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 12.0 SR-RR

PRE-FILED SURREBUTTAL TESTIMONY

GEORGE W. EVANS

ON BEHALF OF THE

UTAH DIVISION OF PUBLIC UTILITIES

July 19, 2011

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INTRODUCTION

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

A. My name is George W. Evans, and my business address is 358 Cross Creek Trail, Robbinsville, North Carolina 28771. I am a Vice President with Slater Consulting.

Q. For whom are you providing testimony in this case?

A. I am providing testimony on behalf of the Utah Division of Public Utilities (DPU or Division).

Q. Are you the same George W. Evans that presented direct testimony in this docket?

A. Yes I am.

PURPOSE OF TESTIMONY

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

A. The purpose of my surrebuttal testimony is to respond to the rebuttal testimony of Company witness Mr. Gregory N. Duvall concerning the Company net power costs (NPC) adjustments I recommended in my direct testimony, and to respond to other issues raised by Mr. Duvall.

Q. What recommendations did you make in your direct testimony?

A. I recommended eleven adjustments to the Company's filed NPC, as shown in Table 1 below, and also included one additional adjustment (the twelfth adjustment in Table 1) that is supported by other DPU witnesses.

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Table 1

		System	Utah
Filed Net Power Costs		$1,521.0	$649.1
Proposed Adjustments:			
Utah QF Contracts:			
1	Extend Utah QF Contracts at Current Rates	$0.3	$0.1
Wind Integration Costs:			
2	Correct Gadsby CT Usage	-$3.8	-$1.6
3	Remove Double-Count of Wind Contingency Reserves	-$2.0	-$0.9
4	Correct Spinning Reserve Increase	-$13.6	-$5.8
5	Credit for Wind Integration Costs of Non-Owned Wind Producers	-$4.1	-$1.7
Contracts and Market Sales and Purchases:			
6	Market Cap Adjustments	-$5.3	-$2.2
7	California ISO Fees	-$4.3	-$1.8
8	Morgan Stanley Call Options	-$2.1	-$0.9
9	Arbitrage & Trading Margins	-$3.0	-$1.3
Fossil Generation Issues:			
10	Heat Rate Deration Issue	-$4.1	-$1.7
11	Chehalis Reserve Contribution	-$3.4	-$1.4
Gas and Electric Swaps			
12	Gas and Electric Swaps	-$99.0	-$42.3
Total Adjustment		-$144.4	-$61.6
Adjusted Net Power Costs		$1,376.6	$587.5

GENERAL NPC ISSUES

Q. What general issues did Mr. Duvall raise in his rebuttal testimony?

A. Mr. Duvall claims that NPC in rates have been consistently below actual NPC in recent years[1], and thus the NPC modeling adjustments proposed by other parties in this case serve to further reduce the overall accuracy of the NPC forecast[2].

Q. How do you respond to these claims?

A. If in fact, as Mr. Duvall asserts, NPC in rates have been consistently below actual NPC, then the Company should consider benchmarking the GRID model, rather than simply criticizing the concerns of the parties in this case. Total proposed adjustments in this case would reduce NPC by some 12%. Assuming the Commission only approves approximately half of the proposed adjustments, NPC would be reduced by only 6%. Surely there are factors beyond the recommended adjustments that are contributing to the underestimation of NPC. There is no question that the Company has improved GRID over the years, but to my knowledge, there has been no serious effort to benchmark the model, that is, compare GRID results to actual NPC over a historical period in a controlled, open and unbiased manner.

Q. What do you recommend?

A. I recommend that the Commission appoint a collaborative group to benchmark the GRID model against actual NPC to ascertain whether the model includes any

[1] Page 10, lines 205-207 of Mr. Duvall's rebuttal testimony.
[2] Page 12, lines 256-258 of Mr. Duvall's rebuttal testimony.

inherent biases that impact forecasted NPC. The group should include representatives of the parties to this case and should be an open and informal forum, with the purpose of benchmarking the GRID model. The parties should have access to GRID and the data used for benchmarking.

Q. Is this the sort of benchmark described by Mr. Duvall in his rebuttal testimony?

A. No, it is not. Mr. Duvall compares the results of two NPC forecasts in his rebuttal testimony, and refers to the comparison as a benchmark[3]. Comparing two GRID results does not constitute a benchmark nor does it serve to support the Company's claimed NPC in this case.

