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IDAHO PUBLIC
UTILITIES COMMISSION

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

**IN THE MATTER OF THE)
APPLICATION OF ROCKY)
MOUNTAIN POWER FOR APPROVAL)
OF CHANGES TO ITS ELECTRIC)
SERVICE SCHEDULES AND A PRICE)
INCREASE OF \$27.7 MILLION OR)
APPROXIMATELY 13.7 PERCENT)**

**CASE NO. PAC-E-10-07
Surrebuttal Testimony of Randall
J. Falkenberg**

SURREBUTTAL TESTIMONY OF RANDALL J. FALKENBERG

ON BEHALF OF

THE PACIFICORP IDAHO INDUSTRIAL CUSTOMERS

December 1, 2010

1 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 **A.** Randall J. Falkenberg, PMB 362, 8343 Roswell Road, Sandy Springs, GA
3 30350. I am the same witness who filed direct testimony October 14, 2010.

4 **Q. WHAT IS THE PURPOSE OF THIS TESTIMONY?**

5 **A.** My testimony addresses the rebuttal testimony filed by PacifiCorp witness Dr.
6 Hui Shu on November 16 and on November 24. I update my Table 1
7 adjustments and address issues related to the screening adjustment, start up
8 energy, start up O&M, wind integration, and the heat rate adjustment. Unless
9 otherwise noted, I find the various PacifiCorp criticisms of all my other
10 adjustments unpersuasive.

11 **Q. PLEASE SUMMARIZE YOUR TESTIMONY.**

12 **A.** My conclusions are as follows:

- 13 1. The GRID unit commitment logic contains a serious error,
14 acknowledged by the Company. Dr. Shu agrees with my proposal to
15 entirely replace the faulty GRID logic with manual calculations of
16 daily screens. For purposes of this case, I accept Dr. Shu's screen
17 modeling methodology, though I disagree with one of her
18 assumptions.
- 19 2. Dr. Shu's opposition to Adjustment 14 (startup O&M) is inconsistent
20 with her inclusion of these undocumented and unsupported costs in
21 calculating the daily screens. Remove the impact of startup O&M
22 increases Adjustment 1 (Commitment Logic Screens) on Table 1 -
23 Surrebuttal.
- 24 3. Dr. Shu opposes Adjustment 2 (startup energy) based on two GRID
25 runs performed using the uncorrected GRID logic. Consequently, her
26 analysis simply measures the random effect of the GRID logic error on
27 two different scenarios and not the issue of startup energy.
- 28 4. Table 1-Surrebuttal updates Adjustment 2 (Startup Energy) to reflect
29 the Company's rebuttal GRID run and proposed screens.

1 5. Adjustment 2 is quite conservative. Inclusion of the energy and
2 minimum downtime considerations in GRID, as suggested by Dr. Shu
3 would support a larger adjustment.

4 6. I accept Dr. Shu's proposal to remove the Seattle City Light Stateline
5 contract from Adjustments 4 and 5 (Non-Owned Wind Integration).
6 However, I continue to support the remainder of these adjustments.
7 This change is reflected on Table 1 - Surrebuttal.

8 7. Dr. Shu's criticism of Adjustment 13 (Idaho Power Point to Point)
9 fails to recognize the purpose of a balanced pro-forma adjustment.
10 The Company seeks to include the costs of the new transmission line
11 as if it came on line in January 2010 nearly a year prior to its actual in-
12 service date. However, in the case of the no longer needed Idaho
13 Power PTP contract, the Company would continue to include the costs
14 of the contract in the test year.

15 8. Dr. Shu's rebuttal of the Adjustment 10 (Heat Rate Adjustment)
16 addresses a proposal adopted by regulators in Oregon, not my current
17 proposal. My adjustment addresses only the impact of the heat rate
18 modeling problem at the maximum derated capacity, which Dr. Shu
19 acknowledges may be valid.

20 **Q. HAVE YOU UPDATED TABLE 1?**

21 **A.** Yes. Below is my new Table 1 reflecting my current position on my various
22 adjustments:

