Exhibit No.:
Issue: *Gas Prices*
Witness: *Charles R. Hyneman*
Sponsoring Party: *MoPSC Staff*
Type of Exhibit: *Rebuttal Testimony*
Case No: *HR-2005-0450*
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MISSOURI PUBLIC SERVICE COMMISSION

UTILITY SERVICES DIVISION

REBUTTAL TESTIMONY

OF

CHARLES R. HYNEMAN

AQUILA, INC. d/b/a AQUILA NETWORKS-L&P

CASE NO. HR-2005-0450

Jefferson City, Missouri
November 2005

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

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BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the Tariff Filing of Aquila, Inc., to Implement a General Rate Increase for Retail SteamHeat Service Provided to Customers in Its L&P Missouri Service Area.	))))	Case No. HR-2005-0450 Tariff No. YH-2005-1066

AFFIDAVIT OF CHARLES R. HYNEMAN

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

Charles R. Hyneman, being 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 11 pages 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 and correct to the best of his knowledge and belief.

Charles R. Hyneman

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

Notary

TONI M. CHARLTON
Notary Public - State of Missouri
My Commission Expires December 28, 2008
Cole County
Commission #04474301

TONI M. CHARLTON NOTARY SEAL NOTARY PUBLIC STATE OF MISSOURI

REBUTTAL TESTIMONY

OF

CHARLES R. HYNEMAN

AQUILA, INC. d/b/a AQUILA NETWORKS-L&P

CASE NO. HR-2005-0450

Q. Please state your name and business address.

A. Charles R. Hyneman, Fletcher Daniels Office Building, 615 East 13th Street, Room G8, Kansas City, Missouri, 64106.

Q. By whom are you employed and in what capacity?

A. I am a Regulatory Auditor with the Missouri Public Service Commission (Commission).

Q. Are you the same Charles R. Hyneman who filed direct testimony in this case?

A. Yes, I am.

EXECUTIVE SUMMARY

Q. Please summarize your rebuttal testimony.

A. In this testimony I will show that NYMEX gas futures is not a good predictor of the actual natural gas costs that Aquila will incur. I will also show that Aquila's analysis in its direct filing where it purports to show that NYMEX futures prices is a good predictor of gas prices is faulty and does not make sense.

Q. What is the purpose of your rebuttal testimony?

A. The purpose of this rebuttal testimony is to address some of the statements made in the direct testimony of Aquila witness Jerry G. Boehm on the issue of natural gas prices.

Q. At page 8 of his direct testimony, Mr. Boehm lists all of the witnesses whose testimony on natural gas prices he reviewed in Case Nos. ER-2004-0034 and HR-2004-0034, Aquila's most recent rate case ("2004 rate case") for its electric and steam operations in Missouri. Did this list include Aquila's witness on natural gas prices in this case, Mr. John Browning?

A. No. Mr. Boehm said that he read the testimony of a number of witnesses, but failed to mention Aquila's own witness on this issue in the 2004 rate case.

Q. At page 9, line 1 of his direct testimony Mr. Boehm states that the natural gas prices he refers to in his testimony are the prices at the Henry Hub. Does Aquila purchase any of its natural gas for its Missouri operations at the Henry Hub in Louisiana?

A. No. Aquila does not purchase any natural gas from the Henry Hub. Aquila purchases most of its natural gas for its Missouri generation plants in the midcontinent region of the United States.

Q. Also on page 9, Mr. Boehm states that the NYMEX price does not include basis or transportation costs which must be added to the commodity to determine the actual cost at the plant. Is it true that both basis and transportation costs have to be "added" to determine the delivered natural gas price?

A. It is true with respect to variable transportation costs, but not with respect to the basis differences – the difference in price of natural gas at the Henry Hub (which NYMEX prices is based on) and the price at the actual location where Aquila purchases its

natural gas. The cost of natural gas at the midcontinent source has historically been lower than the cost of natural gas at the Henry Hub. Therefore, this basis difference should be subtracted from Henry Hub prices, (not added, as suggested by Mr. Boehm) to determine the actual cost of natural gas at Aquila's plant.

