

BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

In the Matter of the Application of PacifiCorp)
For Approval of Power Purchase Agreement) Docket No. 06-035-76
Between PacifiCorp and Spanish Fork Park 2, LLC)

In the Matter of the Petition of Wasatch Wind,)
LLC, for Approval of a Contract for the Sale of) Docket No. 06-035-42
Capacity and Energy from Their Proposed)
QF Facilities)

**Surrebuttal Testimony of
Abdinasir M. Abdulle, Ph.D
Division of Public Utilities**

February 15, 2007

1 **Q: Please state your name, business address, and employer for the record.**
2 A: My name is Dr. Abdinasir M. Abdulle; my business address is 160 East 300
3 South, Salt Lake City, Utah 84114; I am employed by the Utah Division of Public
4 Utilities (“Division”).

5 **Q: On whose behalf are you testifying in these proceedings?**

6 A: I am testifying on behalf of the Division.

7 **Q1. What is the purpose of your Testimony?**

8 A1. The purpose of my testimony to respond to some issues discussed in direct and
9 rebuttal testimonies of Dr. Rich Collins, Mr. Michael Unger, and Mr. Paul
10 Clements.

11 **Rebuttal of Dr. Collins**

12 **Q2. On Page 11, line 6, Dr. Collins recommends a methodology to determine line**
13 **loss credits. Do you agree?**

14 A2. No. Any line loss credits should be determined based on the Commission Orders
15 of 03-035-014. This order states that the price for Utah wind QFs should be
16 determined using the proxy method adjusted for project-specific differences. As I
17 indicated in my direct testimony, there are no line loss differences between
18 Spanish Fork Wind Park 2 and the proxy plant. Therefore, there should be no
19 credit for line loss.

20 **Q3. On Page 3 of his rebuttal testimony Dr. Collins indicated that the MWs of**
21 **load for Santaquin that you used in calculating the average miles that a MW**
22 **from Spanish Fork Wind Park 2 has to travel before it is used was not**
23 **correct and using the correct number the average distance will decrease by**
24 **40%. Would you comment on that?**

25 A3. Yes. In my Direct Testimony, to calculate the average miles each MW travels
26 from Spanish Fork Wind Park 2 to the load centers, I assumed that of the 18.9
27 MW of Spanish Fork Wind Park 2, 9.7 MWs will be used in Mapleton and 9.2
28 MWs will be used in Santaquin. As was correctly pointed out by Dr. Collins in
29 his Rebuttal Testimony the load in Santaquin is 0.7 MWs not 9.2 MWs. Using

1 this correct number, the total MWs that will be consumed in Mapleton and
2 Santaquin together is 10.4 MWs. The remaining 8.5 MWs will be used in Hale,
3 which is some 19.2 miles away from the point of interconnection. With these
4 corrections, each MW will have to travel an average of 13.55 miles from Spanish
5 Fork Wind Park 2 delivery point to be used (DPU Exhibit 1.0, Revised). This is
6 an increase in average MW travel distance, not a reduction as was claimed by Dr.
7 Collins. One needs to note that the average MW travel distance for the Proxy
8 plant remains the same (5.89 miles).

9 On the other hand, if you assume the Proxy plant to have the same size as Spanish
10 Fork Wind Park 2, then the average miles a MW will have to travel would be only
11 2.33 miles. The gap between the average travel miles increases (DPU Exhibit
12 1.1).

13 **Q4. On page 2 of his rebuttal testimony, Dr. Collins criticized your method for**
14 **simplicity and that it does not consider line losses associated with electricity**
15 **changing voltage. Please comments on these criticisms?**

16 A4. I agree with Dr. Collins that my method did not include line losses associated
17 with electricity changing voltage. Though, in my direct testimony, I recognized
18 the existence of line losses as power is stepped up or down, I did not have the data
19 to include such losses in my analysis. However, Rocky Mountain Power's
20 responses to DPU data request 2.2 allow me to do such an analysis. The data
21 show that, though electricity from the Proxy plant power changes voltage six
22 times and the electricity from Spanish Fork Park 2 changed voltage three times.
23 However, the change in voltage for the Proxy plant is done using larger
24 transformers. The line loss from these large transformers is much less than that of
25 smaller transformers. Hence, there is no line loss difference associated to
26 electricity changing voltage between the two plants.

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1 **Rebuttal of Mr. Michael Unger**

2 **Q5. On Page 2 of his Direct Testimony, Mr. Unger indicated that the Spanish**
3 **Fork Wind facility will reduce line losses by 3.3% in comparison to the**
4 **Wolverine wind facility. Do you agree?**

5 A5. No. First, this number is an average of eleven runs most of which is backing
6 down whatever resources GRID model indicates would be backed down. This is
7 contrary to the Commission Orders in Docket No. 03-035-014 which stated that
8 proxy method was to be used for pricing wind Qfs and that the price for the proxy
9 contract was to be adjusted to reflect project specific differences. Therefore, price
10 adjustments for avoided line losses should be based on line loss comparisons
11 solely between the two plants to be consistent with Commission Orders.

12 Second, Mr. Unger calculated the percent change in line loss by taking the
13 difference between MW losses with Spanish Fork generation and base case MW
14 losses. He then divided the difference by 19 MW (about Spanish Fork name
15 plate). A more proper way to perform this calculation is to divide the difference
16 by the MW losses of the base case to get percent change from the base case. With
17 this correction, Mr. Unger's result would change from 3.3% to 0.21%.

18 **Rebuttal of Mr. Clements**

19 **Q6. On Page 6, lines 91 to 98, Mr. Clements a method to determine whether**
20 **project-specific adjustments for line losses are required for Spanish Fork**
21 **Wind Park 2. Do you agree with this method?**

22 A6. No. This method does not consider the line losses that will be realized as
23 electricity follows from the substation to the load centers. However, this method
24 leads to the same conclusions as the one drawn using the Division's method
25 which considers the line loss from the point of interconnection to the load centers
26 where the power will be used.

27 **Q7. Does this conclude your surrebuttal testimony?**

28 **A7. Yes. It does.**