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Before the Public Service Commission of Utah

<p>In the Matter of the Application of Rocky Mountain Power for Modification of Contract Term of PURPA Power Purchase Agreements with Qualifying Facilities</p>	<p>DOCKET NO. 15-035-53</p> <p>Utah Clean Energy Exhibit 1.0</p>
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DIRECT TESTIMONY OF SARAH WRIGHT
ON BEHALF OF
UTAH CLEAN ENERGY

September 16, 2015

RESPECTFULLY SUBMITTED,
Utah Clean Energy

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1 **INTRODUCTION**

2 **Q: Please state your name and business address.**

3 A: My name is Sarah Wright. My business address is 1014 2nd Ave, Salt Lake City, Utah
4 84103.

5 **Q: By whom are you employed and in what capacity?**

6 A: I am the Executive Director of Utah Clean Energy, a non-profit public interest
7 organization whose mission is to lead and accelerate the clean energy transformation with vision
8 and expertise. We work to stop energy waste, create clean energy, and build a smart energy
9 future.

10 **Q: On whose behalf are you testifying?**

11 A: I am testifying on behalf of Utah Clean Energy (UCE).

12 **Q: Please provide your professional experience and qualifications.**

13 A: I am the founder and director of Utah Clean Energy. Through my work with Utah Clean
14 Energy over the last 14 years, I have been involved in a number of regulatory dockets, including
15 Integrated Resource Planning, rate cases, tariff filings, and other dockets relating to energy
16 efficiency, renewable energy, and net metering.

17 I have over 14 years of energy policy experience working on state, local and national
18 energy policy, providing expertise and policy support for renewable energy and energy
19 efficiency. I have served on numerous state, regional, and national energy policy working groups
20 and taskforces. My resume is attached at the end of my testimony.

21 **Q: Have you testified previously before this Commission?**

22 A: Yes. Over the past 10 years I have testified in several dockets on various matters,
23 including general rate cases and a number of avoided costs proceedings.

24

25 **OVERVIEW AND CONCLUSIONS**

26 **Q: What is Utah Clean Energy's interest in this docket?**

27 A: Utah Clean Energy strives to create a more efficient, cleaner, and smarter energy future.
28 We envision and enable increased utilization of energy efficiency, distributed generation, and
29 utility-scale renewable energy. Our long-range vision of the smart energy future includes a more
30 modern, agile, diversified, and secure energy system that can readily take advantage of new
31 capabilities for saving energy and expand the use of renewable energy, distributed generation,
32 demand response, energy storage, electric vehicles, and the use of information and control
33 technologies.

34 The Public Utility Regulatory Policy Act (PURPA) is an important mechanism for
35 facilitating renewable energy development. Indeed, recent QF development shows that it has
36 been a critical tool for diversifying PacifiCorp's resource mix and reducing our reliance on finite
37 and polluting fossil fuels. Even PacifiCorp's Parent Company, Berkshire Hathaway Energy, is
38 utilizing PURPA PPAs as a component of its pledge for becoming a "Proud U.S. Business for
39 Climate Action." Specifically, in July of 2015, the Company pledged to add more than 1,000
40 megawatts of incremental solar and wind capacity to PacifiCorp's resource mix through long-
41 term power purchase agreements. "This incremental renewable generation, expected to be online
42 by the end of 2017, would bring PacifiCorp's non-carbon generating capacity to more than 4,500
43 megawatts which equates to approximately 22% of PacifiCorp's retail energy load in 2017."¹

¹ <https://www.berkshirehathawayenergyco.com/news/berkshire-hathaway-energy-joins-american-business-action-climate-pledge>.

44 Utah Clean Energy's interest in this docket is safeguarding Utah's proper implementation
45 of PURPA laws and regulations.