Q. Have you calculated a recent basis difference between the Henry Hub and the prices available in the midcontinent region?

A. Yes. The basis difference has averaged $.48/Mcf over the 6 months ended July 2005. This average does not include the significant increase in location basis caused by the recent hurricane activity in the Gulf region. The Staff understands that Aquila included a $.40/Mcf basis reduction in its production cost model calculations to recognize that the midcontinent region is a cheaper source of natural gas than the Henry Hub.

Q. At page 9, lines 7 through 17, Mr. Boehm summarizes the positions on natural gas prices of all the parties' witnesses in the 2004 rate case except for Aquila's witness, Mr. Browning. Please describe Aquila's position on natural gas prices as proposed by Mr. Browning in the 2004 rate case.

A. In the 2004 rate case, Aquila proposed a level of $5.14/Mcf based on the average of predictions of six analytical studies by experts in the natural gas industry. Also included in this average were actual natural gas market prices in the months of January and February of 2003. Mr. Browning's direct testimony was filed in July 2003, and the predictions were for calendar 2003 natural gas prices to include in rates in 2004.

The process used by Mr. Browning to develop Aquila's $5.14/Mcf proposal is described at pages 9 through 12 of his direct testimony in Case No. ER-2004-0034. This

process is also referenced at pages 23 and 24 of the direct testimony of Mr. Keith Stamm, Aquila's Chief Operating Officer, in that case.

The six analysts' studies used in Mr. Browning's $5.14/Mcf proposal are shown in the table below:

Forecast Firm	2003	2004
Cambridge Energy Research Associates	$5.80 mmBtu	$5.35 mmBtu
Stephen Smith Energy & Assoc	$5.10 mmBtu	n/a
Jefferies & Co.	$5.00 mmBtu	$4.50 mmBtu
A.G. Edwards	$5.25 mmBtu	$4.25 mmBtu
Fitch Ratings	$4.50 mmBtu	$ 3.50 mmBtu
Lehman Brothers	$5.00 mmBtu	$4.50 mmBtu

Q. At page 10 of his direct testimony Mr. Boehm states that in the 2004 rate case Aquila proposed "burner-tip prices that are derived from a natural gas price curved based upon an average of NYMEX futures prices. Aquila again proposes this method." Is this correct?

A. No. As previously stated, Aquila's witness on the issue of natural gas prices in the 2004 rate case was John Browning. The purpose of Mr. Browning's direct testimony, which he describes at page 2, was to "present information to support Aquila's position in this case regarding the cost of natural gas and coal used for generation in Aquila's power plants."

Mr. Browning calculated the average of 6 industry analysts' gas price estimates that were made in March 2003. To this average he included the actual NYMEX settlements (used as a surrogate for actual market prices, not NYMEX futures) for January and February 2003. This resulted in a proposed gas price of $5.14/Mcf. No NYMEX futures prices were included in Aquila's proposal.

Q. What was Aquila's position with respect to using NYMEX futures as a basis for predicting natural gas prices?

A. Aquila very clearly stated that NYMEX futures prices should not be used as a basis for setting rates. The following quotes by Mr. Browning concerning the use of NYMEX futures as a basis for setting rates were taken from his rebuttal testimony in the 2004 rate case:

> As I mentioned in my direct testimony, the use of NYMEX futures is questionable in both the near term as well as the long term for predicting future spot prices. The near term futures can be highly volatile and react to short-term events irrationally. On the other hand, futures for years such as 2005 and 2006 are illiquid and lightly traded making them potentially meaningless as far as predicting future physical prices. [rebuttal page 10]
>
> Kwang Y. Choe, a Regulatory Economist with the Commission, filed testimony in Case No. ER-2001-672 that concurs with my opinion. Mr. Choe describes in great detail why the correlation between NYMEX futures and future spot prices is very weak and not suitable for ratemaking. [rebuttal page 11]
>
> I completely agree that the most realistic and most up-to-date price information should be used for ratemaking. That would exclude the use of historical costs from 2001 or 2002 and the usage of NYMEX futures. [rebuttal page 13]

Q. At page 10 line 14 of his direct testimony, Mr. Boehm states that Aquila "has averaged the NYMEX futures market price for the 2006 calendar year that has occurred in the last three months of 2004. These prices are known and represent actual market transactions for natural gas in that time period." Does the Staff believe that Aquila's method of using NYMEX gas futures is appropriate for ratemaking purposes?

