Exhibit No.:
Issues: Gas Costs
Witness: John C. Browning
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

John C. Browning

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REBUTTAL TESTIMONY OF
JOHN C. BROWNING
AQUILA, INC. D/B/A AQUILA NETWORKS-MPS
[redacted]
CASE NOS. ER-2004-0034 [redacted]

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI
REBUTTAL TESTIMONY OF JOHN C. BROWNING
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 John C. Browning. My business address is 10750 East 350 Highway, Kansas City, Missouri 64138.

Q. Are you the same John C. Browning who previously filed direct testimony in this case 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 Missouri Public Service Commission Staff ("Staff") witness Graham Vesely, Office of the Public Counsel ("OPC") witness James A. Busch, and Brubaker & Associates, Inc. witnesses Robert R. Stephens and Maurice Brubaker concerning the determination of the appropriate natural gas fuel costs for generation. Brubaker & Associates are consultants representing the Federal Executive Agencies, Sedalia Industrial User Association,

Graham Vesely Testimony

Q. Please summarize, as you understand it, the method used by Mr. Vesely to arrive at his recommended gas price for this case.

A. Mr. Vesely uses the average of the actual gas cost incurred, on a plant-by-plant basis, over a 21-month period running from January 2002 through September 2003. Mr. Vesely

testified that this method was used to levelize the volatility of the actual monthly costs without bias to the results.

Q. Do you agree with Mr. Vesely's method?

A. While the method seems to be straightforward and without flaw numerically, there is a bias being introduced by the use of costs from 2002. Costs from 2002 are not representative of what we have paid in 2003 or what we will expect to pay in the future.

Q. Why are historical gas prices from 2002 not representative with respect to current prices or in estimating the future price of gas?

A. As I explained in my direct testimony, the economy, weather, gas production, storage levels and other factors are not the same now as they were in the months leading to and during 2002. The following excerpt from a Cambridge Energy Research Associates ("CERA") article describes some of the conditions that existed in 2001 and extended into 2002. CERA is an international advisory and consulting firm focusing on the energy industries:

> *"The reasons for this dramatic price swing are many: an extended period of mild weather from early January through July (2001), the weakening economy, and extended fuel switching through the spring and early summer chief among them... The supply response from the higher prices and drilling activity is also contributing marginally to the surplus, but the reality is that it is largely lack of demand that has allowed storage inventories to rebound at a record rate, causing prices to fall to their lowest levels since early 1999."*
>
> A Shortage of Demand - CERA North American Natural Gas Watch, Autumn 2001

The drop in natural gas prices in 2001 continued into 2002, bottoming out in the spring when a slow upward trend began that ended with December prices being just over $4/mcf. This price trend is graphically displayed on the attached Rebuttal Schedule JCB-1. Summarizing the factors impacting the gas prices in 2002, we have:

- A weak economy
- Significant demand destruction caused by the high prices from 2001
- Above normal winter temperatures and mild summer temperatures
- Large volumes of gas in storage
- Surplus production given the weak demand
- The disintegration of the energy markets lead by the Enron bankruptcy. Energy traders like Dynergy, El Paso, Mirant, Duke, and Aquila withdrew from the market leaving a void and collapsed prices. Fear of investigation by the Federal Energy Regulatory Commission ("FERC"), given the trading irregularities and accusations of price manipulations, also chilled the markets.

Unlike 2002, we now see a rebounding economy and a marketplace that has already absorbed most of the demand destruction and fuel switching that is likely to take place. The underlying concern expressed in the 2001 CERA paper is that increased drilling activity did little to bring prices down. This concern is even greater today. Existing well productivity is declining and new wells are contributing little to supply since they are in the same depleted fields as the existing wells. We also face the prospect of new gas-fired peaking and combined cycle plants going into service each year which will further tax the supply/demand balance. Gas prices averaged $5.388/mcf during 2003. There is no reason to believe that the low 2002 prices will return or represent a fair cost of gas for Aquila in this case.

Q. Is the CERA paper the only source of information you relied on to form your opinions?

A. No. In connection with my duties and responsibilities, I am familiar with a number of sources expressing similar concerns. Excerpts from those sources are provided below:

> *"For 2003 and 2004, CERA expects the North American gas market to tighten, driven by a continuing decline in gas productive capacity... In the mean time demand will grow... Conditions look tighter still for 2004. We expect North*

American productive capacity to fall slightly in 2004, while demand growth will continue."

