

BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

In the Matter of the Application of Rocky Mountain Power For Authority to Increase Its Retail Electric Utility Service Rates in Utah and for Approval of its Proposed Electric Service Schedules and Electric Service Regulations)	DOCKET NO. 10-035-124
)	DPU EXHIBIT 13.0 D-RR

PRE-FILED DIRECT TESTIMONY

MARK W. CRISP, PE

ON BEHALF OF THE

UTAH DIVISION OF PUBLIC UTILITIES

May 26, 2011

PUBLIC

1 INTRODUCTION

2

3 **Q. Please state your name, business address, employer, and current position or title for**
4 **the record.**

5 A. My name is Mark W. Crisp, and my business address is 1100 Circle 75 Parkway, Suite
6 1530, Atlanta, Georgia 30339. I am Managing Consultant for C. H. Guernsey & Co. I am
7 providing testimony on behalf of the Utah Division of Public Utilities (DPU).

8

9 **Q. Please describe your education and work experience.**

10 A. I received a Bachelor of Civil Engineering degree from the Georgia Institute of
11 Technology in 1978. In addition to my engineering education, I am a Registered
12 Professional Engineer (PE) in several states. In 1980, I received a Master of Business
13 Administration from the University of Arkansas at Little Rock with a concentration in
14 Finance and Economics. Following completion of my formal education, I was employed
15 for 2 years by Arkansas Power & Light (Middle South Utilities now Entergy – Arkansas)
16 and 15 years by Georgia Power Company/Southern Company. During this time, I
17 completed assignments in the planning, siting, design, construction, and operations of
18 nuclear, coal, gas, and hydroelectric generating plants. In addition to my utility operating
19 experience, I was also responsible for technical due diligence on Southern Electric
20 International’s (“SEI”) Acquisition Team. In this capacity I was responsible for

21 evaluating all fuel, operating, environmental, staffing and operational aspects of power
22 generating facilities, worldwide, that were the focus of SEI (Southern Company's)
23 acquisition strategy.

24
25 Following my employment in the utility industry, I became a consultant providing
26 services to electric and natural gas utilities, as well as regulatory bodies throughout the
27 United States and internationally.

28
29 A copy of my résumé is included in DPU Exhibit 13.1.

30

31 **Q. Where have you testified before?**

32 A. I have provided expert testimony before the public utility commissions in Georgia, South
33 Carolina and Maryland, as well as before the Federal Energy Regulatory Commission
34 (FERC), the Nuclear Regulatory Commission (NRC), in state and federal courts, and
35 before the U.S. Congress.

36

37 **Q. Have you appeared before the Public Service Commission (Commission) of Utah in**
38 **the past?**

39 A. No, I have not.

40

41

42 **PURPOSE OF TESTIMONY**

43

44 **Q. What is the purpose of your testimony in this proceeding?**

45 A. The purpose of my testimony is to address the Gas Hedging program currently employed
46 by Rocky Mountain Power (“Company or RMP”), a division of PacifiCorp.

47

48 **Q. Will you briefly describe the Hedging Program of the Company?**

49 A. PacificCorp Energy, an unincorporated division of PacifiCorp, a subsidiary of
50 MidAmerican Energy Holdings Company, has developed what is termed its *Commercial*
51 *& Trading Risk Management Policy*. Within this policy, PacifiCorp manages transactions
52 for the procurement of natural gas fuel stocks for the Company’s electric generating fleet,
53 as well as electric swaps. In the instant case, Commercial & Trading manages this
54 process for the Company. The overall goal of the natural gas hedging program appears to
55 establish a firm financial commitment, through rate setting, of the forecast costs
56 necessary to “lock-in” gas costs used in the “Test Year” analysis the Company submits as
57 a part of their current rate proceeding. This cost is based on the forecast volume of gas to
58 be used in the Test Year and this, by default, establishes the volume of gas to be hedged.