46 **Q: What is the purpose of your testimony in this Docket?**

47 A: The purpose of my testimony is to (1) explain why reducing the current 20 year contract
48 term to three years will end renewable QF development in Utah; (2) provide an overview of the
49 background and purpose of PURPA and Utah PURPA and show that Rocky Mountain Power's
50 (the Company) Application for modification of the contract term of PURPA Power Purchase
51 Agreements (PPA) with Qualifying Facilities (QF) is inconsistent with PURPA and Utah
52 PURPA; (3) provide background on the development of the 20 year contract term in Utah and
53 show that the Company has acknowledged that a 20 year contract is necessary under PURPA
54 because it allows a QF to secure financing; (4) show that the Company's hedging and trading
55 practices and policies do not apply to PURPA PPAs; and (5) provide information about the
56 benefits of renewable QF projects and explain how a reduction in the contract term is bad public
57 policy and is bad for Company ratepayers.

58

59 **IMPACT OF REDUCED CONTRACT TERM**

60 **Q: If approved, how will the Company's application for modification of contract term**
61 **for PURPA PPAs impact Utah QFs?**

62 A: If approved, the reduction of the contract term from 20 years to three years will end the
63 development of renewable QFs in Utah.

64 **Q: Why will a three year contract term end the development of renewable QFs in**
65 **Utah?**

66 A: A three year contract will end the development of renewable QFs in Utah because it will
67 make it impossible for these projects to secure financing. Renewable QF projects are capital
68 intensive projects with estimated lives of at least 20 years. As such, investors will not provide
69 funding for these projects unless they have reasonable assurance that they will earn a return on
70 their investment. Without a contract for the purchase of energy generated over a significant
71 portion of the life of the project, the chance that an investor will not earn a return on their
72 investment is greatly increased, and therefore, the project becomes too risky for an investor to
73 finance. Similarly, a utility would not build a new generating resource if it were only guaranteed
74 a return of and on its investment for three years out of the 20+ year life of the resource.

75

76 **PURPA POLICY AND CONTRACT TERM**

77 **Q: Please provide an overview of the historical context and purpose of PURPA,**
78 **specifically Title II, Section 210.**

79 A: PURPA was passed in 1978 as part of the National Energy Act. Section 210 of Title II
80 was enacted specifically to encourage the development of electricity generation from
81 cogeneration and small power production facilities, and therefore to reduce the use of and
82 conserve fossil fuel resources. Small power production facilities are defined as having a
83 production capacity of no more than 80 megawatts and use biomass, waste, or renewable
84 resources (wind, solar, or waste energy, for example) to produce electric power.²

² 16 U.S.C. § 796(17)(A).

85 In a case upholding the constitutionality of Title II, Section 210 of PURPA, the Supreme
86 Court of the United States provided a succinct and thorough summary of the purpose and
87 components of the section, which I include here:

88 Section 210 of PURPA’s Title II seeks to *encourage the development of cogeneration*
89 *and small power production facilities*. Congress believed that increased use of these
90 sources of energy would *reduce the demand for traditional fossil fuels*. But it also felt
91 that two problems impeded the development of nontraditional generating facilities: (1)
92 *traditional electricity utilities were reluctant to purchase power from, and to sell power*
93 *to, the nontraditional facilities*, and (2) the regulation of these alternative energy sources
94 by state and federal utility authorities imposed *financial burdens* upon the nontraditional
95 facilities and thus discouraged their development.

96
97 In order to overcome the first of these perceived problems, § 210(a) directs [the Federal
98 Energy Regulatory Commission] FERC, in consultation with state regulatory authorities,
99 to promulgate “such rules as it determines necessary to *encourage cogeneration and small*
100 *power production*,” including rules requiring utilities to offer to sell electricity to, and
101 purchase electricity from, qualifying cogeneration and small power production facilities.
102 Section 210(f) requires each state regulatory authority and nonregulated utility to
103 implement FERC’s rules. And § 210(h) authorizes FERC to enforce this requirement in
104 federal court against any state authority or nonregulated utility; if FERC fails to act after
105 request, any qualifying utility may bring suit.

106
107 To solve the second problem perceived by Congress, § 210(e) directs FERC to prescribe
108 rules exempting the favored cogeneration and small power production facilities from
109 certain state and federal laws governing electric utilities.

110
111 Pursuant to this statutory obligation, FERC has adopted regulations relating to purchases
112 and sales of electricity to and from cogeneration and small power production facilities.
113 These afford state regulatory authorities and nonregulated utilities latitude in determining
114 the manner in which the regulations are to be implemented. Thus, a state commission
115 may comply with the statutory requirements by issuing regulations, by resolving disputes
116 on a case-by-case basis, or by taking any other action reasonably designed to give effect
117 to FERC’s rules.³

118

³ *FERC v. Mississippi*, 456 U.S. 742, 750-51 (1980) (*emphasis added*) (*internal citations and footnotes omitted*).