Only Enough For Now - CERA Monthly Briefing, January 16, 2003

"This is a market that cannot accommodate a large economic rebound, a hot summer, or a cold 2003/2004 winter without significant price consequences. Because the market is so tightly balanced, relatively small changes in supply or demand can induce relatively large changes in price – a "wild ride" for the North American gas market."

Bracing For A Wild Ride - CERA Monthly Report, February 18, 2003

"For natural gas, the story is different. Gas is largely a domestic commodity, with the only significant imports coming from Canada. So what producers pull out of the ground in North America is largely what there is. Last year, production fell 5%, even though demand has stayed strong, driven by cold weather and a growing preference by utilities to use gas to generate electricity, because it burns cleaner than most other fuels..."We continue to be unable to turn production around," says Robert Morris, an analyst at Banc of America Securities, who expects production will drop an additional 2% this year. A big boost in drilling could ease that decline a bit, but new wells take time to start producing and gas is getting harder to get out of the ground in North America. In 2001, when the number of new wells soared, gas production rose only 1%."

Natural-Gas Prices Likely To Be High Amid Tight Production - The Wall Street Journal, April 30, 2003

"Economists attribute the doubling of prices over the past year to stepped-up demand caused by a cold winter and shrinking imports, diminishing production from old wells, and low output from new fields."

Is the Natural Gas Crunch About to Become a Crisis - Business Week, June 16, 2003

"Industries like fertilizer and ammonia makers, which use gas to produce their goods, are already laying off workers. And experts warn that a warming trend, in the economy or the weather, could send prices spiking for the electricity that cools homes and runs every sort of business...With natural gas promoted as a cleaner-burning fuel than oil or coal, nearly all the electric plants built since 1998 are designed to be fired mainly by gas. So demand is up. And while drilling has increased about 25 percent in the last year, much of it has been confined to old, overworked basins that are not as productive as they once were. Supplies, therefore, have not kept up."

Short Supply Of Natural Gas Is Raising Economic Worries - The New York Times, June 17, 2003

"The sobering reality is that we're drilling a lot more wells today than we were five years ago, but production is still down. Producers are on a treadmill, running harder to stay in place," says Keith Rattie, chairman of Questar Corp., a Utah-based gas producer and distributor... Meanwhile, demand for gas has been growing, largely because of the widespread use of the fuel for producing electricity. Nearly every power plant built in the past six years runs on natural gas."

High Natural Gas Prices, Shortages Worry Industry, Government - Associated Press Newswires, June 26, 2003

"Analysts say reduced consumption must be the main factor in the increases in storage this summer, because they know the natural-gas supply isn't increasing. Before the start of the second-quarter earnings season, Lehman Brothers estimated North American natural-gas production would fall at least 3% for the quarter from a year earlier..."It's becoming increasingly difficult in the U.S. to add reserves at a more rapid rate than they deplete," said Roger Plank, chief financial officer of Apache Corp. Like its peers, Apache also reported strong earnings this past week. Its results included a 27% surge in U.S. natural-gas volume. Yet the extra production came from properties Apache purchased from BP PLC in a mature area not seen as well suited to long-term development."

Natural Gas Supply Shows Gains – The Wall Street Journal, July 29, 2003

"While it would seem logical to increase the sources of natural gas domestically or internationally, it cannot be easily done. The supplies that can be easily and cheaply drilled have been exhausted. The industry wants to look farther afield, but there are the inevitable environmental and political problems. Environmentalists point out that the Interior Department's own study found that only 12 percent of the reserves on land and 20 percent of off-shore reserves are in places in which drilling is restricted or banned. Producers counter that too many other areas are effectively off limits, because of seasonal restrictions based on environmental concerns, like the mating season of endangered birds.

Even if these reserves were readily available, domestic drilling is unlikely to solve the problem in the long term, because of a geological fact of life: the United States has about 3 percent of the world's natural gas reserves, but accounts for a quarter of worldwide consumption. That problem was made obvious last winter, when it was extremely cold; the amount of gas in storage was lowered by about 20 percent."

When the Laws of Supply and Demand Don't Apply – The New York Times, August 10, 2003

"The chairman of the American Gas Association warned Friday that consumers can expect more volatility in natural gas prices until new supplies of the fuel are tapped... But association chairman Richard Reiten, who was in Kansas City to meet with analysts and industry executives, said that while this winter may not be as bad as feared, there nevertheless are problems in procuring sufficient gas supplies. As a result, there is the potential for price spikes... Demand for natural gas is up 36 percent since 1986 and is expected to be up 50 percent from current levels by 2025. Existing gas fields are becoming depleted and Canadian gas supplies exported to the United States are not expected to increase -- further deepening this supply imbalance."