59

60 This volume of gas can be greatly affected by seasonal temperature variations. In other
61 words, the volume requirement forecasted may be close to that hedged if the Test Year is
62 “near average.” However, if seasonal temperature variations cause increased heating or
63 cooling degree days that deviate from the average, the volume of gas actually procured in
64 the hedging program will either be more than necessary, if seasonal variation during the
65 winter is warmer than forecast or additional volumes are necessary if the seasonal
66 variation during the winter is cooler than forecast. If the seasonal variation is affected by
67 warmer than forecast temperatures or the forecast is understated for any reason, such as a
68 higher than forecast load growth, then the Company will likely need to purchase
69 additional gas or make (likely expensive) purchases on the wholesale electric market.

70
71 If summer temperatures are cooler or winter temperatures warmer than expected, then the
72 Company may have excess gas not burned that may require a “sell back” to the supplier
73 in a physical transaction or the Company may simply lose money on a financial hedge
74 during the settlements by having committed to purchase higher than necessary gas
75 volumes. Unlike coal, the Company does not maintain sufficient gas storage capacity
76 capable of providing storage of quantities procured in excess of demand and holding
77 until demand catches up with supply nor is there storage significantly large enough to
78 store gas to augment pipeline supplies during demand spikes.

79

80 The Company's hedging program clearly articulates that as much as [REDACTED] of the
81 gas needed in the first two years of a contract will be purchased to provide for "stability"
82 of pricing and quantity. However, this process in conjunction with the General Rate Case
83 assures the Company a revenue stream to support the purchase of the volume of gas
84 regardless of whether the gas is used or not. If the gas is not used then the Company must
85 sell back the excess to the supplier at a variable rate that greatly favors the supplier. In
86 these cases, the hedging program actually creates an added expense the rate payers must
87 absorb. In response to UIEC data request 21.4, the Company has indicated that as of
88 March 31, 2011 they have hedged [REDACTED] of the test year natural gas price exposure with
89 swap contracts.

90

91 **Q. How does the Company use different products to manage different types of risk?**

92 A. The Company uses financial hedges to manage the price volatility and physical hedges to
93 manage the volumes. Exposure to increases in natural gas supply costs are hedged with
94 financial swap contracts that settle in cash based on the difference between a fixed price
95 in the contract and a floating market-based price.

96

97 In a "simple swap" transaction, PacifiCorp purchases a contract for a specific date and
98 quantity in the future. If the market price is higher than an agreed-upon contract price at
99 the expiration date, the counterparty will pay the difference to PacifiCorp. However, if

100 the market price is lower than the contract price, PacifiCorp is required to pay the
101 difference to the counterparty. This financial product locks both parties into the agreed-
102 upon price, regardless of the actual market price at the time the physical product is
103 purchased.

104
105 This arrangement works in the Company's favor in a rising price environment. In a
106 declining price environment, the hedge offers no price protection to the Company since
107 they are locked in at the higher price. A negative aspect of this is that a declining price
108 can change the market value of the contract which could require the Company to make a
109 cash collateral payment to the counterparty.

110
111 PacifiCorp manages its natural gas volume requirements by entering into forward
112 commitments for physical delivery of natural gas. These contracts are not completed as
113 far into the future as the financial transactions. There is some confusion concerning the
114 actual percentages of physical and financial hedging done by the Company. Due to the
115 existence of multiple contracts, with variable contract obligations, in effect at any one
116 time and the complexity of each contract, and the "highly confidential" status of the
117 contracts, the Commission and DPU are in a difficult position to monitor the hedging
118 program in terms of their regulatory oversight responsibilities. The Commission and

119 DPU must have transparent access to the actual hedging contracts, either physical or
120 financial, and must be able to reconcile all contracts on a periodic basis, i.e, quarterly.

121

122 **Q. Are there other negative aspects to the hedging program?**

123 A. Yes, the hedging program uses financial products commonly referred to as “swaps” that
124 are contractual obligations, either financial or physical, established between the Company
125 and a counterparty. A gas swap occurs when the Company contracts for a specific
126 volume and price of gas. Contracts for the delivery of the physical gas are established
127 with the gas providers. During the course of an operating year, there will be financial
128 hedges and physical hedges. The financial hedge occurs when the Company contracts for
129 supplies and agrees on pricing terms but does not take physical control of the gas until it
130 is required for burn. The physical hedge occurs when the Company takes physical control
131 of the purchased gas. In either case, if the volume of obligated gas is not taken from the
132 supplier or is taken but not burned, then the Company can and does sell back to the
133 supplier any “unused” gas at a price that is much lower than the equivalent price the
134 Company contracted to purchase the gas, originally. The Company forecasts the value of
135 the swaps based on the forward price curve and places them in the rate case for recovery.