119 In a subsequent case, the Supreme Court explained the Congressional intent regarding the
120 rates to be paid to qualifying facilities, and upheld FERC's decision to require that utilities pay
121 for full avoided costs rather than a lesser amount:

122 Congress provided that the rate to be set by the Commission "(1) shall be just and
123 reasonable to the electric consumers of the electric utility and in the public interest, and
124 (2) shall not discriminate against qualifying cogenerators or qualifying small power
125 producers. No such rule prescribed under subsection (a) of this section shall provide for a
126 rate which exceeds the incremental cost to the electric utility of alternative electric
127 energy."

128
129 Following rulemaking proceedings, FERC promulgated regulations governing
130 transactions between utilities and those cogeneration and small power production
131 facilities, designated as "qualifying facilities," that may invoke the provisions of PURPA
132 to sell electricity to and purchase electricity from utilities.

133
134 The first regulation . . . requires a utility to purchase electricity from a qualifying facility
135 at a rate equal to the utility's full avoided cost. The utility's full avoided cost is "the cost
136 to the electric utility of the electric energy which, but for the purchase from such
137 cogenerator or small power producer, such utility would generate or purchase from
138 another source." In its order accompanying the promulgation of this rule, FERC
139 explained its decision to set the rate at full avoided cost rather than at a level that would
140 result in direct rate savings for utility customers by permitting a utility to obtain energy at
141 a cost less than the cost to the utility of producing the energy itself or purchasing it from
142 an alternative source. *The Commission emphasized the need to provide incentives for the
143 development of cogeneration and small power production:*

144
145 "In most instances, if part of the savings from cogeneration and small power production
146 were allocated among the utilities' ratepayers, any rate reductions will be insignificant for
147 any individual customer. On the other hand, if these savings are allocated to the relatively
148 small class of qualifying cogenerators and small power producers, *they may provide a
149 significant incentive for a higher growth rate of these technologies.*"⁴

150

⁴ *American Paper Institute v. AEP*, 461 U.S. 402, 404-06 (1983) (*emphasis added*) (*internal citations and footnotes omitted*).

151 In addition, Utah Code Annotated § 54-12-1 lays out the legislative policy behind Utah

152 PURPA:

153 (1) The Legislature declares that in order to promote the more rapid
154 development of new sources of electrical energy, to maintain the economic
155 vitality of the state through the continuing production of goods and the
156 employment of its people, and to promote the efficient utilization and distribution
157 of energy, *it is desirable and necessary to encourage independent energy*
158 *producers* to competitively develop sources of electric energy *not otherwise*
159 *available* to Utah businesses, residences, and industries served by electrical
160 corporations, *and to remove unnecessary barriers to energy transactions*
161 *involving independent energy producers* and electrical corporations.

162 (2) It is the policy of this state to encourage the development of independent
163 and qualifying power production and cogeneration facilities, to promote a *diverse*
164 array of economical and permanently sustainable energy resources in an
165 environmentally acceptable manner, and to conserve our finite and expensive
166 energy resources and provide for their most efficient and economic utilization.⁵

167 **Q: Why are the foregoing quotations important for the Commission's determination**
168 **regarding the Company's application for modification of contract term of PURPA PPAs**
169 **with QFs?**

170 A: Of particular note in the foregoing with relevance to the current docket is Congress's and
171 the Utah legislature's acknowledgement of the importance of encouraging a diverse array of
172 small power producers and removing unnecessary barriers, both financial and regulatory, to
173 energy transactions between small power producers and traditional utilities, the reluctance of
174 traditional utilities to purchase electricity from small power producers, and the resulting need to
175 encourage small power production through laws and regulations.

⁵ (Emphasis added).

