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Representing Wasatch Wind

BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

IN THE MATTER OF THE PETITION OF
WASATCH WIND, LLC FOR APPROVAL
OF A CONTRACT FOR THE SALE OF
CAPACITY AND ENERGY FROM THEIR
PROPOSED QF FACILITIES

DOCKET NO. 06-035-42

IN THE MATTER OF THE APPLICATION
OF PACIFICORP FOR APPROVAL OF
POWER PURCHASE AGREEMENT
BETWEEN PACIFICORP AND SPANISH
FORK WIND PARK 2, LLC

DOCKET NO. 06-035-76

REBUTTAL TESTIMONY OF RICHARD S. COLLINS

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Wasatch Wind hereby submits the Prefiled Testimony of Richard S. Collins in this docket.

DATED this 31st day of January, 2007.

Richard S. Collins

/s/ _____
Richard S. Collins
Representing Wasatch Wind

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing was sent by United States mail, postage prepaid, or by email this 12 day of, January 2007, to the following:

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REBUTTAL TESTIMONY

Of

RICHARD S. COLLINS

On behalf of Wasatch Wind

IN THE MATTER OF THE PETITION OF WASATCH WIND, LLC FOR APPROVAL OF A
CONTRACT FOR THE SALE OF CAPACITY AND ENERGY FROM THEIR PROPOSED
QF FACILITIES

Docket No. 06-035-42

IN THE MATTER OF THE APPLICATION OF PACIFICORP FOR APPROVAL OF POWER
PURCHASE AGREEMENT
BETWEEN PACIFICORP AND SPANISH FORK WIND PARK 2, LLC

Docket No. 06-035-76

January 31, 2007

1 **Q. Please state your name and occupation.**

2 A. My name is Richard S. Collins. I am an Associate Professor of Economics and
3 Finance at Westminster College located at 1840 South 1300 East, Salt Lake City,
4 UT 84108.

5 **Q. On whose behalf are you filing testimony in this Docket?**

6 A. Wasatch Wind, LLC

7 **Q. Are you the same Richard Collins that submitted prefiled direct testimony in**
8 **this docket?**

9 A. Yes. I am.

10 **SUMMARY OF TESTIMONY**

11 **Q: What is the purpose of your rebuttal testimony?**

12 A: I rebut the testimony of Dr. Abdinazer Abdulle and Paul Clements. I explain
13 why I agree with some of the testimony raised by Dr. Abdulle and why I disagree
14 with his conclusions. I point out the weaknesses of Mr. Clements arguments and
15 stress why the Company's proposed method for calculating avoided line losses is
16 conceptually flawed and why it may well lead to a violation of ratepayer
17 neutrality. The Company's proposed method should be rejected by the
18 Commission and deemed inadequate for measuring line losses. The Commission
19 should accept the Division's recognition of the fact that line losses occur from the
20 point of interconnect to the system to the final load but reject the Division's
21 method of measuring line losses using MW miles to determine average distance to
22 load. Wasatch Wind has provided in depth analysis of both our project and the

1 proxy resource's impact on system line losses. Wasatch Wind's results support
2 the conclusion that its facility entails fewer transmission line losses than
3 Wolverine facility and therefore its contract price should be adjusted to reflect this
4 fact.

5

6 **Rebuttal of Dr. Abdulle**

7 **Q: What parts of Dr. Abdulle direct testimony do you agree with?**

8 **A:** Dr. Abdulle testifies that line losses should be measured from the point of
9 interconnection to the company's system to the company's load. I agree with his
10 assessment.

11 **Q: How did Dr. Abdulle perform his line loss calculations?**

12 **A:** Dr. Abdulle used Company data on loads in the vicinity of interconnection points
13 for the two wind facilities to calculate how far an average MW would have to
14 travel from the interconnection point to the load. He develops a concept he calls a
15 MW mile which he obtains by multiplying the MWs of load at a particular site by
16 the distance of the site to the substation, i.e., the point of interconnection. He
17 then sums the MW miles of the Company's load around the interconnection and
18 then divides this MW mile calculation by the nameplate rating of the facility to
19 get an average distance of load to interconnection.