136

137 **Q. Is this a complete synopsis of the hedging program?**

138 A. No, the hedging program is an extremely complicated technical and financial procedure
139 requiring significant resources to manage properly. The aforementioned synopsis is a
140 “boiled down” description of the natural gas process described in two policies the
141 Company included in well over a hundred pages of text plus untold pages of Appendices
142 provided in data requests. For those of us that spend considerable time with hedging
143 programs, the process is somewhat more easily understood.

144
145 The Company compounds the difficult nature of monitoring their hedging program by
146 placing a “highly confidential” seal on the actual financial and transaction data. The
147 effect of the difficult and confusing hedging protocol along with the confidential “tag” on
148 data creates a process that is neither transparent nor in the best interest of the rate payer.
149 The Company also employs the use of “stop loss limits” to minimize financial losses
150 however, again these are “highly confidential” making it once again, impossible to
151 monitor or review outside of a formal rate case or data requests. The hedge process as a
152 risk management tool should be a transparent process that is reported to the Commission
153 on a quarterly basis so that determinations of costs and objectives can be monitored and
154 reevaluated if the objectives and cost impacts are determined to be not in the best interest
155 of the rate customers.

156

157 **Q. What is your assessment of the Commercial & Trading Risk Management Policy or**
158 **the direction for hedging practices?**

159 A. The *Commercial & Trading Risk Management Policy* manual is extremely detailed and
160 thorough. However, the detail and thoroughness of the hedging procedures injects
161 confusion especially for those not actively participating in the practice on a day to day
162 basis. Only those within the Company that track the hedging program for the Company
163 are in a position to explain the day to day financial obligations or physical obligations,
164 particularly if the Company does not share the terms and conditions of the gas contracts
165 with the Commission.

166
167 The use of the gas hedging practice for the procurement of upwards of [REDACTED] of the
168 natural gas stocks places an undue burden on the Commission, DPU, and other interested
169 parties in attempting to balance Company risk with customer rate impacts. The process is
170 further exacerbated with the addition of multiple gas contracts with multiple start and end
171 dates. It is extremely difficult for the Company to “track” gas volumetric moves by
172 supplier or a single supplier with multiple contracts and the associated costs. For this
173 same reason, it is practically impossible for the Commission and others to properly track
174 gas movements and pricing impacts to rate payers. To further complicate the matter, there
175 is no formal reporting mechanism for the Company to inform the Commission or to
176 readjust rates should the gas market hit a downturn creating a position that the Company

177 is over-collecting due to the reduced gas price. For these reasons, I would suggest the
178 current hedging policy is imprudent with regards to equitably sharing risk between the
179 Company and the rate customer, minimizing upward pressure on rates, and providing rate
180 relief if gas prices fall below those forecasted in the general rate case for physical
181 purchases and swaps.

182

183 **Q. If the Risk Management Policy is so difficult, why does the Company continue to use**
184 **it for gas hedging?**