176 Also, although natural gas prices are currently low, the objective of relying less on fossil-
177 fueled resources is no less relevant today, especially given fuel price volatility, the contribution
178 of fossil fuels to climate change, EPA’s final Clean Power Plan Rule that will require
179 Greenhouse gas reductions of 32 percent from 2005 levels by 2030, and EPA’s recently
180 published draft rule to control emissions of methane (natural gas) and volatile organic
181 compounds from the oil and gas development sectors.⁶ The policy considerations underpinning
182 PURPA are thus very relevant to the Commission’s evaluation of the Company’s application for
183 modification of contract term of PURPA PPAs with QFs.

184 The policy underpinning PURPA is clear: to encourage development from independent
185 power production facilities. Furthermore, one of the explicit objectives of PURPA was to reduce
186 barriers, including financial and regulatory barriers, to the production of electricity by small
187 power production facilities. As stated above, a reduction in the contract term for renewable QFs
188 from 20 years to three years will make it impossible for renewable QFs to secure financing, and
189 thereby, stop the development of renewable QFs in Utah. This will deprive Utahns of the
190 significant economic benefits of renewable energy development that is “not otherwise available
191 to Utah businesses, residences, and industries served by electrical corporations.”⁷

192

⁶ See ENVIRONMENTAL PROTECTION AGENCY, EPA-HQ-OAR-2010-0505; FRL-9929-75-OAR; RIN 2060-AS30, OIL AND NATURAL GAS SECTOR: EMISSION STANDARDS FOR NEW AND MODIFIED SOURCES (August 18, 2015), *available at* http://www.epa.gov/airquality/oilandgas/pdfs/og_nsps_pr_081815.pdf (proposing New Source Performance Standards for both methane and VOC emissions from several sources not currently covered by the NSPS (i.e., hydraulically fractured oil well completions, fugitive emissions from well sites and compressor stations, and pneumatic pumps) and New Source Performance Standards for methane emissions from sources that are currently regulated for VOC only (i.e., hydraulically fractured gas well completions, equipment leaks at natural gas processing plants).

⁷ UTAH CODE ANN. § 54-12-1(1) (2008).

193 **THE HISTORY OF THE 20-YEAR CONTRACT TERM FOR PURPA PPAs IN UTAH**

194 **Q: When and how was the 20-year contract term established in Utah?**

195 A: The 20-year contract term was first established for PURPA PPAs with QFs in Docket No.
196 03-035-14. In this docket, the parties, including PacifiCorp, argued that the appropriate contract
197 term was 20 years, and the Utah Public Service Commission ruled that, “We find reasonable and
198 accept the parties’ common position providing for a standard term limit of 20 years for QF
199 contracts with the allowance for parties to petition the Commission for longer terms.”⁸ Of
200 particular importance in the current docket is PacifiCorp’s argument:

201 The Company believes that the current allowed term length of up to twenty (20)
202 years in Utah represents *an appropriate balance between a term that allows the*
203 *QF to secure financing* and limiting the risks that accompany long range power
204 price forecasting. Because of the dynamics of energy prices in the utility industry,
205 the longer the term, the greater the risk to the Company and ratepayers of
206 incurring an uneconomic power purchase agreement. *The fundamental objective*
207 *of the term of a QF contract is to enable eligible QFs to obtain adequate*
208 *financing* but also limit or minimize the possible divergence of the QF contract
209 prices from actual avoided costs.⁹

210 **Q: Why are the foregoing quotations important for the Commission’s determination**
211 **regarding the Company’s application for modification of contract term of PURPA PPAs**
212 **with QFs?**

213 A: The foregoing quotations are important, particularly Mr. Griswold’s quotation, because
214 they show that the Company acknowledges that a contract term of less than 20 years will
215 preclude a QF from securing financing, but also that the ability of a QF to obtain financing is a
216 “fundamental objective” of the contract term.

⁸ Report and Order, Docket No. 03-035-14, 29 (Oct. 31, 2005).

⁹ Rebuttal Testimony of Bruce W. Griswold, Docket No. 03-035-14, 8 (September 2005) (*emphasis added*).