Q. What sort of benchmark are you recommending?

A. To ascertain whether GRID is producing accurate NPC, one must select a historical period, and compare actual NPC for that historical period to GRID NPC for the same period. In addition, the GRID input modeling data must be set as closely as possible to actual data. For example, GRID fuel costs would be set to actual fuel costs, and the load forecast in GRID would be the actual experienced load from the historical period. In my experience, this is the only way to properly benchmark a model such as GRID.

Q. Does Mr. Duvall address any other general issues in his rebuttal?

[3] Page 12, lines 259-267 and page 13, lines 268-272 of Mr. Duvall's rebuttal testimony.

A. Yes, he does. As in previous cases, Mr. Duvall is recommending in his rebuttal a series of "updates" to the previously filed NPC[4].

Q. What do you recommend concerning these updates to NPC?

A. I recommend the Commission reject these updates. At this point in the case, to fully evaluate these updates and their impacts on NPC would require a re-examination of nearly all the NPC issues. To allow parties the opportunity to serve discovery, evaluate discovery, and to examine in detail the revised GRID results, there must be a frozen set of assumptions that allow the completion of the process. The updated official price curve (OFPC), included as one of Mr. Duvall's updates, will change the operation of all PacifiCorp generating units in GRID. It is simply unrealistic at this point to ask all parties to completely re-do their examination of NPC.

UTAH QF CONTRACTS

Q. What is Mr. Duvall's position on your recommended change concerning the Utah QF contracts (adjustment 1 in Table 1)?

A. Mr. Duvall has accepted our recommendation concerning these contracts[5].

WIND INTEGRATION COSTS

Q. What is Mr. Duvall's rebuttal position concerning your wind integration cost adjustments (adjustments 2 through 5 in Table 1)?

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[4] Page 4, lines 71-77 of Mr. Duvall's rebuttal testimony.
[5] Page 9, lines 195-196 of Mr. Duvall's rebuttal testimony.

A. Mr. Duvall rejects all of these adjustments.

Q. What is your position on these adjustments?

A. I'm in agreement with Mr. Duvall's rebuttal testimony concerning my proposed adjustment 5 in Table 1 – Credit for Wind Integration Costs of Non-Owned Wind Producers. However, on the other proposed wind integration adjustments, I disagree with Mr. Duvall's rebuttal testimony.

Q. Is there an area of disagreement that applies to all of the proposed wind integration adjustments?

A. Yes, there is. The Company relies on its 2010 Wind Integration Study (the Wind Study) for the GRID modeling of wind integration costs. Mr. Duval refers to the Wind Study many times in his rebuttal testimony. However, it is clear that the Wind Study suffers from errors that belie the Company's dependence on the study.

Q. What errors have you identified in the Wind Study?

A. Based on the Wind Study, the Company forces the Gadsby combustion turbines (Gadsby units 4, 5 and 6) to operate in GRID in all hours in which the units are available. My direct testimony establishes that, in reality, the Gadsby combustion turbines do not operate in this manner[6]. Also based on the Wind Study, the Company increased the required regulating margin in GRID. However, my direct testimony establishes that the spinning reserves (one part of regulating margin)

[6] Page 10, lines 136-146 and page 11, line 147 of Mr. Evans' direct testimony.

within the Company's GRID results greatly exceed actual spinning reserves[7]. Finally, the Wind Study makes the faulty assumption that additional reserves to cover the variability of wind will be required in all hours, even hours in which excess reserves sufficient to cover the wind variability exist prior to consideration of the variability of wind.

Q. Does Mr. Duvall address these issues in his rebuttal testimony?

A. No, he does not. Essentially the Wind Study fails to consider actual PacifiCorp operations. Given that nearly all anticipated wind generation was in place in 2010, recent actual operations should confirm the results of the Wind Study. Instead, recent actual operations confirm that the Wind Study is fatally flawed and cannot be relied upon. As a result, the wind integration costs from the Company's GRID runs are also fatally flawed.

GADSBY CT MUST-RUN

Q. What is Mr. Duvall's rebuttal position concerning the operation of the Gadsby combustion turbines?

A. Although Mr. Duvall does not address my direct testimony concerning the operation of the Gadsby combustion turbines, he does continue to claim that the Company's GRID analysis properly models the operation of these generating

[7] Page 11, lines 148-157 and page 12, line 158 of Mr. Evans' direct testimony.

units. The basis for his assertion is that the average historical capacity factors compare well to the GRID capacity factors for these generating units[8].

