is a risk that the actual net capacity factor resulting

⁵ UAE-UIEC Exhibit 2.1, Pages 5-6.

⁶ UAE-UIEC Exhibit 2.1, Pages 5-6

⁷ UAE-UIEC Exhibit 2.1, Pages 5-6.

⁸ Direct Testimony of Daniel Peaco, Lines 978-1002.

101 from the Wind Projects will be less than the net capacity factor forecast in PacifiCorp's
102 economic analysis. As Mr. Peaco notes, the impact of these production estimates are
103 significant and even a minor change will have a large negative impacts on the economic
104 consequences of making the investment.

105 **Q. DO YOU AGREE WITH THE DIVISION THAT THE PROPOSED**
106 **TRANSMISSION PROJECTS ARE NOT NECESSARY FOR GRID**
107 **RELIABILITY OR RESILIENCY?**

108 A. Yes. On behalf of the Division, Robert Davis testified that in the absence of the Wind
109 Projects, there are no grid reliability or resiliency requirements which would necessitate
110 building the Transmission Project.⁹ I noted in my Direct Testimony that the Company
111 has admitted this fact on the record in Oregon. The necessity of the Transmission
112 Projects (or lack thereof) is an important consideration particularly when one begins to
113 consider the assumptions PacifiCorp made in its economic evaluation surrounding Open
114 Access Transmission Tariff ("OATT") revenues. The Division shared my concern
115 regarding the reasonableness of the level of OATT revenues, which were a primary
116 contributor to the overall economics of the Combined Projects in PacifiCorp's
117 Application.¹⁰ Since the Transmission Projects are not needed for reliability or resiliency
118 reasons, it is not settled how the cost of the Transmission Projects might be considered
119 within the context of Attachment K of PacifiCorp's OATT. I continue to believe that
120 PacifiCorp's OATT customers may not be willing to pay for the Transmission Projects,
121 since the OATT customers will not recognize any commensurate benefit associated with

⁹ Direct Testimony of Robert A. Davis 35:39.

¹⁰ Direct Testimony of Daniel Peaco, Lines 1015-1042.

122 the underlying Wind Projects. If OATT customers are not required to pay, the revenue
123 requirement of the Transmission Projects will, absent a prudence disallowance, remain
124 with retail ratepayers.

125 **c. Response to Interwest Energy Alliance**

126 **Q. DO YOU AGREE WITH INTERWEST ENERGY ALLIANCE (“INTERWEST”)**
127 **THAT CHANGES IN CORPORATE TAX RATES DOES NOT AFFECT THE**
128 **VALUE OF PRODUCTION TAX CREDITS?**

129 A. No. Gregory F. Jenner, testifying for Interwest, states that a change to the corporate tax
130 rate does not affect the value of production tax credits.¹¹ This is incorrect. From the
131 perspective of a tax equity investor, it may be true that the tax rate change does not affect
132 the value of production tax credits, which may be used to offset taxes on a dollar-for-
133 dollar basis. But, from a ratepayer perspective, tax reform does impact the value of
134 production tax credits. Since the tax credits are stated “after-tax” the amount of the
135 credits must be divided by one minus the tax rate to arrive at the “pre-tax” revenue
136 requirement value associated with the tax credit. A lower tax rate means that the credits
137 offset a smaller portion of pre-tax revenues. Donna Ramas, on behalf of the Office for
138 Consumer Services, described the mechanics of the impact of the tax rate in Direct
139 Testimony, as well.¹²

¹¹ Direct Testimony of Gregory F. Jenner at Page 11, Lines 18-22.

¹² Direct Testimony of Donna Ramas, Lines 373-379

140 **d. Response to Utah Clean Energy**

141 **Q. SHOULD THE COMMISSION CONSIDER THE ECONOMIC RETIREMENT**
142 **OF COAL PLANTS IN THIS MATTER?**

143 A. No. In Direct Testimony, UCE identified certain concerns with the way coal resources
144 are being modeled within the context of PacifiCorp's Integrated Resource Plan.¹³ UCE
145 recommends that the Commission approve the Combined Projects, but also require
146 PacifiCorp to perform an evaluation of "economic retirements of its existing coal fleet
147 and demonstrate that carbon emissions will decrease as a result of this investment."¹⁴
148 There may be some valid concerns with how PacifiCorp models retirements of coal
149 plants in its Integrated Resource Plan. Notwithstanding, the integrated resource planning
150 process is probably the better venue to deal with those concerns.