217 **Q: Mr. Clements says that the recent uptick in PURPA PPA executions and pricing**
218 **requests “demonstrates that additional review of the contract term for non-standard Utah**
219 **QFs is warranted at this time.”¹⁰ Does the fact that PURPA appears to be encouraging QF**
220 **development in Utah warrant an action that will, as you say, end the development of QFs in**
221 **Utah?**

222 A: No. The fact that PURPA appears to be working should suggest to the Commission that
223 its pricing methods and contract terms are succeeding as intended and that no change is
224 necessary. Indeed, the pricing method put in place by the Commission is designed to reflect the
225 Company’s long term resource needs in the IRP, which is fully updated every two years.
226 Specifically, avoided costs prices change (are reduced) as the Company’s resource needs are
227 impacted by the addition of incremental QF resources. No change to the contract term is
228 necessary to reflect the addition of QF resources or the ongoing deferral of Company resources.
229 The pricing method is dynamic and accounts for changes in the Company’s resource needs.

230

231 **THE COMPANY’S HEDGING AND TRADING PRACTICES AND POLICIES DO NOT**
232 **APPLY TO PURPA PPAs**

233 **Q: Are commodity hedges and QF projects comparable?**

234 A: No. Mr. Clements compares QF projects to natural gas or electricity commodity hedges
235 and makes the argument that a 20 year contract term for PURPA PPAs is too long because it is
236 inconsistent with the Company’s hedging practices and policies. However, the comparison QF
237 resources to commodity hedges is an “apples to oranges comparison” because QF resources are

¹⁰ Paul H. Clements Direct Testimony, page 10, lines 199-200.

238 not short-term economic hedges designed to mitigate the risk associated with fuel and energy
239 price volatility, but rather long-term, “steel in the ground” resources built for ratepayers, from
240 which energy is purchased at a fixed price, with no associated fuel price risk.¹¹ It is inappropriate
241 to compare a short-term hedge for a commodity with volatile prices to a long-term, fixed price
242 renewable energy project.

243 **Q: Is the application of the Company’s hedging and trading practices and policies to**
244 **PURPA PPAs appropriate?**

245 A: No. Because QF projects are not comparable to economic hedges, the Company’s
246 hedging and trading practices and policies are not applicable to PURPA PPAs. As discussed in
247 Section 1, above, long-term QF projects require long-term contracts in order to secure financing.
248 I would also note that to the best of my knowledge it would be difficult, if not impossible, to
249 secure a 20 year commodity hedge at an economic price.

250 **Q: If comparing commodity hedges to QF projects is an “apples to oranges”**
251 **comparison, what would be a more appropriate “apples to apples” comparison?**

252 A: A more appropriate comparison would be comparing QF projects to the Company’s own
253 generation resources. Both are long-term, “steel in the ground” additions to the utility’s capacity.
254 In fact, ratepayers are exposed to more risk from a utility resource than a QF because when the
255 utility makes a capital investment it is authorized a rate of return, which is amortized over the life
256 of the resource, whereas ratepayers only pay a QF for energy actually delivered.

¹¹ It is important to note that QF projects provide the added benefit of mitigating risk associated with traditional utility-owned resources and their attendant fuel price volatility and environmental regulation uncertainty (especially at today’s very low avoided cost prices).

257 **Q: Do QF contracts have provisions to protect rate payers?**

258 A: Yes, QF contracts offer significant protections to ratepayers. As indicated above,
259 ratepayers only pay a QF for the energy the QF actually delivers. Conversely, when a utility
260 resource undergoes a forced outage, ratepayers still pay for the resource in rates when it fails to
261 deliver energy, and they will pay for replacement power at market costs. QF contracts have
262 provisions that protect rate payers in the event that the QF project does not deliver energy as
263 expected. If a QF project does not meet its minimum energy obligation, it is liable for paying the
264 difference in energy costs if the Company must purchase more expensive replacement energy. If
265 upgrades are necessary, the QF developer is responsible for those upgrades and all operations
266 and maintenance costs. Further, while ratepayers are subject to energy and fuel cost adjustments
267 for company resources, there are no such adjustments for PURPA QFs.

268 **Q: Do you think that the Company could build a new resource for ratepayers if cost**
269 **recovery was only approved for three years?**

270 A: I can't speak for the Company, but I surmise that it would be very hard to convince
271 shareholders to invest in a capital intensive project if they could only amortize the costs, or sell
272 the electricity, for three years.