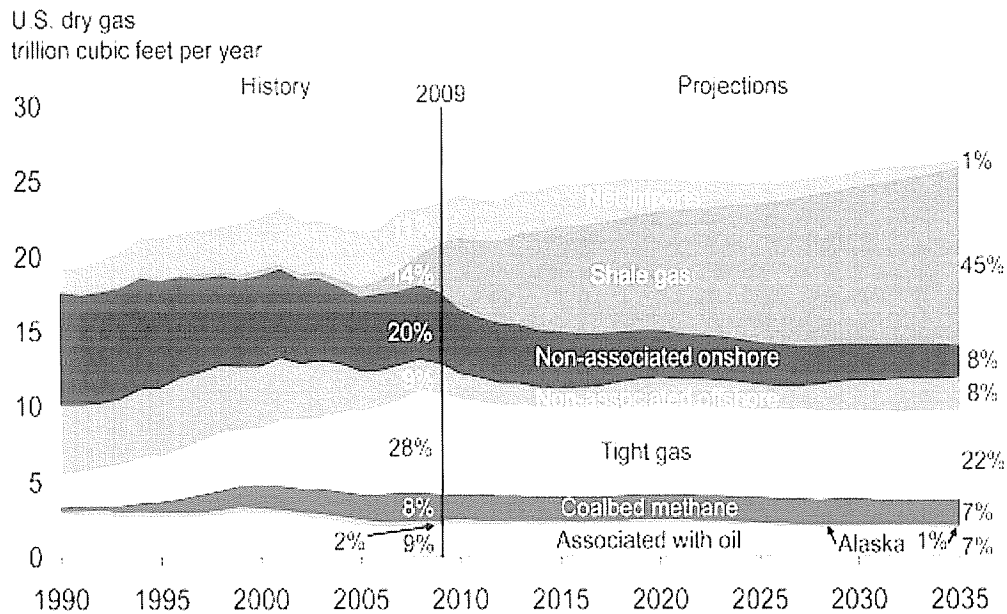
185 A. The Company employs a significant number of personnel trained in the use of the
186 Policy. They are completely comfortable with the Policy since they are fully engaged
187 with its use on a daily basis. The Policy, as it is used today, provides the Company with a
188 significant financial benefit by including all of the costs of gas purchases, swaps, etc in
189 the rate case for recovery during the subsequent rate-effective period. It provides a nearly
190 100% risk avoidance for the Company while at the same time placing nearly 100% of
191 adverse risk on the rate paying customers.

192

193 **Q. But does not the risk policy provide some assurance of fuel price stability for a**
194 **known volatile commodity?**

195 A. In years past, natural gas was an extremely volatile commodity. During certain periods of
196 time and following certain external events, it was not unusual to see natural gas prices

197 “spike” by 100%, 200% or even higher in extreme cases. However, several factors have
 198 entered the natural gas market and are providing cost stabilization. One of the single most
 199 important of these issues is the increase in Shale Gas production in the United States with
 200 a commensurate reduced reliance on imports. The following Table illustrates the
 201 influence of Shale Gas on the market as forecast by the U.S. Energy Information
 202 Administration (“EIA”).



Source: EIA Annual Energy Outlook 2011

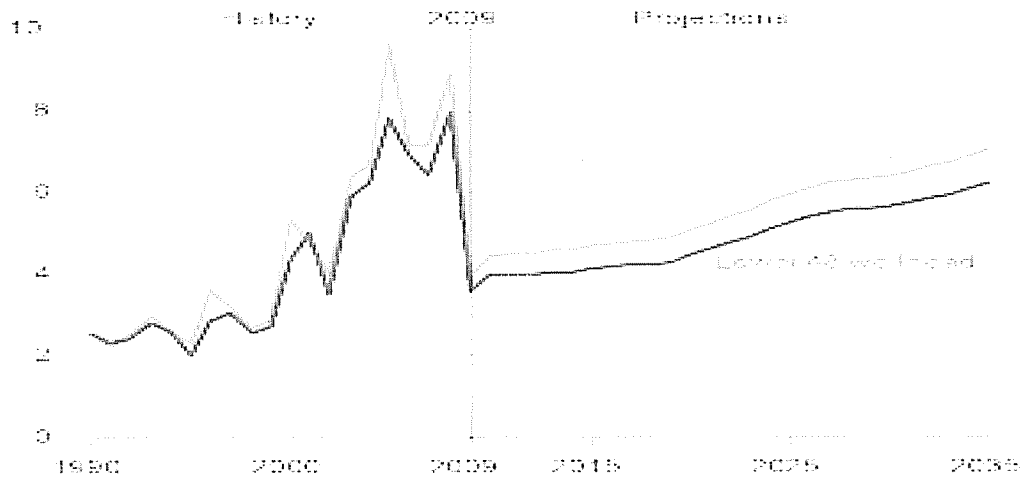
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204

205 **Q. What does this increase in Shale Gas production mean for price volatility or**
 206 **stabilization?**