Natural Gas Prices Will Stay Volatile, Association Chairman Says - The Kansas City Star – September 13, 2003

"North American natural gas production fell by an estimated 3.6% year-on-year during the third quarter, according to a survey conducted by Lehman Brothers (LEH).

It fell by about 2.2% versus the second quarter of this year and should be 2.5%-3.0% lower for the full year. The survey covers 49 North American producers who collectively produce about 70% of natural gas on the continent.

Although traders point out that this is historical data that has no bearing on the actual amount of gas available in storage today for the upcoming heating season, it highlights the overall trajectory of future gas supply from existing fields. That trajectory appears to be unremittingly lower - even though far more natural gas rigs are now operating than a year ago and high prices provide an incentive to drill in pockets of gas that had previously been less profitable... The reduced ability of the U.S. to maintain sufficient traditional supply to keep prices stable has caught even the industry by surprise. Five years ago, long-term forecasts made by the industry-sponsored National Petroleum Council of gas production from existing basins concluded that supplies were adequate. But in another exhaustive report produced by the group this year, future production levels are forecast to be nearly 25% lower than in the 1998 study."

Lehman Gas Production Survey Highlights Worrying Trends – Dow Jones Energy Service, November 24, 2003

"Even Thomas Driscoll, a Lehman Brothers equity analyst who has been vocal about expecting gas prices to remain subdued, raised his 2004 gas price forecast Thursday afternoon for natural gas to $4.50 per million British thermal units from $3.75, a 20% increase. He based his change on recent storage dynamics."

Natural Gas Prices Soar To Six-Month High – Dow Jones Energy Service, December 5, 2003

"A boom in Canadian drilling will only keep natural gas production steady in 2003 and 2004 as the industry battles declining output from established wells, the country's energy regulator said on Monday.

The energy industry in Canada, which supplies more than 15 percent of the gas used in the United States, will drill enough wells to hold output at about 16.3 billion cubic feet a day, the National Energy Board said in a report on short-term natural gas deliverability.

Production from traditional gas sources across North America has been slipping as fields have matured, pushing up prices and sparking new interest in expensive alternatives, like frontier areas, coalbed methane and imported liquefied natural gas.

"The high decline rate associated with production from existing gas wells, as indicated in this report, presents challenges to maintaining production levels from (Western Canada)," board chairman Ken Vollman said in a statement."

Boom In Canada Gas Drilling Keeps Output Flat – Reuters News, December 8, 2003

"Industry officials say the latest escalation in gas prices is fundamentally due to a thin margin between supplies and demand for the crucial heating and industrial fuel, which provides almost one-quarter of the nation's energy needs... "Basically it's demand outstripping the supply," said Sean T. Sexton, senior director at Fitch Ratings, a bond rating firm... Output from older gas wells has been declining more quickly than expected. Large new gas reserves are not being found or opened up. Meanwhile, the demand for gas keeps growing because it has become the fuel of choice for new electric power plants. The energy bill that Congress has struggled over for two years would not raise production significantly for years, some energy officials say."

U. S. Natural Gas Prices Soar – The Washington Post, December 19, 2003

"Gas futures prices have risen to $5.50 per million British thermal units from $2 a year ago, yet during that time the number of rigs drilling for gas in the U.S. has fallen, and those that are operating are producing less gas. Spot prices shot above $20 this week in the Northeast, about eight times the year-ago level.

'We are in terrible shape,' said Matthew Simmons of Simmons & Co. International, an investment bank to the gas industry. 'We need a September 11-type wake-up call...'

From April through October, the gas industry will struggle to refill storage. Given the depletion rates of U.S. and Canadian gas fields and the greater use of

> *gas to generate electricity in the summer, Simmons and others expect that stocks will be disastrously low for next winter.*
>
> *'There is no way that gas supply will suddenly start to rise,' said Simmons, explaining that cheap gas prices for the past 10 years have damped domestic exploration, which is expensive. 'The industry doesn't have a lot of prospects. If it did, they would be putting in rigs.'"*
>
> For US, $2 Gas Is Gone; Do I Hear $4 $8? – Dow Jones Energy Service, December 24, 2003

Q. What would be the impact of using Mr. Vesely's method for setting rates?

A. Mr. Vesely's calculations yield a cost of about $4/mcf (including basis and variable transportation) for gas. The bias applied by the use of 2002 costs in an "average" are obvious when you compare that number to the average monthly New York Mercantile Exchange ("NYMEX") settled price of $5.388/mcf for all of 2003. The use of Mr. Vesely's cost of gas will guarantee gross under-recovery of the Company's actual costs going forward.