A. No. The NYMEX futures market is simply a market created to transfer price risk. It was not designed and does not serve to function as a predictor of future natural gas prices. There is no relationship, whatsoever, between NYMEX futures natural gas prices and

the price of natural gas Aquila will pay in the future for its natural gas purchases. See the rebuttal testimony of Staff witness Dr. Kwang Choe for a discussion of the Staff's position on using NYMEX futures to determine natural gas prices for ratemaking purposes.

Q. Other than not being designed to predict future natural gas prices, does the Staff have any other concerns about using NYMEX futures prices to set rate in Missouri?

A. Yes. NYMEX futures prices are subject to manipulation. In the past few years, over 30 energy companies, including Aquila, have been charged with attempting to manipulate natural gas pricing markets including NYMEX. As reported in its internet website, the Commodities Futures Trading Commission has charged over $300 million in fines to these energy and utility companies.

Q. Why is the NYMEX futures market a poor predictor of natural gas prices?

A. There are several reasons. The NYMEX futures market is a commodity trading market, much like the stock market. It is subject to pricing signals that cause the market to react irrationally at times. In much the same way that the stock market moves up or down reacting to world events, the NYMEX futures market also reacts.

Some of the events that cause the NYMEX futures market to react in unpredictable ways are weather-related events such as the anticipation of a hurricane, expectations that there will be a severe winter and reaction to world events such as terrorist attacks

Q. Have there been unusual events that caused the NYMEX futures market to react irrationally?

A. Yes. On November 24, 2004, the Energy Information Administration (EIA), a branch of the Department of Energy, issued its Weekly Gas Storage Report. This report showed a much greater withdrawal of gas than was expected and the price of natural gas

futures contracts on the NYMEX increased over $1/Mcf on that day. It was found that a company had submitted faulty storage report numbers to the EIA through a clerical error. When the EIA issued its subsequent report which corrected that error, NYMEX futures prices fell in response.

The natural gas market place reacts to many occurrences and events which make the NYMEX futures market a bad indicator of actual prices. As pointed out earlier in my rebuttal testimony, this is not just the Staff's opinion, but also the opinion of Aquila in its 2004 rate case. This same statement was made by Aquila witness John Browning on page 7 of his direct testimony in Case No. ER-2004-0034. Mr. Browning also stated at page 7 of his direct testimony that "the NYMEX responds irrationally to short-term events such as storage reports, hurricanes and short-term weather patterns. The near months are actually the most volatile with the out months being more stable but less meaningful because of a lack of trading volume."

Q. At page 10 of his direct testimony Mr. Boehm states that Aquila's NYMEX futures method of predicting natural gas prices is a very accurate method in determining that actual prices Aquila will face in the market. Please comment on this assertion.

A. To support this argument, Mr. Boehm states that Aquila's proposed natural gas price in its direct filing in the 2004 rate case (filed in July 2003) was $5.64/Mcf and the day that the 2004 rate case settled (March 5, 2004), the 12-month NYMEX strip price for natural gas was $5.64/Mcf. The facts supporting this argument are wrong and, assuming there were correct, Mr. Boehm's argument does not make any sense.

Q. How are the facts in Mr. Boehm's argument incorrect?

A. As described earlier, Aquila's proposed natural gas price in the 2004 case was $5.14/Mcf, and this number was based solely on analysts' predictions of 2003 natural gas and natural gas market prices at the Henry Hub in January and February 2003. As discussed above, Aquila did not use NYMEX futures as a basis for its position in the 2004 rate case, and, as shown in the above quotations of Mr. Browning, Aquila explicitly dismissed NYMEX futures as an appropriate method to predict natural gas prices.