**Table 1 Surrebuttal
Summary of Recommended Adjustments**

	Total Company	Est. ID Jurisdiction	
		SE	6.36%
		SG	5.51%
I. GRID (Net Variable Power Cost Issues)			
PacifiCorp Request NPC	1,069,701,315		69,200,000
A. GRID Commitment Logic Error and Start Up Costs			
1 Commitment Logic Screens ^{1/}	(588,429)		(34,912)
1 Commitment Logic Screens ^{1/}	(3,642,909)		(216,134)
2 Start-Up Energy ^{2/}	(1,676,474)		(99,465)
2 Start Up Energy ^{2/}	(1,629,483)		(96,677)
B. Long Term Contract Modling			
3 SMUD Contract Delivery Pattern	(1,566,786)		(92,957)
C. OATT Wind Integration Costs			
4 Non-Owned Inter-Hour Wind	(2,041,963)		(121,150)
4 Non-Owned Inter Hour Wind	(1,367,359)		(81,125)
5 Non-Owned Intra-Hour Wind	(4,320,034)		(256,307)
5 Non-Owned Intra Hour Wind	(2,892,820)		(171,631)
D. Outage Modeling and Other NPC Adjustments			
6 Lake Side Outage	(2,163,834)		(128,380)
7 Colstrip Outage	(1,300,710)		(77,171)
8 JBFuel Adjustments	(2,460,037)		(145,954)
9 Naughton Outage	(700,273)		(41,547)
10 Heat Rate Adjustment	(1,831,473)		(108,661)
E. Transmission Issues			
11 DC Intertie Costs	(4,766,400)		(282,791)
12 Populus to Ben Lomond Line Losses	(1,146,067)		(67,996)
13 Idaho Power PTP Contract	<u>(842,386)</u>		<u>(49,979)</u>
Subtotal NPC Baseline Adjustments -	(26,310,536)		(1,561,004)
Allowed - Final GRID Result*	1,043,390,779		67,638,996
G. Other Adjustments			
14 Combined Cycle O&M Adjustment	(490,000)		(29,072)
Total Adjustments	(26,310,536)		(1,561,004)
Notes			
^{1/} Company Screen Result accepted but increased to reflect 0 start up O&M			
^{2/} Based on original (coal value) method. If Min Down Time/GRID value used	(1,946,856)		(115,507)

1 **Screening Adjustment and Startup O&M**

2 **Q. WHY IS THE GRID SCREENING ADJUSTMENT NECESSARY?**

3 **A.** The GRID model contains a serious logic error that prevents it from correctly
4 determining the most economic start and stop sequence for cycling resources.
5 The problem is so serious that the Company has agreed with the proposal I
6 made in my direct testimony to abandon the GRID logic entirely, to replace it
7 with a manual calculation to determine the optimal daily schedule for cycling
8 resources.

9 **Q. HAVE YOU EXAMINED THE COMPANY'S PROPOSED**
10 **SCREENING METHOD?**

11 **A.** Yes. It appears to produce results that approach those of the screening
12 analysis I have developed. For purposes of this case, I accept their proposed
13 methodology. However, time for review was limited so, I would hesitate to
14 accept it carte blanche for all future cases.

15 **Q. DO YOU HAVE ANY REMAINING CONCERNS REGARDING THIS**
16 **ISSUE?**

17 **A.** Yes. The screening methodology considers whether the cost of starting up a
18 unit is offset by the power costs it will avoid. Startup costs have two
19 components – startup fuel and startup O&M. In general, higher startup costs
20 reduce the overall efficiency of operation and increase NPC because they
21 prevent certain economic start ups from occurring.

22 As my screening method would change the number of starts, I
23 recommended that these increments to startup O&M be reflected in the test

1 year. Dr. Shu opposes this adjustment on the basis that such incremental
2 O&M costs were not originally included in the test year. I disagree with her
3 reasoning. Either start up O&M represents a legitimate test year cost or it
4 does not. If they are legitimate, they should be included in the test year. If
5 not, then they should be excluded from the screening calculation.

6 The Company can't have it both ways – they can't increase NPC on
7 the basis of including startup O&M in the screening calculation, while
8 ignoring the impact eliminating some of these starts on overall revenue
9 requirements. It is puzzling to me that in at least one prior case, the Company
10 did seek to include the incremental start up O&M when it produced *higher*
11 revenue requirements. In this case, the Company opposed my adjustment
12 when it would lower revenue requirements.

13 **Q. DO YOU HAVE ANY OTHER CONCERNS REGARDING THE**
14 **STARTUP O&M EXPENSES?**

15 **A.** Yes. I have examined this issue for several years. On numerous occasions I
16 have directed discovery questions at this issue. In all that time, the Company
17 has never once provided any documentation supporting the assumed level of
18 the startup O&M figures they rely upon. Given the circumstances, I am now
19 questioning whether this “cost” really has any basis in fact. Considering that
20 they do not wish to reflect this cost in the test year, I recommend it be
21 eliminated from the determination of the screens. As a result, I have
22 recomputed Dr. Shu's screening adjustment to reflect the more optimal
23 sequence of starts and stops that would accompany the removal of the

1 questionable and undocumented startup O&M expense. This adjustment is
2 shown on Table 1. I also remove Adjustment 14, the original startup O&M
3 adjustment as recommended by Dr. Shu.