273 **Q: Is the purpose of PURPA to hedge against risk?**

274 A: No, though risk mitigation is a benefit of renewable QFs. Long-term PPAs with
275 renewable QFs help the Company and ratepayers hedge against the risk associated with coal-
276 fired power plant investments and natural gas price volatility. However, this is not the
277 fundamental purpose of PURPA. To summarize the detailed discussion of PURPA above, the
278 purpose of PURPA is to encourage the development of electricity generation from cogeneration
279 and renewable energy facilities by removing financial and regulatory barriers, and to reduce the

280 use of and conserve fossil fuel resources. FERC is aware that, depending on the circumstances,¹²
281 there may be some risk to both the utility and the QF, associated with long-term contracts, which
282 binds the parties to avoided cost rates at the time the obligation is incurred.¹³ The presence of
283 this risk does not alleviate the Utah Public Service Commission of its duty to implement the

¹² These are circumstances not present in Utah due to the methods for setting avoided cost rates in Utah, as discussed below.

¹³ See *New York State Electric & Gas Corporation*, 71 FERC P 61027, 14-15 (April 12, 1995):

[W]e take this opportunity to explain the import of, and the underlying reasons for, these regulations [implementing PURPA]. The regulations specifically allow rates for the purchase of QF energy or capacity pursuant to a contract over a specified term to be based on avoided costs calculated, at the option of the QF, at the time of delivery or at the time the obligation is incurred. Furthermore, the regulations make clear that, if rates are based on avoided cost estimates at the time the obligation is incurred, the rates are consistent with PURPA's requirements even if they differ from avoided costs at the time of delivery:

In the case in which the rates for purchases are based upon estimates of avoided costs over the specific term of the contract or other legally enforceable obligation, the rates for such purchases do not violate [18 C.F.R. §292.304(b)(5)] if the rates for such purchases differ from avoided costs at the time of delivery.

At the time these regulations were promulgated, the Commission anticipated that avoided costs could change over time and balanced the relevant competing interests. *The Commission intended the regulations described above "to reconcile the requirement that the rates for purchases equal the utilities' avoided cost with the need for [QFs] to be able to enter into contractual commitments based, by necessity, on estimates of future avoided costs."* The Commission recognized that, if the avoided cost of energy at the time it is delivered is less than the price provided in the contract, a utility may be required to pay a rate for purchases that would subsidize the QF at the expense of the utility's other ratepayers. However, the Commission also was:

cognizant that in other cases, the required rate will turn out to be lower than the avoided costs at the time of purchase. The Commission does not believe that the reference in the statute to incremental cost of alternative energy was intended to require a minute-by-minute evaluation of costs which would be checked against rates established in long term contracts between [QFs] and electric utilities.

Many commenters have stressed the need for certainty with regard to return on investment in new technologies. The Commission agrees with these latter arguments, and believes that, in the long run, "overestimations" and "underestimations" will balance out.

(Emphasis added) (internal citations omitted).

284 policies of PURPA and Utah PURPA, including the duty “to encourage the development of
285 independent and qualifying power production and cogeneration facilities.”¹⁴

286

287 **BENEFITS OF QFs IN UTAH**

288 **Q: Mr. Clements argues that long term QF contracts are risky for rate payers; do you**
289 **agree?**

290 A: No. To the contrary, I believe that it is risky and contrary to the public interest to reduce
291 the contract term such that it will prevent any more renewable QFs from being built. Avoided
292 cost pricing inputs for QF resources are adjusted regularly to reflect forward price curves and the
293 timing of the Company’s next deferrable resource. Fuel and energy forward price curves are
294 currently very low, and the deferrable resource is not projected until 2028. Therefore, the
295 levelized avoided cost is also quite low. If the Company can lock in long-term fixed-rate energy
296 projects at prices less than \$0.05, or even \$0.04 per kWh, this is in the long-term interests of rate
297 payers. These low, fixed prices will help keep costs down over the long term and are free from
298 environmental uncertainty and fuel-price volatility.

299 **Q: Mr. Clements also alleges that the continued availability of long-term PURPA**
300 **contracts will inflate costs borne by Rocky Mountain Power’s customers.¹⁵ What is your**
301 **response?**

302 A: I disagree with this allegation. I do not believe it is possible to make such a conclusion
303 based on the information the Company presents. As I discuss further below, the price risk facing
304 customers currently is asymmetrical—that is, it is more likely that prices will increase rather than

¹⁴UTAH CODE ANN. § 54-12-1(2) (2008).