In addition to the $5.14/Mcf amount, Aquila proposed a $.50/Mcf increase to its proposed natural gas prices as part of a gas cost recovery mechanism. This natural gas cost recovery mechanism is discussed in the 2004 rate case direct testimony of Aquila's Chief Operating Officer, Mr. Keith G. Stamm, beginning at page 21. This $5.14/Mcf and the $.50/Mcf gas cost recovery mechanism equals the $5.64/Mcf price referred to by Mr. Boehm at page 10 of his direct testimony in this case. So, the $5.64/Mcf was not based on any NYMEX futures prices as asserted by Mr. Boehm.

Q. Assuming for a moment that the $5.64/Mcf was based on a NYMEX futures calculation, why does Mr. Boehm's argument about the accuracy of using NYMEX futures to predict future natural gas prices not make sense?

A. Mr. Boehm states that the NYMEX futures method is accurate in determining the future prices Aquila will face in the market, yet he did not compare a NYMEX futures calculation with any actual market prices paid by Aquila. He compared predicted prices with predicted prices, he did not compare predicted prices with actual prices. This argument just does not make sense.

Q. When you compare NYMEX futures prices with the actual prices Aquila paid for natural gas, is NYMEX a good predictor?

A. No. Schedule 1 attached to this testimony shows a comparison of NYMEX futures contracts with Aquila's actual cost of natural gas. For example, on the first line of Schedule 1 it shows that in January of 2002 you could buy a NYMEX futures contract for natural gas to be delivered at the Henry Hub in January 2003 (January 2003 contract) for $3.23/Mcf on the first day that contract became available to buy. Aquila's actual cost of gas in January 2003 was $** ___ **/Mcf, for a difference of $** ___ **/Mcf.

Continuing with the second month, in February 2002 you could have bought the February 2003 futures contract for $2.93/Mcf. Aquila's actual cost of natural gas in February 2003 was $** ___ **/Mcf, for a difference of $** ___ **/Mcf. Finally, moving forward to the end of the Schedule, in August 2004 you could have purchased the NYMEX August 2005 contract for $6.11/Mcf. Aquila's actual cost of gas in August 2005 was $** ___ **/Mcf.

Q. Were there any months where the NYMEX futures contract prices were higher than Aquila's actual cost?

A. Yes. As shown in Schedule 1, this occurred in the October and November 2003 NYMEX futures contracts.

Q. What are the actual Aquila natural gas prices?

A. These are based on actual natural gas purchases made by Aquila in any given month to supply fuel to Aquila's plants. These actual purchases represent the actual costs to Aquila relating to natural gas used to fuel its generators. The prices used on Schedule 1 are the average of the actual prices incurred at all the natural gas-fired generating facilities for any given month.

Q. Ignoring for a moment Aquila's actual cost of natural gas, is the NYMEX a good predictor of natural gas prices at its own market – the Henry Hub?

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A. No. Schedule 2 attached to this testimony shows that NYMEX is an extremely bad predictor of natural gas prices even over a period as short as one year. An analysis of the cost of a NYMEX futures contract on its first trading day compared to what that contract's actual settlement price was (an indication of the market price of gas at the Henry Hub on that date) also shows that NYMEX futures contracts are not a good predictor of natural gas prices.

The first line of Schedule 2 shows that on January 2002 you could have bought a January 2003 contract for $3.23. If NYMEX was a good predictor of natural gas prices, you would expect this contract to settle somewhere around the $3.23/Mcf range at its expiration date in one year. However, this contract closed at $4.99/Mcf – nowhere near the "predicted" price. Looking at the example in March, in March 2002 you could have purchased a March 2003 contract for $3.17/Mcf. One year later this contract was priced at $9.13/Mcf for an increase of 188 percent.

Q. Did Aquila provide any valid analysis to support its assertion that NYMEX is a good predictor of future natural gas prices?