4 Start Up Energy

5 **Q. ON PAGE 25, DR. SHU SUGGESTS THAT NPC SHOULD BE**
6 **INCREASED BY \$4.7 MILLION IF YOUR START UP ENERGY**
7 **ADJUSTMENT IS ACCEPTED. DO YOU AGREE?**

8 **A.** No. First, I'm puzzled why the Company would not want to include this
9 additional cost if there truly was a sound basis for doing so. However, review
10 of the calculation of the \$4.7 million figure reveals it is totally lacking in
11 merit.

12 **Q. PLEASE EXPLAIN.**

13 **A.** Dr. Shu contends that if startup energy is included in GRID, the minimum
14 downtimes for gas plants should be increased. She then claims that doing so
15 would increase NPC by \$4.7 million. However, her calculation of the \$4.7
16 million is based on taking the difference between two GRID runs with and
17 without the longer downtimes. Unfortunately, her GRID studies are
18 meaningless because they relied completely upon the *faulty* GRID logic which
19 Dr. Shu has now abandoned. Dr. Shu made no attempt to determine the
20 optimal sequence of starts and stops using a proper screening method. As a
21 result, she seems to be taking the position that two wrongs can make a right.
22 The \$4.7 million figure does nothing more than determine which of the two

1 scenarios is impacted the most by the GRID logic error, not what the actual
2 impact of modeling minimum downtime would be.

3 **Q. DO YOU HAVE ANY OTHER COMMENTS REGARDING THIS**
4 **ISSUE?**

5 **A.** Yes. Dr. Shu has ignored the fact that my approach, which values the startup
6 energy at the cost of coal generation, is very conservative. A more detailed
7 analysis, which takes account of the actual downtimes and value of
8 replacement energy as determined in GRID, would support a larger rather than
9 smaller adjustment. This is because in many cases shut down times are
10 already long enough to accommodate longer downtimes. Further, in most
11 cases, the value of the energy offset (even when reserves and other factors are
12 accounted for) is much higher than the cost of coal energy. A footnote on
13 Table 1 shows the value of my adjustment based on an hourly analysis of
14 GRID runs which considers all these factors which relies on the Company's
15 GRID runs with the proposed screening adjustment.

16 In the end, I continue to rely on the original coal based analysis of
17 startup energy updated for the Company's proposed screens. I continue to
18 support the coal based analysis because it is simpler and as shown above,
19 conservative.

1 **OATT Wind Integration Issue**

2 **Q. DO YOU AGREE WITH DR. SHU’S PROPOSAL TO REMOVE THE**
 3 **SEATTLE CITY LIGHT (“SCL”) STATELINE CONTRACT FROM**
 4 **YOUR WIND INTEGRATION ADJUSTMENTS?**

5 **A.** Yes. The revised adjustments are shown on Table 1. However, I do have
 6 concerns regarding whether the SCL contract is compensatory. I find it
 7 concerning that the Company may be adopting a strategy of subsidizing
 8 wholesale wind generators at the expense of retail customers. I recommend
 9 the Commission require the Company to justify the prudence of SCL and all
 10 similar wind contracts in the next ECAM filing. In this manner, if the contract
 11 costs turn out to be unjustified, ratepayers will be relieved on most of the costs
 12 associated with it.

13 I continue to support the remainder of these adjustments for the
 14 reasons stated in my direct testimony. As I pointed out before, the Company
 15 has had more than six years to have obtained approval to include wind
 16 integration charges in its transmission rate structure. Table 2 (source PIIC
 17 166) shows the Company’s IRP wind integration costs since 2004.

Table 2 PacifiCorp IRP Wind Integration Costs

IRP Year	Wind Integration Cost	Reference to IRP Document
2004 IRP	\$4.64/MWh in 2004 Dollars	2004 IRP, Appendix J - Renewable Generation Assumptions, pg 150.
2004 IRP Update	\$4.64/MWh in 2004 Dollars	2004 IRP, Appendix J - Renewable Generation Assumptions, pg 150.
2007 IRP	\$5.10/MWh	2007 IRP, Appendix J - Wind Resource Methodology, pg 195
2007 IRP Update	\$5.10/MWh	2007 IRP, Appendix J - Wind Resource Methodology, pg 195
2008 IRP	Proxy value of \$11.45/MWh. \$8 tax CO2 cost Scenario: \$9.96 / MWh \$45 tax CO2 cost Scenario: \$11.85 / MWh	2008 IRP, Appendix F - Wind Integration Cost Update
2008 IRP Update	\$8 tax CO2 cost Scenario: \$9.96 / MWh \$45 tax CO2 cost Scenario: \$11.85 / MWh	2008 IRP, Appendix F - Wind Integration Cost Update
2011 IRP	\$9.70 MWh	2010 Wind Integration Cost Study (9-1-2010)