¹⁵ Paul H. Clements Direct Testimony, pages 12-14.

305 decrease over time. Furthermore, PacifiCorp’s IRP contemplates hundreds of millions (if not
306 billions) of dollars’ worth of coal plant investments, which were hard wired into the Company’s
307 Preferred Portfolio, rather than economically selected by System Optimizer. At the same time,
308 the Company did not avail itself of the opportunity to evaluate the ability of renewable QFs to
309 displace, defer or complement different coal plant investments. As such, we lack any information
310 regarding a more flexible path forward in which different coal plant investment strategies could
311 be complemented by additional PURPA generation—potentially allowing ratepayers to avoid
312 significant cost outlays over the IRP planning horizon.

313 **Q: With gas and energy prices near an all-time low, is the magnitude of the risk of fuel**
314 **and energy prices going down equal to the magnitude of the risk of fuel and energy prices**
315 **being higher than today?**

316 A: No, currently, natural gas prices are very low, thanks to horizontal drilling and fracking
317 technologies that have “unlocked” shale gas. This has led to a boom in supply and an increase in
318 natural gas-fired electricity generation, as well as a switch from coal to gas. Given these low cost
319 projections, it is likely that more and more electricity generation will be gas-fired, as we have
320 seen in PacifiCorp’s IRP. Although gas prices are projected to remain low for several years,
321 forward price curves nevertheless all slope inexorably upward. Natural gas prices are typically
322 volatile and hard to lock in over longer terms. Additionally, with no significant room to decrease,
323 risk associated with natural gas prices is asymmetrical, being skewed to the upside because
324 prices have almost nowhere to go but up.

325

326

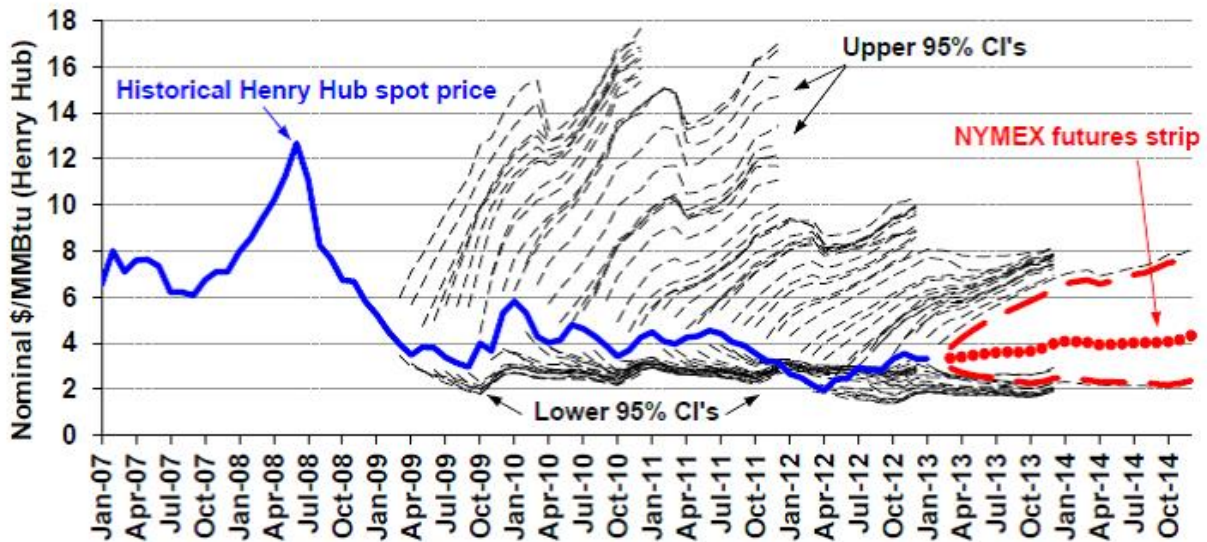
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328

Figure 1

329

Source: Mark Bolinger, *Revisiting the Long Term Hedge Value of Wind Power in an Era of Low Natural Gas Prices* (LBNL, March 2013), available at <http://emp.lbl.gov/sites/all/files/lbnl-6103e.pdf>.