151 **e. Response to Western Resource Advocates**

152 **Q. WHAT DOES WESTERN RESOURCE ADVOCATES SAY ABOUT WHETHER**
153 **THE COMBINED PROJECTS WILL DISPLACE COAL GENERATION?**

154 A. Nancy Kelly, on behalf of Western Resource Advocates ("WRA"), concluded that the
155 Combined Projects effectively displace coal-fired generation and reduce emissions, noting
156 that the new wind could accommodate a retirement of coal resources earlier than currently
157 planned.¹⁵

13 Direct Testimony of Kate Bowman, Page 10.

14 *Id.* at 2

15 Direct Testimony of Nancy Kelly, Lines 129-130, Lines 336:344.

158 **Q. DO YOU AGREE THAT THE COMBINED PROJECTS MIGHT RESULT IN**
159 **EARLY RETIREMENT OF COAL PLANTS?**

160 A. Not necessarily. The Combined Projects may put further strain the must-run coal resources
161 located in Wyoming and Utah, making those resources uneconomic and leading to early
162 retirements. It may also be necessary to keep the coal plants operating for longer periods of
163 time in order to accommodate the large amounts of variable energy that would result from the
164 Combined Projects. In either case, the early closure of coal plants has the potential to be a
165 significant financial burden on ratepayers, and that burden was not considered in
166 PacifiCorp's Application. If one concludes that investing in Combined Projects will result in
167 environmental benefits through the early retirement of coal plants, one must also consider the
168 large ratepayer costs that would ensue as a result of the early retirements.

169 **Q. DO YOU AGREE WITH MS. KELLY THAT THE COMBINED PROJECTS**
170 **CONSTITUTE A HEDGE?**

171 A. Yes. The Wind Projects represent "must take" resources with costs that are
172 predominately fixed. From that perspective the Wind Projects may be considered a long-
173 term hedge against increasing market prices. That does not, however, mean that it is
174 desirable to make a multi-billion dollar investment to accomplish such a hedge, or that
175 they are a good hedge for PacifiCorp's portfolio. As discussed in my Direct Testimony,
176 PacifiCorp already has a hedging policy in place to hedge against volatility in market
177 prices over time. That policy has been controversial and should not be bypassed for the
178 purpose of justifying a multi-billion dollar investment.

179 Viewed as a hedge, the Combined Projects represent a fixed-for-float position
180 against electric market prices over an extraordinarily long period of time (around sixty

181 years in the case of the Transmission Projects). Simply stated, this is not the type of
182 hedge that aligns with the current hedging policy. As discussed in my Direct Testimony,
183 the ten-year transactions underling the 2012 long-term gas-hedging program were
184 acquired as an exception to PacifiCorp's hedging policy and have proven to be disastrous
185 for ratepayers. There should be little expectation that there will be different results if the
186 Combined Projects were constructed on the basis that they constitute a hedge.

187 **Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

188 A. Yes.

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UAE - UIEC Exhibit 2.1

UAE Data Request 3.1

Regarding H.R. 1, entitled “An Act to Provide for Reconciliation Pursuant to Titles II and V of the Concurrent Resolution of the Budget for Fiscal Year 2017,” which became Public Law No. 115-97 and was signed into law on December 22, 2017 (Tax Reform Bill):

- (a) For each Price-Policy Scenario, please update the analysis summarized in Table 2 (Page 6) to the August 31, 2017 Supplemental Testimony of Rick T. Link in Docket No 17-035-23, taking into consideration the impacts of the passage of the referenced Tax Reform Bill.
- (b) Please provide all work papers PacifiCorp used to develop the updated analysis in response to the request in subparagraph (a), above.
- (c) For the updated analysis requested in subparagraph (a), above, please provide a list of each and every assumption and input that changed relative to PacifiCorp’s August 31, 2017 analysis.
- (d) Please provide a narrative explanation of how PacifiCorp expects the provisions in the referenced Tax Reform Bill regarding the reduction of the marginal corporate tax rate from 35% to 21% will impact the economic case for making the investment in the Wind Projects and Transmission Projects, as contemplated in this matter (See Title 1, Subtitle C, Part I).
- (e) Please provide a narrative explanation of how PacifiCorp expects the provisions in the referenced Tax Reform Bill allowing for temporary 100-percent expensing for certain business assets impact the economic case for making the investment in the Wind Projects and Transmission Projects, as contemplated in this matter (See Title 1, Subtitle C, Part III, Subpart A).
- (f) Please provide a narrative explanation of how PacifiCorp expects the provisions in the referenced Tax Reform Bill surrounding the Base Erosion Minimum Tax impact the economic case for making the investment in the Wind Projects and Transmission Projects, as contemplated in this matter (See § 14401).
- (g) Does PacifiCorp agree that the passage of the referenced Tax Reform Bill has the potential to result in a Net Operating Loss Carryforward on PacifiCorp’s balance sheet? If no, please explain why PacifiCorp expects that there is no potential for such an outcome.
- (h) Does PacifiCorp agree that the passage of the referenced Tax Reform Bill has the potential to result in Production Tax Credit Carryforwards on PacifiCorp’s balance sheet? If no, please explain why PacifiCorp expects that there is no potential for such an outcome.