1 **Heat Rate Adjustment**

2 **Q. DO YOU HAVE ANY COMMENTS CONCERNING DR. SHU'S**
3 **TESTIMONY REGARDING THE HEAT RATE ADJUSTMENT?**

4 **A.** Yes. Dr. Shu addresses an issue not in dispute in this case, albeit one similar
5 to my current proposal. Oddly, she makes almost no specific comments about
6 my actual adjustment other than to concede that at the derated maximum
7 capacity an adjustment to the heat rates may be warranted (Page 31, lines 18-
8 21, and page 34, lines 3-5). This was exactly what my adjustment does –
9 nothing more or less. This was clearly shown in my workpapers.
10 Examination of my workpapers would have also shown that for 40% of the
11 units, the adjustment is zero or positive (implying an increase to the full
12 derated heat rate). There is no basis for suggesting this adjustment is
13 systematically biased.

14 **Q. PLEASE EXPLAIN THE DIFFERENCE BETWEEN THE PROPOSAL**
15 **YOU ARE MAKING AND THE ONE DR. SHU ADDRESSES.**

16 **A.** Dr. Shu seems to believe that I modified the entire heat rate curve. On page
17 31, she says PIIC would “alter thermal units' heat rate curves....” The
18 remainder of her testimony, included the figures on page 33 are directed at
19 adjustments made to the overall heat rate curve, not the heat rate at derated
20 maximum capacity. For example, on page 33, she discusses that adjusting the
21 heat curve would, in her view, misstate heat rates below the derated maximum
22 capacity. While her contention is arguable at best, it has nothing to do with
23 my proposal in this case and I won't debate here. Likewise, in the additional

1 testimony she filed on November, 24, 2010, (page 35, lines 1-4) she addresses
2 heat rates at loading below the derated maximum. Again, this was not a part
3 of my adjustment. Consequently, I continue to support my adjustment as Dr.
4 Shu has not provided any relevant or persuasive arguments against it.

5 **Q. ON PAGE 31, DR. SHU CRITICIZES ADJUSTMENTS TO THE**
6 **MINIMUM CAPACITY OF GENERATORS. IS THIS PART OF**
7 **YOUR PROPOSAL?**

8 **A.** No. Again, she is addressing modeling methods I did not apply in this case,
9 for reasons explained in my original direct testimony and to focus solely on
10 the part of this issue which the Company has already conceded has validity.
11 Finally, it is worth noting that the modeling methods Dr. Shu disparages in
12 this case were in fact adopted by the Oregon Public Utility Commission
13 (“OPUC”) in its Final Order in the recently completed Case, UM 1355. Also,
14 the testimony she presents was also presented in that case and found
15 unpersuasive by the OPUC. That case was conducted over a two-year period
16 and examined a wide range of modeling issues including the interplay
17 between heat rate and outage modeling methods.

18 **Idaho Power Point to Point Contract**

19 **Q. WHY DOES DR. SHU OPPOSE YOUR IDAHO POWER POINT TO**
20 **POINT CONTRACT ADJUSTMENT?**

21 **A.** Her reasoning escapes me. On page 38, she acknowledges the Idaho contract
22 was set to terminate based on consideration to the completion of the Populus
23 to Terminal line. Consequently, she seems to acknowledge the contract is not
24 needed after completion of the new line.

1 In this case, the Company seems confused about the purpose of a pro-
2 forma adjustment. A pro-forma adjustment is intended to reflect how all
3 system costs would have changed had the new resource been available for the
4 entire test year under normalized conditions. While the Company includes all
5 of the costs of the new line as if it was in place for the entire test year, they
6 don't wish to consider the fact that part of the value of the line is eliminate the
7 need for various transmission purchases. Oddly, the Company does agree to
8 exclude some of the low cost transmission purchases which are no longer
9 needed, but prefers to retain this one high cost contract. I see no basis for the
10 distinction between the contracts the Company has agreed to exclude and the
11 one it proposes to continue to include. I continue to recommend this
12 adjustment.

13 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

14 **A. Yes.**