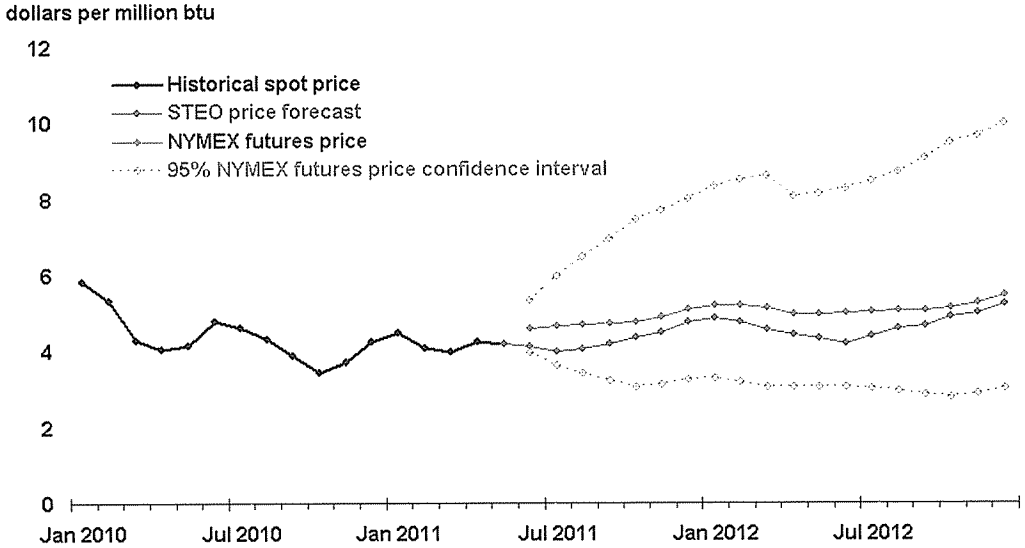
207 A. The increase in production of domestic natural gas concurrent with the technology to
208 fracture shale gas reservoirs creates a significantly important stabilization effect on U.S.
209 natural gas prices over the long term. As a matter of fact, the EIA is forecasting the spot
210 price of natural gas to increase by only \$2 /million Btu over the next 25 years (See table
211 below).

Figure 86 Annual average lower 48 wellhead and Henry Hub spot market prices for natural gas, 1990-2035 (2009 dollars per million Btu)



212
213 In comparison, the short-term price forecast indicates an even greater stability in pricing.
214 See table below.

Henry Hub Natural Gas Price



*Note. Confidence interval derived from options market information for 5 trading days ending May 5, 2011
Intervals not calculated for months with sparse trading in "near-the-money" options contracts*

Source: Short-Term Energy Outlook, May 2011



215

216 **Q. Please explain how this relates to the Company's hedging policy.**

217 A. As discussed earlier, hedging is a process used by the Company ostensibly to provide
218 protection from price instability. However, as shown above, the natural gas price is
219 stabilizing, naturally, by increases in domestic production, and reduced reliance on
220 international product, including the reduction in LNG imports. Based on these forecasts,
221 there is reason to re-evaluate the hedging process and certainly justifiable reasoning to
222 disallow costs for natural gas swaps.

223

224 **Q. Why do you suggest justifiable reasoning to disallow natural gas swaps?**

225 A. The current risk mitigation plan of the Company does not provide any incentive for the
226 Company to provide an accurate or defensible natural gas hedging program. They merely
227 include in their Test Year financials a forecast of what it will cost them to purchase gas
228 during the Test Year and they include another “line item” of what they forecast will be
229 their expense for natural gas swaps. Neither the Company’s hedging plan nor its
230 reporting requirements to the Commission require the Company to report its forecast
231 accuracy and comparison of forecast costs to incurred costs as they proceed through the
232 “operating year.” There is little to no reporting of the various gas contracts, terms and
233 conditions, fixed pricing on the purchase commitment end or indexed price on the return
234 or swap end. While we recognize and appreciate the Commission has articulated it does
235 not want to “micro-manage” the Company, the combination of gas and electric swaps
236 amount to nearly \$100 million in the current rate case. Due to the Company’s claim of
237 “highly confidential” protection of this information, it is realistically impossible for the
238 Commission or DPU to monitor the hedging program during the execution phase of the
239 contracts and swaps. The Company is already requesting favorable rate treatment of up to
240 █████ of their gas purchases in this rate case. Their request also includes rate relief for
241 their forecasted swaps. If granted, this would provide the Company with an absolute
242 assurance of rate coverage for all gas transactions. The risk and rate burden would fall
243 exclusively on the shoulders of the rate paying customers.