20 **Q: Are there problems with this formulation of line losses?**

21 **A:** Yes, there are a number of problems with Dr. Abdulle's formulation. First, this
22 method is simplistic and does not measure the actual flow of electricity on the

1 system and therefore can not determine the actual impact on line losses. Second,
2 Dr. Abdulle's method does not consider the line losses that occur when electricity
3 changes voltages. Substantial losses are incurred when electricity is transformed
4 from 161kv to 46 kv and visa versa.

5 **Q: Are there any other errors in Dr. Abdulle's calculations?**

6 **A:** Yes, when he calculated the MW miles for the Wasatch Wind facility he assumed
7 that half of the power or nine MWs would flow south to Santaquin, some eleven
8 miles south of the interconnection point. However, the load in Santaquin is only
9 700 kw or .7 MWs so the power flows to the closer Mapleton load. Using Dr.
10 Abdulle's method with corrected data yields average distance from load that is
11 40% less than Dr. Abdulle's calculation.

12 **Q: If this correction is made would you accept the Division's method?**

13 **A:** No. The Division's is too simplistic and does not measure the flow of electricity
14 on the system. In particular it fails to account for the impact these facilities have
15 on the higher voltage system where line losses are far more dramatic. It also does
16 not account for the changes in voltage levels required to deliver power to load.

17

18 **Rebuttal of Paul Clements**

19 **Q: How did Mr. Clements propose to calculate avoided line losses for QF**
20 **facilities?**

21 **A:** Mr. Clements proposes an even more simplistic method than the Division. He
22 suggests that line losses can be measured by calculating the distance between the

1 delivery point of the proxy contract, i.e., the interconnection point and the load
2 (demand) required to “absorb” the output of the proxy contract. He notes that
3 there is 300 MWs of PacifiCorp load served from the Goshen substation which is
4 the point of interconnection. He then concludes that the distance between the
5 delivery point and the load is zero even though the actual PacifiCorp load is miles
6 from the substation. His testimony notes that loads served are at various voltage
7 levels but fails to calculate the line losses associated with such required change in
8 voltage level. Even more damning is the fact that this method does not consider
9 the impact of the facilities on higher level transmission flows and line losses
10 associated with such changes in electricity flow.

11 **Q: Mr. Clements argues that GRID model is an inappropriate tool for**
12 **measuring transmission losses, do you care to comment.**

13 **A:** Yes, first it is interesting that the Company has changed its position on this
14 matter, in a previous docket the Company proposed the use of GRID to calculate
15 transmission losses. Second, Wasatch Wind used the output of the GRID model
16 to determine which generators would most likely be backed down in response to
17 production from both the proxy facility and our facility. To run the power flow
18 model, it is necessary to back down generation in order to balance the system and
19 determine line losses. The GRID model is an appropriate tool to determine which
20 resources are likely to be backed down.

21 **Q: Mr. Clements cites the recently signed 20 year QF power purchase**
22 **agreement with Pioneer Ridge, LLC as evidence to support his conclusion**

1 **that no transmission losses are associated with the Spanish Fork Facility. His**
2 **logic is if Pioneer accepts the Company's position that there are no line losses**
3 **because both facilities connect at substations whose loads absorb the output**
4 **then Wasatch Wind should accept the same conditions. Do you care to**
5 **Comment?**

6 **A:** Yes. As indicated in Mr. Clements testimony, the parties agreed that as part of
7 the Power Purchase agreement no adjustment to the proxy resource price was
8 necessary to account for line losses. However, this agreement is a negotiated
9 agreement settlement of line losses was part of the negotiation process. Pioneer's
10 contract is materially different from our contract. We don't know the give and
11 take on the Pioneer contract, but we made it clear from the beginning of our
12 contract negotiation that we would pursue payment for avoided transmission
13 losses.

14 **Q: Does this conclude your rebuttal testimony?**

15 **A:** Yes.