Q. Is Mr. Duvall's assertion correct?

A. It is correct that the GRID capacity factors for Gadsby units 4-6 match well with historical capacity factors. The problem is that capacity factors are only one piece of the picture. In the Company's GRID modeling, the units operate in all hours. In reality, the units operated only 65% of the hours in the twelve months from July 2009 through June 2010.

Q. How then is it possible that the Company's GRID capacity factors match actual capacity factors?

A. Within the Company's GRID run, the Gadsby units 4-6 typically operate at very low levels. In reality, the units operate at much higher levels. This explains the apparent discrepancy, and also points out an additional problem – the hourly dispatch of these generating units is incorrect in the Company GRID results. Rather than supporting the Company's results, the capacity factor match reveals an additional error in the Company's GRID results.

WIND REGULATING RESERVES

Q. What are the parties' positions concerning the level of regulating reserves required to cover the intermittent nature of wind generation?

[8] Page 40, lines 867-873 and page 41, lines 874-881 of Mr. Duvall's rebuttal testimony

A. The Company contends that the intermittent nature of wind requires regulating reserves (or regulating margin) of 533 mega-watts. Mr. Falkenburg, for the Office of Consumer Services, contends that only 430 mega-watts are required. My direct testimony proposes an adjustment that reduces regulating reserves to 433 mega-watts (adjustment 4 in Table 1).

Q. How did the parties arrive at these levels of required regulating reserves?

A. The Company bases its 533 mega-watts on the Wind Study. Mr. Falkenburg bases his 430 mega-watts on adjustments and corrections to the Wind Study. My 433 mega-watt level is based on an analysis of actual spinning reserves carried by the Company in the years 2007 through 2010.

Q. Is it simply coincidence that your number is so close to Mr. Falkenburg's number?

A. No, it is not simply coincidence. Although Mr. Falkenburg and I addressed the issue in completely different ways, the fact that we have confirmed each other's result is additional evidence that the Wind Study is fatally flawed, and the Company's level for regulating reserves in GRID is excessive.

Q. What is Mr. Duvall's response to your claim that the Company's claimed level of regulating reserves is excessive?

A. Mr. Duvall begins by discussing the chart that I presented on page 12 of my direct testimony. This chart compares the actual historical average spinning reserves for the years 2007 through 2010 to the average spinning reserves in the Company's GRID analysis used to develop NPC.

Q. You were discussing regulating reserves, but the chart shows spinning reserves. What is the relationship between spinning reserves and regulating reserves?

A. Spinning reserves are one part of the regulating reserves (or regulating margin). Spinning reserves must be available within ten minutes and generally are provided by generating units that are operating (or spinning).

Q. What does the chart in your direct testimony show?

A. The chart shows that the average spinning reserves in the Company's GRID analysis is 789 mega-watts, while the actual average spinning reserves carried by the Company have never exceeded 653 mega-watts. That is, the spinning reserves assumed by the Company in its development of NPC exceed actual recorded spinning reserves by 136 mega-watts.

Q. What is Mr. Duvall's concern regarding this chart?

A. Mr. Duvall criticizes my chart in that it shows only spinning reserves and not the total regulating reserves[9].

Q. Does Mr. Duvall dispute the numbers used to generate your chart?

A. No, he does not. Mr. Duvall does not discuss or dispute the levels of spinning reserves shown in my chart.

Q. Why did you choose to display only spinning reserves in your direct testimony?

[9] Page 38, lines 806-817 of Mr. Duvall's rebuttal testimony.

A. Attached as Exhibit 12.1 SR-RR is the Company's response to DPU Data Request 10.38. The question requests actual regulating reserves and actual operating reserves. However, the Company responded by providing only spinning reserves and non-spinning contingency reserves. The Company did not provide total regulating reserves.

Q. Why did the Company fail to provide regulating reserves?

A. As discussed in Mr. Duvall's rebuttal testimony, the Company does not record actual regulating reserves[10]. Mr. Duvall instead must "estimate" historical regulating reserves from available data.

Q. What is the result of Mr. Duvall's estimate of historical regulating reserves?

A. Mr. Duvall estimates that actual regulating reserves held in calendar year 2010 averaged 629 mega-watts, and thus concludes that the Company's 533 mega-watt regulating reserve criteria in GRID is justified.

Q. Do you agree?

A. No, I do not. First, Mr. Duvall does not perform similar computations for his GRID results, and thus never establishes that GRID carries similar regulating reserves. In addition, he never addresses the problem shown in my comparison of actual spinning reserves to the spinning reserves carried by GRID in the Company's NPC computation. The GRID model is holding excessive spinning

[10] Page 35, lines 743-747 of Mr. Duvall's rebuttal testimony.

reserves. Mr. Duvall does not dispute this fact, and fails to address it in any direct way.

