

Exhibit No.:
Issues: Fuel Expense
Witness: David W. Elliott
Sponsoring Party: MO PSC
Type of Exhibit: Rebuttal Testimony
Case No.: ER-2005-0436
Date Testimony Prepared: November 18, 2005

MISSOURI PUBLIC SERVICE COMMISSION

UTILITY OPERATIONS DIVISION

REBUTTAL TESTIMONY

OF

DAVID W. ELLIOTT

**AQUILA, INC. D/B/A AQUILA NETWORKS-MPS
AND AQUILA NETWORKS L&P**

CASE NO. ER-2005-0436

**Jefferson City, Missouri
November, 2005**

****Denotes Highly Confidential Information****

NP

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI**

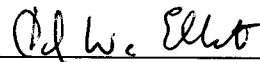
In the Matter of Aquila, Inc. d/b/a Aquila)
Networks-MPS and Aquila Networks-)
L&P, for Authority to File Increasing)
Electric Rates For the Service Provided to)
Customers in the Aquila Networks-MPS)
and Aquila Networks-L&P Area.

Case No. ER-2005-0436

AFFIDAVIT OF DAVID W. ELLIOTT

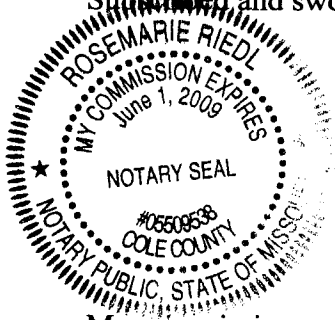
STATE OF MISSOURI)
) ss
COUNTY OF COLE)

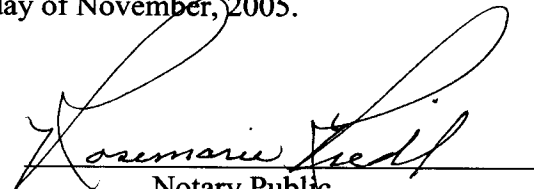
David W. Elliott, of lawful age, on his oath states: that he has participated in the preparation of the following Rebuttal Testimony in question and answer form, consisting of 6 pages of Rebuttal Testimony to be presented in the above case, that the answers in the following Rebuttal Testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true to the best of his knowledge and belief.



David W. Elliott

Subscribed and sworn to before me this 17th day of November, 2005.





Notary Public

My commission expires June 1, 2009

1
2
3
4
5
6

TABLE OF CONTENTS

EXECUTIVE SUMMARY 1
PRODUCTION COST MODEL RESULTS 2
SPOT PURCHASED POWER 2

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17
- 18
- 19
- 20
- 21
- 22
- 23
- 24
- 25
- 26
- 27
- 28
- 29
- 30

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17
- 18
- 19
- 20
- 21
- 22
- 23
- 24
- 25
- 26
- 27
- 28
- 29
- 30

5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30

8
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30

9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30

13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30

14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30

15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30

17
18
19
20
21
22
23
24
25
26
27
28
29
30

18
19
20
21
22
23
24
25
26
27
28
29
30

19
20
21
22
23
24
25
26
27
28
29
30

25
26
27
28
29
30

26
27
28
29
30

27
28
29
30

1 ** _____ ** which is an increase of ** _____ **, and a revised steam sales
2 cost of ** _____ ** which is an increase of ** _____ **.

3 This testimony also responds to the direct testimony of Aquila Witness James W,
4 Okenfuss in regard to spot purchase power prices and availability. Aquila forecasts spot
5 purchased power prices based on a methodology which used a projected natural gas price,
6 and assumes up to 900 MW are randomly available for purchase. The Staff methodology
7 relies on an analysis of actual hourly spot power prices and availability. The difference
8 between the two methodologies results in a difference in the fuel model results of
9 approximately ** _____ **.

10 **PRODUCTION COST MODEL RESULTS**

11 Q. What are the results of the updated production cost simulations?

12 A. The results of the revised electric and steam production cost simulations
13 are shown in Schedule 1. These results indicate that the appropriate level of annual fuel
14 and purchased power cost for Aquila, Inc. (Aquila) is ** _____ ** for electric
15 joint dispatch and ** _____ ** for steam sales.

16 Q. What caused the change from the fuel cost appearing in your direct
17 testimony?

18 A. A revision to the hourly system load is the only reason for this change.
19 Staff witness Shawn Lange's rebuttal testimony explains this change.

20 **SPOT PURCHASED POWER**

21 Q. What fuel model issues does Staff believe still exist?

22 A. Based on my understanding of prehearing discussions, the only contested
23 issue is spot purchase power prices and availability. Staff has quantified the issue by
24 running its production cost simulation model once using Aquila's spot purchase inputs

1 and once using Staff's own spot purchase power inputs. The difference is approximately

2 ** _____ **.

3 Q. What is the impact of spot purchased power price?

4 A. If the price of spot purchase power is unrealistically high, then the overall
5 fuel and purchased power cost is going to increase regardless of whether the model elects
6 to purchase that high priced energy, or elects to run high cost generating units.

