Exhibit No.:
Issues: Fuel Inventory
Fuel Expense
Witness: Jerry G. Boehm
Sponsoring Party: Aquila Networks-MPS
[redacted]
Case No.: ER-2004-0034 &
[redacted]

Before the Public Service Commission
of the State of Missouri

Rebuttal Testimony

of

Jerry G. Boehm

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REBUTTAL TESTIMONY OF
JERRY G. BOEHM
AQUILA, INC. D/B/A AQUILA NETWORKS-MPS

CASE NOS. ER-2004-0034

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI
REBUTTAL TESTIMONY OF JERRY G. BOEHM
ON BEHALF OF AQUILA, INC.
D/B/A AQUILA NETWORKS-MPS
CASE NOS. ER-2004-0034

Q. Please state your name and business address.

A. My name is Jerry G. Boehm. My business address is 10750 East 350 Highway, Kansas City, Missouri, 64138.

Q. Are you the same Jerry G. Boehm who submitted direct testimony in this case on behalf of Aquila Inc, ("Aquila") before the Missouri Public Service Commission ("Commission")?

A. Yes.

Q. What is the purpose of your rebuttal testimony?

A The purpose of my rebuttal testimony is to address the direct testimony of Commission Staff ("Staff") witnesses Graham Vesely and David Elliot. My rebuttal will also address the direct testimony of Brubaker and Associates witness, Robert R. Stephens.

Q. How is your rebuttal testimony organized?

A. I will address concerns with the following subjects:

- Staff witness Graham Vesely Testimony – Production Model Coal Pricing
- Staff witness Graham Vesely Testimony / Staff Witness David Elliot Testimony – Modeling Method for Natural Gas Pricing
- Brubaker and Associates witness Robert R. Stephens Testimony – Documentation of Savings

Production Model Coal Pricing

Q Do you agree with the coal prices provided by Mr. Vesely to Staff witness David Elliot for use in the production cost model.

A. No.

Q. Please explain.

A. It is difficult to verify Mr. Vesely's prices. He states in his testimony that he used existing contract coal and freight prices from September 30, 2003 and then blended coal prices based on historical records but he does not provide information on the components that are entered into his final cost. His coal costs are significantly lower than the cost estimates used by Aquila so it is difficult to determine if he used the correct contract costs or included typical fuel cost components like environmental costs and ash removal costs.

Modeling Method for Natural Gas Pricing

Q. Do you agree with Mr. Elliot's modeling technique and results?

A. I agree with Mr. Elliot's technique in employing the RealTime® model to determine dispatch costs. I disagree with Mr. Elliot's results because I disagree with the fuel and purchase power inputs of his model.

Q. Do you agree with the Mr. Vesely's calculation method used to create natural gas prices for production modeling.

A. No. I believe that the price-based method employed by Aquila witness, John Browning, has a greater accuracy than Mr. Vesely's cost-based method.

Q. Please summarize, as you understand it, the Staff's modeling method of natural gas prices used in the RealTime® simulation program.

A. It appears from Mr. Vesely's testimony and work papers that he developed one average value for each power plant based on the historical costs at those plants. From Mr. Elliot's work papers it is evident that he used Mr. Vesely's values as input to the simulation model.

Q. Do you object to this method?

A. Yes.

Q. Why?

A. The method and application of the results have two fundamental flaws. The first flaw is in assuming that the historical costs (cost-based) are no different than the market's prices (price-based). The second flaw is that the modeling method assumes that there is no volatility in the natural gas market.

Q. Please address your concern involving cost-based versus price-based analysis.

A. Cost-based analysis identifies the results of production. It can be useful for reviewing the historical operation of the plant, but it does not reflect the input to the actual operations and so it should not be used to represent the input to the production model. The cost-based review emphasizes the occasions where the gas price was low enough to be economical for generation. Using cost-based numbers as inputs falsely expands the opportunity to every hour of the simulation. It assumes that occasions when natural gas was purchased are now available on any day of the simulation. Because of this flaw in its approach the Staff has under-estimated the costs for Aquila fuel and purchased power.