Q. Does the fact that your chart shows only spinning reserves explain the discrepancy, as Mr. Duvall contends?

A. No, it does not. The data is consistent for the historical values and the GRID result. The Company's GRID model carries excess spinning reserves, and thus must also carry excess regulating reserves.

WIND INTEGRATION CONTINGENCY RESERVES

Q. What is the issue with wind integration charges and the wind contingency reserves?

A. The Company must carry contingency reserves equal to five percent of load served by wind resources. In the Wind Study, the Company produced a level of regulating reserves that the Company claims are needed to maintain reliability in the face of the intermittent nature of wind generation. Mr. Duvall claims that the two reserve amounts for wind are additive, that is, the Company must maintain reserves for wind equal to the sum of the five percent contingency and the claimed regulating reserves from the Wind Study

Q. Do you agree?

A. No, I do not agree. Contingency reserves are held to cover the possibility that a wind generator will fail to serve load. Regulating reserves for wind are held to cover, for one thing, a sudden reduction in wind generation. So the two types of

reserve for wind are covering the same events. Summing the two reserve requirements is like buying two insurance policies for the same house.

Q. What do you conclude?

A. The Company should reduce the required regulating reserves by the wind contingency amount, or alternatively, remove the five percent wind contingency. In either case, adjustment 3 in Table 1 is the impact on NPC.

MARKET CAPS

Q. What is the issue concerning market caps in GRID?

A. The Company utilizes GRID market caps, or hourly limitations on the size of transactions, for all hours and all markets.

Q. What is the Company's basis for using these market caps?

A. The Company states that "Due to load requirements and transmission constraints in the region and static assumptions about market prices in GRID, among other things, the Company may not be able to sell all its economic generation to the markets." [11]

Q. Is this a reasonable argument?

A. No, it is not. The Company has not performed any analysis or study that would support the new market caps, but is simply concerned that it "may not be able" to sell all economic generation to the markets.

[11] Page 11, lines 234-237 of Mr. Duvall's direct testimony.

Q. Does the Company make any other argument concerning the market caps?

A. Yes, Mr. Duvall argues that, were it not for the regulating margin increases for wind generators, GRID coal generation would exceed historical average generation.

Q. Do you agree?

A. While it is true that if the Company were to remove the increased regulating margin for wind, GRID coal generation would exceed the historical average, it is also true that the market caps are restricting economic coal generation. Unless Mr. Duvall is proposing to remove the increased regulating margin for wind, his argument has no relevance.

CAL ISO CHARGES

Q. What is the issue concerning California ISO fees?

A. The Company has included in NPC fees paid to the California ISO to allow transactions with the California ISO, but does not model the connection between the Company and the California ISO in GRID.

Q. Doe Mr. Duvall contend otherwise?

A. No, he does not. The Commission should not allow these fees in NPC.

MORGAN STANLEY CALL OPTIONS

Q. What is the issue concerning the Morgan Stanley call options?

A. The Company claims that the fixed costs for these call options should remain a part of NPC, even though the options are not utilized in the test year.

Q. When did the Company purchase these options?

A. The Company purchased these options in November 2005 for delivery in the summer of 2011.

Q. Is this reasonable?

A. No, it is not reasonable to purchase a fixed price option in 2005 for delivery in 2011. One advantage of purchased power over owned generation is that purchased power provides flexibility. These contracts have high fixed costs and high strike prices and provide no flexibility. In all likelihood, the contracts will never provide benefits to Utah ratepayers.

ARBITAGE AND TRADING MARGINS

Q. Please describe the issue with arbitrage and trading margins.

A. Mr. Duvall claims that I have argued that GRID does not account for margins earned on arbitrage and trading transactions[12].

Q. Is Mr. Duvall correct?

A. No, he is not. Instead, I argue that the margins derived from trading and arbitrage in NPC are far below the historical averages of actual margins from these activities[13].

[12] Page 46, lines 1000-1004 of Mr. Duvall's rebuttal testimony.

Q. Has your position changed in any way?

A. No, it has not.

HEAT RATE DERATION

Q. Please describe the heat rate deration issue.

A. The heat rate deration issue arises because of the fact that the Company reduces the maximum capability of each generating unit to reflect unforeseen outages. The idea of this reduction is to cause GRID to produce generation levels that account for the unforeseen outages. However, because the Company does not modify the heat rate curves for the generating units, the heat rates will be unrealistically high because GRID will assign a higher heat rate based on the deration.