7 Q. What is the impact of the amount of energy available?

8 A. If the model has an unrealistic amount of energy available, it may produce
9 inaccurate results. If the amount of energy available is too low, then the model has fewer
10 chances to offset high-cost generation. If the amount of energy available is too high, then
11 the model may purchase more low-cost energy to meet load than is realistic. In either
12 case the variable fuel and purchase power costs may be distorted.

13 Q. Please describe the method Aquila used to determine spot purchased
14 prices.

15 A. My description is based on my review of the direct testimony of Aquila
16 Witness James W. Okenfuss. Prior to using the RealTime® model to determine annual
17 variable fuel costs, Aquila used the Global Energy Decisions (GED) MIDAS Gold™
18 software with the GED Energy Velocity™ database to model multi-area markets to
19 determine forecasted hourly spot purchase power prices for the Southwest Power Pool
20 NERC region. The resulting hourly spot purchased power prices were used as an input to
21 RealTime®.

22 Q. Did Staff perform its own independent analysis using Aquila's method to
23 determine the spot purchased power prices?

Rebuttal Testimony of
David W. Elliott

1 A. No. The Staff does not have the GED MIDAS Gold™ software or the
2 GED Energy Velocity™ database necessary to do an independent analysis of Aquila's
3 methodology.

4 Q. Does Staff have a concern with Aquila's methodology?

5 A. Yes. Staff is concerned because Aquila made the assumption that natural
6 gas price was the major driver of spot purchased power prices. Staff is concerned that a
7 methodology based on a forecasted natural gas prices will not result in reasonable spot
8 purchased power prices.

9 Q. Did you make any comparison of the natural gas prices with spot
10 purchased power prices?

11 A. Yes. Schedule 2 and Schedule 3 show the plot of monthly NIMEX
12 closing prices of natural gas with the actual monthly spot purchased power prices taken
13 from the monthly data provided by Aquila for the respective periods of January 2002
14 through August 2003, and January 2004 through June 2005.

15 Q. Does there appear to be any direct correlation between the gas price and
16 the spot price?

17 A. There does not appear to be a direct correlation, as the highest price for
18 spot purchased power doesn't align with the highest price for natural gas.

19 Q. Did Aquila perform any type of benchmark analysis that showed whether
20 its methodology using actual historical gas prices would produce the actual historical spot
21 purchased power prices?

22 A. Staff has issued a data request to Aquila asking for this information. Staff
23 will review the response to this data request.

Rebuttal Testimony of
David W. Elliott

1 Q. Can you describe the methodology Aquila used to develop the available
2 amount of spot purchased power in each hour?

3 A. No. I have reviewed the direct testimony of Aquila Witness James W.
4 Okenfuss and found no mention of the methodology used to determine the amount of spot
5 purchased power energy available. Staff has issued a data request asking for additional
6 information. Staff will review the response to this data request.

7 Q. What were Aquila's inputs to its production cost simulation model for the
8 amounts of spot purchased power available?

9 A. Aquila models the availability of purchased power as five contracts, with
10 three of the contracts having forced outage rates.

11 Q. Do you have any concerns about Aquila's spot purchased power
12 availability inputs?

13 A. Yes I have two concerns. One is that Aquila has 900 MW of energy
14 available to the model to purchase, which is approximately ** ____ ** of the peak load of
15 both MPS and L&P. The second concern is that Aquila has assigned forced outage rates
16 of 5%, 15%, and 25% to three of its spot purchased power contracts, which will reduce
17 the availability of spot purchased power.

18 Q. Why is the 900 MW available for purchase a concern?

19 A. The highest amount of spot energy purchased by Aquila in the test year
20 was ** ____ ** MW for 31 hours in the month of August, and in total, Aquila purchased
21 between ** ____ ** and ** ____ ** MW in only 340 hours of the test year. The idea that
22 Aquila might purchase as much as 900 MW for somewhere between 6500 hours
23 (assuming all forced outages occur in the same hour) and 4800 hours (assuming all forced
24 outages occur in different hours) in a year seems rather improbable, considering that

Rebuttal Testimony of
David W. Elliott

1 Aquila actually only purchased between ** ____ ** and ** ____ ** MW in 340 hours of
2 the test year.

3 Q. Does the direct testimony of James W. Okenfuss contain an explanation
4 for how the 900 MW was determined?

5 A. No. Staff has issued a data request to Aquila asking for this information.
6 Staff will review the response to this data request.

7 Q. Why are the forced outages a concern?

8 A. Forced outages will reduce the amount of the spot purchased power
9 available. If no spot is available, then a unit must be run to meet the hourly load
10 regardless of the cost of running that unit compared to the possible cost of purchasing
11 energy.

12 Q. Is the reason for these forced outages explained in the direct testimony of
13 James W. Okenfuss?

14 A. No. Staff has issued a data request to Aquila asking for this information.
15 Staff will review the response to this data request.

16 Q. Does this conclude your rebuttal testimony?

17 A. Yes, it does.

**Schedules
1, 2 and 3
Are Deemed
Highly
Confidential
In Their
Entirety**

NP