- (i) Please describe the incremental revenue requirement impact, if any, associated with Net Operating Loss Carryforwards and Production Tax Credit Carryforwards that PacifiCorp forecasts if the investments in the Wind Projects and Transmission Projects are made, after considering the impacts of the referenced Tax Reform Bill.
- (j) Does PacifiCorp agree that the Tax Reform Bill impacts the relative revenue requirement impact of every resource alternative considered in the 2017 Integrated Resource Plan? If no, please explain.
- (k) Please identify the levelized fixed cost of the 2029 Simple Cycle Combustion Turbine (SCCT) resource included in the 2017 Integrated Resource Plan (IRP) preferred portfolio.
- (l) Please recalculate the levelized fixed cost of the 2029 SCCT taking into consideration the impacts of the referenced Tax Reform Bill.
- (m) Please identify the levelized fixed cost of the 2033 Combined Cycle Combustion Turbine (CCCT) resource included in the 2017 IRP preferred portfolio.
- (n) Please recalculate the levelized fixed cost of the 2033 CCCT in the 2017 IRP preferred portfolio taking into consideration the impacts of the referenced Tax Reform Bill.
- (o) Does PacifiCorp agree that, in order to continue to support its position that the Wind Projects and Transmission Project are the least cost least risk resources following the passage of the Tax Reform Bill, that it would be necessary to re-run the entire IRP? If no, please explain.
- (p) Does PacifiCorp expect the Tax Reform Bill to have an impact on natural gas prices? Please explain.

Response to UAE Data Request 3.1

The Company objects to this request as overly broad, unduly burdensome, not reasonably calculated to lead to the discovery of admissible evidence, and requiring development of a special study or information not maintained in the ordinary course of business. Without waiving these objections, the Company responds as follows:

- (a) The Company has not performed the requested analysis. Consistent with the procedural schedule adopted for this proceeding, the Company will update its economic analysis in its supplemental filing scheduled to be filed in mid-January 2018.

- (b) Please refer to the Company's response to subpart (a) above.
- (c) Please refer to the Company's response to subpart (a) above.
- (d) Please refer to the Company's response to subpart (a) above.
- (e) The provisions in the Tax Reform bill allowing for a temporary expensing of 100 percent for certain business assets does not apply to public utility property. Accordingly, the temporary expensing of certain business assets will not apply to the Wind Projects and Transmission projects and will therefore not be included in the Company's updated economic analysis in its supplemental filing scheduled to be filed in mid-January 2018.
- (f) The Base Erosion Anti-Abuse Tax (BEAT) provisions in the Tax Reform Bill that may limit the use of the production tax credit (PTC) to 80 percent of the BEAT tax for certain United States (U.S.) multi-international corporations does not apply to PacifiCorp. Accordingly, PacifiCorp will be able to use 100 percent of the PTCs and there will be no impact of the BEAT tax on the economic case for making the Wind Projects and Transmission Projects.
- (g) No. There are no provisions in the Tax Reform Bill that PacifiCorp anticipates would result in a material decrease to projected taxable income that would lead to an income tax net operating loss that would result in an impact on the Company balance sheet. As discussed in the Company's response to subpart (e) above, the 100-percent expensing of certain business assets does not apply to the Company's public utility property. There are no other material increases to income tax deductions that are available to the Company that are included in the Tax Reform bill that would create an income tax net operating loss. In addition, PacifiCorp is included in the federal consolidated income tax income tax return of its ultimate parent corporation, Berkshire Hathaway Inc. (BHI). The consolidated BHI income tax group has sufficient projected taxable income to fully absorb and monetize any reasonably anticipated taxable income loss that may be generated by PacifiCorp.
- (h) No. As discussed in the Company's response to subpart (g) above, PacifiCorp is included in the federal consolidated income tax income tax return of its ultimate parent corporation BHI. The consolidated BHI income tax group has sufficient projected federal corporate income tax to fully absorb the PTC, which will allow PacifiCorp to monetize any PTCs generated by PacifiCorp and not use against PacifiCorp's corporate income tax. Accordingly, there will be no PTC carryforward reflected in the PacifiCorp balance sheet.
- (i) There will be no forecasted incremental revenue impact associated with Net Operating Loss Carryforwards and PTC Carryforwards after considering the impacts of the Tax Reform bill as discussed in the Company's responses to subparts (g) and (h) above.

(j) Yes.