Q. Please address your concerns involving the lack of natural gas market volatility in the production model.

A. Mr. Vesely's method appears to ignore the month-to-month fluctuation of natural gas prices. Rebuttal Schedule JGB-1 attached to my testimony shows historical natural gas settlement prices. For the last five years there has been greater than a $1.00 variation in monthly natural gas prices for any given year. By inspection of this table it is evident that price minimums occur outside of the high generation summer months. This price volatility has to be represented in the model in order to accurately capture the operating costs of Aquila. By averaging and flattening the price Mr. Vesely oversimplifies the fuel input costs in the model.

Q. How does Aquila model natural gas volatility?

A. Aquila utilizes the market's recognition that natural gas is priced and marketed by month. Month-to-month volatility is represented in the forward price curve by varying the monthly price with expected market prices. The production simulation model RealTime® is designed for input of monthly fuel prices. Aquila uses this feature to increase the accuracy of the model.

Documentation of Savings

Q. Please summarize, as you understand it, Mr. Robert. R. Stephens testimony.

A. Mr. Stephens proposes that there was no way to validate input assumptions used to calculate joint dispatch savings. He also states that it is impossible to independently verify the dispatch savings without the use of Aquila's production model.

Q. Do you agree with Mr. Stephens' claims?

A. No. While I acknowledge that the production cost simulation is very complex it should be noted that Staff witness David Elliot has reviewed the input assumptions and has performed verification analysis of the dispatch savings.

Q. Did Mr. Elliot use Aquila's production cost model to verify the savings?

A. Mr. Elliot used the same production modeling software as Aquila. His input model of the Aquila system was similar to Aquila's. He modified the Aquila model to represent input values that the Staff recommended.

Q. Does this conclude your rebuttal testimony?

A. Yes, it does.

Monthly Natural Gas Nymex Settlement Prices

	1998	1999	2000	2001	2002	2003
Jan		$1.765	$2.344 Min	$9.980 Max	$2.555	$4.988
Feb		$1.810	$2.610	$6.293	$2.006 Min	$5.660
Mar		$1.666 Min	$2.603	$4.998	$2.388	$9.133 Max
Apr	$2.300 *	$1.852	$2.900	$5.384	$3.472	$5.146
May	$2.262	$2.348	$3.089	$4.891	$3.319	$5.123
Jun	$2.017	$2.226	$4.406	$3.738	$3.420	$5.945
Jul	$2.358	$2.262	$4.369	$3.182	$3.278	$5.291
Aug	$1.942	$2.601	$3.820	$3.167	$2.976	$4.693
Sep	$1.672 *	$2.912	$4.618	$2.295	$3.288	$4.927
Oct	$2.031	$2.560	$5.312	$1.830 Min	$3.686	$4.430 Min
Nov	$1.972	$3.092 Max	$4.541	$3.202	$4.126	$4.459
Dec	$2.149	$2.120	$6.016 Max	$2.316	$4.140 Max	$4.860

Max	2.358	3.092	6.016	9.980	4.140	9.133
Min	1.672	1.666	2.344	1.83	2.006	4.43
Band	0.686	1.426	3.672	8.150	2.134	4.703

Schedule JGB-1

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the matter of Aquila, Inc. d/b/a Aquila Networks-MPS [redacted] for authority to file tariffs increasing electric rates for the service provided to customers in the Aquila Networks-MPS [redacted] area	)	Case No. ER-2004-0034
[redacted]	)	[redacted]

County of Jackson)
) ss
State of Missouri)

AFFIDAVIT OF JERRY G. BOEHM

Jerry G. Boehm, being first duly sworn, deposes and says that he is the witness who sponsors the accompanying testimony entitled "Rebuttal Testimony of Jerry G. Boehm;" that said testimony was prepared by him and under his direction and supervision; that if inquiries were made as to the facts in said testimony and schedules, he would respond as therein set forth; and that the aforesaid testimony and schedules are true and correct to the best of his knowledge, information, and belief.

Jerry G. Boehm

Subscribed and sworn to before me this 23rd day of January, 2004.

Notary Public
~~Terry DeLuce~~
Linda C. Howell

My Commission expires:

Linda C. Howell
Notary Public-Notary Seal
State of Missouri
Jackson County
My Commission Expires: May4, 2004