Q. How have you corrected the problem?

A. My adjustment for the problem modifies the heat rate curve for each coal and combined cycle generating unit so that the heat rates will more accurately reflect real-life operations. I first develop a forced outage rate for each coal and combined cycle unit, using only full forced outages (ignoring partial outages). Then I modify the complete heat rate curve for each of the units so that the heat rate at the maximum capability reduced by the forced outage rate is equal to the heat rate at maximum capability. This is because, if the unit has forced outages equivalent to 10% of the time, then 90% of the time, the unit is operating at a heat

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[13] Page 17, lines 251-255 of Mr. Evans' direct testimony.

rate as if it were fully available and 10% of the time, the unit does not operate at all.

Q. Does your adjustment improve the accuracy of the unit heat rates?

A. Yes it does. The table below shows that for Company coal units and combined cycle units, the GRID average heat rates are closer to average historical heat rates under my adjustment. The average historical heat rates were taken from FERC Form 1 Reports for 2007 through 2010.

	Coal	Combined Cycle
Actual Average Heat Rate	10.727	7.332
GRID Average Heat Rate - Company NPC	10.751	7.394
Percent Variance	0.22%	0.84%
GRID Average Heat Rate - Heat Rate Adjustment	10.719	7.345
Percent Variance	-0.08%	0.18%

CHEHALIS RESERVE CONTRIBUTION

Q. What is the concern with the Chehalis reserve contribution?

A. The Company claims that Chehalis can no longer provide operating reserves, load following reserves or AGC to the PacifiCorp system. The basic problem is that the Chehalis plant is located in BPA's control area and BPA no longer allows the plant to operate in a manner that allows PacifiCorp to carry reserves at the plant.

Q. What is the issue that must be decided?

A. The bottom line question is whether rate-payers must pay the additional costs caused by this change at Chehalis. There is no dispute over whether the Company originally claimed Chehalis would provide operating reserves.

Q. Should the Company bear these costs?

A. Yes, the Company should be held responsible for the added costs caused by the loss of Chehalis' ability to provide reserves. The Company claimed in Docket No. 08-035-35 that ownership of Chehalis would allow the Company full discretion in the dispatch of the plant, including operating reserves, load following reserves and AGC. The Company should have been aware at that time that the physical location of the plant within another utility's control area was a risk that could potentially limit the control of the plant by PacifiCorp. In fact, the Company should have negotiated a long-term agreement with BPA concerning the utilization of Chehalis at the time of purchase. Ratepayers should not be held accountable for this failure by the Company.

GAS AND ELECTRIC SWAPS

Q. What is the DPU's current position on the gas and electric swaps in NPC?

A. The DPU is recommending a reduction of $57.4 million to the system NPC, or a $24.5 million reduction to the Utah NPC for gas and electric swaps.

SUMMARY

Q. Can you summarize the DPU's current positions on NPC adjustments?

337 A. Yes, I can. The following Table 2 shows our current positions on NPC

338 adjustments.

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Table 2

		System	Utah
Filed Net Power Costs		$1,521.0	$649.1
Proposed Adjustments:			
Utah QF Contracts:			
1	Extend Utah QF Contracts at Current Rates	$0.03	$0.01
Wind Integration Costs:			
2	Correct Gadsby CT Usage	-$3.8	-$1.6
3	Remove Double-Count of Wind Contingency Reserves	-$2.0	-$0.9
4	Correct Spinning Reserve Increase	-$13.6	-$5.8
5	Credit for Wind Integration Charges to Non-Owned Wind Producers	$0.0	$0.0
Contracts and Market Sales and Purchases:			
6	Market Cap Adjustments	-$5.3	-$2.2
7	California ISO Fees	-$4.3	-$1.8
8	Morgan Stanley Call Options	-$2.1	-$0.9
9	Arbitrage Margins	-$3.0	-$1.3
Fossil Generation Issues:			
10	Heat Rate Deration Issue	-$4.1	-$1.7
11	Chehalis Reserve Contribution	-$3.4	-$1.4
Gas and Electric Swaps			
12	Gas and Electric Swaps	-$57.4	-$24.5
Total Adjustment		-$98.9	-$42.2
Adjusted Net Power Costs		$1,422.1	$606.9

Q. Does this complete your testimony?

A. Yes it does.