(k) Please refer to the confidential work papers supporting the Direct Testimony of Company witness, Rick T. Link, specifically:

Folder: SO Model Summary Reports

File: SO Portfolio RPCC-RPN-EGI-LM_1706042058.xlsm

Tab: PVRRbyStation - row 1057 - proposed station capital costs, and row 1059 - proposed station fixed cost, column Q for resource "I_UN_SC_FRM, SCCT". For example, levelized fixed costs in 2029 are \$21.9 million.

(l) The Company has not performed the requested analysis. Consistent with the procedural schedule adopted for this proceeding, the Company will update its economic analysis in its supplemental filing scheduled to be filed in mid-January 2018.

(m) Please refer to the confidential work papers supporting Mr. Link's Direct Testimony, specifically

Folder: SO Model Summary Reports

File: SO Portfolio RPCC-RPN-EGI-LM_1706042058.xlsm

Tab: PVRRbyStation row 1875 and row 1883 - proposed station capital costs, and row 1873 and row 1881 - proposed station fixed cost, column U for resource "I_DJ_CC_J1 and I_DJ_CC_J1D". For example, levelized fixed costs in 2033 are \$100.6 million.

(n) The Company has not performed the requested analysis. Consistent with the procedural schedule adopted for this proceeding, the Company will update its economic analysis in its supplemental filing scheduled to be filed in mid-January 2018.

(o) No, PacifiCorp does not agree that it would be necessary to re-run the entire 2017 Integrated Resource Plan (IRP) to continue to demonstrate that the wind and transmission projects are the least-cost, least-risk resources. These resources were selected through the 2017 IRP process as least-cost and least-risk. PacifiCorp continues to analyze the benefits of the projects as part of its action plan items from the 2017 IRP. Updated economic analysis will be provided in the Company's supplemental filing scheduled to be filed in mid-January 2018.

(p) PacifiCorp objects to this question as speculative.

UAE Data Request 3.2

Regarding PacifiCorp's Official Forward Price Curve (OFPC) issued in the 4th quarter of 2017 on or around December 29, 2017:

- (a) Please provide a copy of the referenced price curve for gas and power markets where PacifiCorp transacts and for all years where a forecast was developed.
- (b) Please provide a description of how the long-term natural gas price forecast (i.e. prices developed by 3rd party consultants used in the OFPC for periods extending beyond 72 months) was developed in the referenced OFPC.
- (c) Please describe any changes to the long-term natural gas forecasting methodology that occurred in developing the referenced OFPC, relative to the OFPC that was used in the August 31, 2017 Supplemental Testimony of Rick T. Link in Docket No 17-035-23
- (d) Please provide any memoranda or documentation in PacifiCorp's possession describing the methodologies the 3rd party consultants used to develop PacifiCorp's long-term natural gas price forecast in the referenced OFPC.
- (e) Please state when the long-term natural gas price forecasts used in the referenced OFPC were developed by the 3rd party consultants.
- (f) Please identify whether the long-term price forecasts used to develop the referenced OFPC include the impact of the passage of the Tax Reform Bill.

Response to UAE Data Request 3.2

The Company understands that the term "referenced OFPC" used throughout this request is intended to reference the Company's December 2017 official forward price curve (OFPC). Based on this understanding, the Company responds as follows:

- (a) Please refer to Attachment UAE 3.2-1, which provides the Company's December 2017 OFPC.
- (b) The December 29, 2017 OFPC was developed using 72 months of market forwards followed by 12 months (months 73 through 84) of a forwards-fundamentals blend that transitions to a pure fundamentals-based forecast starting in month 85. Blended prices for months 73 through 84 are calculated as an average of the preceding year's forward prices with the following year's fundamentals prices on a month-by-month basis.

The fundamentals-based portion of the OFPC, starting month 85, was developed by an expert third-party forecasting service and published in nominal dollars using PacifiCorp inflation indices. The expert third-party fundamentals forecast was

supplied as part of the Company's ongoing subscription to receive multi-client "off-the-shelf" fundamentals-based forecasts on a regular basis.

- (c) The long-term natural gas forecasting methodology used by PacifiCorp to develop the December 29, 2017 OFPC is unchanged relative to the OFPC that was used in the August 31, 2017 Supplemental Testimony of Company witness, Rick T. Link in Docket 17-035-23.
- (d) Please refer to Confidential Attachment UAE 3.2-2.
- (e) The long-term natural gas price forecast used in the December 2017 OFPC was produced by an expert third-party forecasting service, as part of its multi-client subscription service, on November 21, 2017.
- (f) The impact of the Tax Reform Bill is not explicitly reflected in the gas price forecast, which was issued before the Tax Reform Bill was passed or signed, used in the December 2017 OFPC.

Confidential information is provided subject to Public Service Commission of Utah Rule 746-1-602 and 746-1-603.