A. No. Aquila did no such analysis to support its assertion. The analysis it did do was faulty, in that it did not use a NYMEX price, but a price based on analysts' predictions. The argument was illogical in that it did not compare a NYMEX price to any actual price, but strangely enough, it compared a NYMEX futures price to another NYMEX futures price.

Q. In discussing NYMEX futures, at page 10 line 15 of his direct testimony, Mr. Boehm states "these prices are known and represent actual market transactions for

natural gas in that time period." Are these known and measurable events as that term has been historically used in the ratemaking process?

A. No.

Q. What is "known and measurable" as that term is used in the rate setting process?

A. As it applies to a cost, the known and measurable standard of ratemaking means that the cost is almost certain to occur and the cost can be measured with a high degree of accuracy. Using a NYMEX futures prices as a basis for setting rates clearly does not meet the known and measurable standard.

Q. Why are NYMEX futures prices not known and measurable?

A. The NYMEX futures prices are neither known nor measurable in that they are not actual natural gas purchases made by Aquila. In fact, they bear no relationship to actual gas prices incurred by Aquila. These prices are not measurable to any extent as they fluctuate, sometimes wildly, on a daily basis. In addition, the prices of NYMEX futures contracts are associated with a market region that differs significantly from the one (midcontinent region) where Aquila buys its natural gas.

Q. Does this conclude your rebuttal testimony?

A. Yes, it does.

SCHEDULE 1

HAS BEEN DEEMED

HIGHLY CONFIDENTIAL

IN IT'S ENTIRETY.

On first trading day of	Futures Contract	Settled at 1st Trading Day	Expired at	Difference	Difference %
Jan-02	Jan-03	$3.23	$4.99	$1.76	54%
Feb-02	Feb-03	$2.93	$5.66	$2.73	93%
Mar-02	Mar-03	$3.17	$9.13	$5.96	188%
Apr-02	Apr-03	$3.59	$5.15	$1.56	43%
May-02	May-03	$3.75	$5.12	$1.37	37%
Jun-02	Jun-03	$3.61	$5.95	$2.33	65%
Jul-02	Jul-03	$3.78	$5.29	$1.52	40%
Aug-02	Aug-03	$3.58	$4.69	$1.11	31%
Sep-02	Sep-03	$3.76	$4.93	$1.17	31%
Oct-02	Oct-03	$3.89	$4.43	$0.54	14%
Nov-02	Nov-03	$4.06	$4.46	$0.40	10%
Dec-02	Dec-03	$4.28	$4.86	$0.58	14%
Jan-03	Jan-04	$4.99	$6.15	$1.16	23%
Feb-03	Feb-04	$5.00	$5.78	$0.78	16%
Mar-03	Mar-04	$5.49	$5.15	($0.34)	-6%
Apr-03	Apr-04	$4.63	$5.37	$0.73	16%
May-03	May-04	$4.73	$5.94	$1.21	26%
Jun-03	Jun-04	$5.13	$6.68	$1.55	30%
Jul-03	Jul-04	$4.87	$6.14	$1.27	26%
Aug-03	Aug-04	$4.74	$6.05	$1.31	28%
Sep-03	Sep-04	$4.72	$5.08	$0.37	8%
Oct-03	Oct-04	$4.68	$5.72	$1.05	22%
Nov-03	Nov-04	$4.81	$7.63	$2.81	58%
Dec-03	Dec-04	$5.06	$7.98	$2.92	58%
Jan-04	Jan-05	$5.79	$6.21	$0.43	7%
Feb-04	Feb-05	$5.63	$6.29	$0.66	12%
Mar-04	Mar-05	$5.81	$6.30	$0.49	8%
Apr-04	Apr-05	$5.37	$7.32	$1.96	36%
May-04	May-05	$5.41	$6.75	$1.34	25%
Jun-04	Jun-05	$6.01	$6.12	$0.11	2%
Jul-04	Jul-05	$5.92	$6.98	$1.05	18%
Aug-04	Aug-05	$6.11	$7.65	$1.54	25%