Source: EIA 2009-2013

Figure 6. History of 95% Confidence Intervals Around Natural Gas Futures Strip

330

331 Environmental regulation of GHG and now the proposed EPA methane rule will put
 332 further upward pressure on energy prices with no commensurate opportunity for reduction in
 333 costs, further increasing the asymmetrical risk. These risks are exacerbated by other factors that
 334 are less well-known: increased supply of natural gas may lead the United States to export into the
 335 global market, which would have the impact of further raising prices.

336 **Q: In addition to the risk mitigation value discussed above, do renewable QF projects**
 337 **have the potential to provide other benefits to Utah?**

338 **A:** Yes, in addition to the hedging value, renewable energy projects can bring considerable
 339 additional benefits to Utah. Currently there is only one QF wind project in Utah: the
 340 approximately 20 MW Spanish Fork project. While I do not have readily at hand the economic

341 development benefits from this project, I do have information on the economic development
342 benefits from the First Wind Project in Milford.

343 The First Wind project is not a QF project, and it was built in two phases, each over the
344 80 MW QF limit. But its economic development benefits would be similar to that of four wind
345 QF projects of approximately 77 MW each. The project created 400 FTE construction jobs and
346 35 fulltime operations jobs in rural Utah, and the property taxes from the project enabled the
347 construction of a new school. Prior to the first 200 MW phase being developed in Beaver
348 County, the County had an assessed value of just under \$600 million. After the completion of the
349 first phase, the County had an assessed value of over \$1 billion, bringing new, much needed tax
350 revenues to the County. Clearly, the benefits provided by QF development could be significant
351 for Utah and its citizens.

352 Solar projects in Utah will provide similar levels of construction and long-term
353 operations and maintenance jobs across rural Utah.

354 **Q: Why is now a particularly bad time to halt renewable, particularly solar, QF**
355 **projects?**

356 A: The current implementation of the federal investment tax credit (ITC) provides a 30% tax
357 credit to solar projects completed before the end of 2016; therefore, the levelized cost of solar
358 energy is very low. This is a benefit to Utah ratepayers. The credit is set to drop to 10% after
359 2016, at which time the levelized cost of solar energy will increase. Therefore, the Commission
360 should not implement changes that will deprive Utah ratepayers of the possibility of additional
361 risk free solar QFs at current low prices.

362 **Q: Why would a reduction in the 20 year contract term for PURPA PPAs be bad public**
363 **policy and bad for Company ratepayers?**

364 A: As discussed above, changing the contract term to three years will stop the development
365 of renewable QFs. The 20 year levelized avoided cost price is extremely low at this time. Much
366 of the production from the solar projects coming on line is 3rd quarter power, which is when
367 PacifiCorp must purchase Front Office Transactions for summertime capacity. While I can't
368 guarantee that additional projects will be able to be built at current very low avoided cost prices,
369 if they are built, these locked-in low prices will help keep Utah rates low over the long term.
370 Stable, sustainable and affordable energy is a goal continually stated by Utah's Governor and
371 others. Renewable QF projects provide stable, sustainable and affordable energy. Changing the
372 contract term to three years right before the end of the 30% ITC will definitely deprive Utah
373 ratepayers of the possibility of additional low cost renewable energy resources.

374

375 **CONCLUSION**

376 **Q: What is your recommendation for the Commission regarding the Company's**
377 **application for modification of the contract term for PPAs with QFs?**

378 A: I recommend the Commission deny the application. Reduction of the contract term for
379 PURPA PPAs with QFs from 20 to three years will halt the development of renewable QFs, and
380 their associated benefits, in Utah and will be bad public policy and bad for Company ratepayers.
381 As the Company has previously acknowledged, this reduction in term will make it impossible for
382 renewable QFs to secure financing. The reduction in term is also contrary to the policy behind
383 PURPA and Utah PURPA, which is to encourage the development of QFs and allow some
384 competition in the regulated market of the monopoly utility.

385 **Q: Does that conclude your testimony?**

386 A: Yes.