244 The Commission has recognized this to be an onerous situation for the customers in the
245 Commission order in Docket No. 09-035-15, Energy Cost Adjustment Mechanism
246 (“ECAM”) or Energy Balancing Account by disallowing all natural gas and electric
247 swaps. While this Order is under rehearing, it, nonetheless, emphasizes the fact that the
248 Commission understands the complexity of the hedging program, recognizes the rate
249 payer carries the full risk of the gas purchases program of the Company while the
250 Company enjoys, as close as is possible, a risk-free natural gas purchasing program with
251 little to no incentives to be aggressive with natural gas purchasing forecasting or contract
252 negotiations. Disallowance of the natural gas swaps and electric swaps will return a
253 portion of the risk to the Company, where it should reside and remove this burden from
254 the rate payer.

255

256 **Q. What is your understanding of the status of gas hedging programs in other**
257 **regulated jurisdictions?**

258 **A.** Exhibit 13.2 of my testimony is a compilation of our direct interviews with 25 of the
259 State regulatory bodies concerning natural gas hedging programs under their jurisdiction.
260 Of the 25 States, 19 have allowed some form of hedging. However, policies within the
261 hedging programs differ considerably from jurisdiction to jurisdiction. Most all
262 jurisdictions require the utility to file a monthly or quarterly review of the hedging
263 activities, including costs. These filings are in addition to specific filings within a general

264 rate case or in a fuel proceeding. In 9 of the 25 cases the Commissions are evaluating
265 whether to suspend or eliminate the hedging program, primarily due to the stability of
266 natural gas pricing. In a number of the states that are not looking into program
267 modifications, there already is a limitation on the amount of gas that can be hedged, i.e.,
268 25%, less than 75% or some other percentage. If the jurisdiction does not have a
269 limitation, then there is a regulatory policy in effect that requires the company to submit
270 their plan and forecast for regulatory approval on an annual or bi-annual basis. It is also
271 quite clear, by reference, that these commissions are or have dealt with the complexity of
272 monitoring hedging programs and have come to a similar conclusion that the companies
273 must provide more transparency in their reporting to the commission of their hedging
274 activities. In addition, these commissions have also recognized through their
275 requirements to allow only percentages of the total gas requirement to be hedged, that
276 risk should be shared by the company and the rate payer not borne totally by the rate
277 customer. In jurisdictions where there is no limitation on the amount of hedging, these
278 commissions have in-place requirements for the company to report the hedging activities,
279 prepare and submit annual hedging plans, require an annual prudency hearing on hedging
280 costs or some other mechanism that produces transparency and risk sharing, not 100%
281 risk mitigation by burdening the rate payer.

282

283 **Q. What is your recommendation concerning the Company's hedging program?**

284 A. Based on all of the factors previously discussed, I recommend the Commission require
285 the Company re-evaluate the hedging program in its entirety and bring to this
286 Commission a revised hedging program, within 180 days of the conclusion of this docket,
287 that:

- 288 • Produces a “sharing” of the risk between the Company and the rate customer;
- 289 • Produces a transparent methodology in which the Company prepares quarterly
290 documentation of the hedging transactions, physical and financial, and
- 291 • Submits to the Commission and DPU comparisons tables, charts, or graphs of the
292 actual hedging results compared with that forecast in the “Test Year.” Deviations
293 from the Test Year forecast will be identified and the logic behind the deviations
294 will be provided to the Commission and the DPU. The deviations will be
295 identified in both absolute numbers and percentages.

296

297 In order to effectuate an immediate shifting of some of the risk back to the Company and
298 to create an incentive for the Company to aggressively manage their natural gas contracts,
299 we propose the disallowance of the net of Natural Gas Swaps and Electric Swaps
300 $(\$160,723,241 - \$61,683,848) = \$99,039,393$ on a system-wide basis. The portion of the
301 disallowance allocated to Utah rates would be \$42,868,310. While I believe that
302 disallowing the full amount is justified, the Division will articulate its position in Mr.
303 Wheelwright’s testimony.

304

305 **Q. Does this conclude your testimony?**

306 **A. Yes.**