James A. Busch Testimony

Q. Please summarize, as you understand it, the method recommended by Mr. Busch for determining the price of natural gas in this case.

A. Mr. Busch uses a four-year average of historical and future prices weighted by the actual average monthly volumes of gas burned by the Company. Three of the four years are historical using NYMEX settled prices for 2001, 2002, and 2003. The fourth year is the 2004 NYMEX futures strip. Mr. Busch calculates a recommended price of $3.99/mcf including the average basis between NYMEX Henry Hub and Williams Natural Gas ("WNG") of $0.179/mcf (negative with respect to the Hub). To restate the recommended price at NYMEX, the basis must be removed to arrive at $4.169/mcf.

Q. What problems do you see with Mr. Busch's method and recommendation?

A. I have the same concerns about the use of historical NYMEX prices as stated above in my comments on Mr. Vesely's testimony. The prices from 2001 and 2002 are not meaningful for setting rates for all of the reasons given in my comments on Mr. Vesely's methods.

Additionally, at the time of Mr. Busch's calculation on November 20, 2003, the 2004 NYMEX futures were at $4.706/mcf, one of the lowest points of the year (Rebuttal Schedule JCB-1). Using the 2004 NYMEX strip from December 19, 2003 and applying it to Mr. Busch's method, results in a price of $4.329/mcf or $4.508 at the Henry Hub. The difference in price, in a one-month period, is the result of short-term volatility of the gas market and from using "snap shots" in a volatile market. It also illustrates why I used the consensus of analysts in my direct testimony.

Beginning on page 5, line 22 of his direct testimony, Mr. Busch describes the Energy Information Agency ("EIA") as being optimistic about the price of gas this winter and expecting prices between $4.50 and $5.00/mmBtu. While this may have been true at one time, the latest EIA Short Term Energy Outlook, dated January 7, 2004, forecasts the first quarter of 2004 to average $5.57/mcf on the spot market and $5.14/mcf for the year (See Rebuttal Schedule JCB-3). The report also warns, in its 2005 forecast, that "Without gains in new supply over the next 2 years, increasing pressure from the economy is likely to translate into renewed increases in natural gas prices." Based on the articles quoted earlier in this testimony, the likelihood of additional supply seems to be poor.

Q. Mr. Busch refers to "wellhead" price on page 7, line 20 of his direct testimony while you use the term "spot price". What is the difference?

A. A "wellhead" price is what you can buy the gas for at the well while the "spot price" refers to gas bought on an immediate use basis at a trading point such as the Henry Hub. To compare apples to apples, you must use a common point of reference such as the Henry Hub. All the NYMEX pricing quoted in the testimony is with respect to the Henry Hub, so the EIA forecasts must also be based on Henry Hub type pricing. Wellhead pricing leaves out the transport component that would be necessary to take the gas from the well to the Hub and as such it is not compatible with any of the other prices.

Robert R. Stephens' Testimony

Q. Please summarize, as you understand it, the method recommended by Mr. Stephens for determining the price of natural gas used in this case.

A. Mr. Stephens uses a combination of the NYMEX futures for 2004 through 2006 and the forecast for 2004 from the EIA to arrive at a recommended price of $4.35/mcf. Mr. Stephens used a 10-day average of the NYMEX futures to smooth out any volatility in prices and derived a price of $4.709/mcf by taking the average of the 2004 through 2006 futures. The EIA price used by Mr. Stephens was $3.99/mcf at the wellhead. The recommended price of $4.35/mcf is the average of the EIA and average futures prices.

Q. What problems do you see with Mr. Stephens's method and recommendation?

A. 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. The use of EIA wellhead price is unacceptable since it is not comparable to the Henry Hub based

NYMEX. Mr. Stephens should use a spot market price at the Henry Hub to avoid unrealistically low price calculations.

I have attached a graph (Rebuttal Schedule JCB-2) showing the contracts traded on November 20, 2003. One contract represents 10,000 mcf of gas volume. This date was selected because it corresponds to the time frame used by Mr. Stephens to collect data. As can be seen, trading volumes are highest in 2004 and then drop to nearly nothing in 2005 and 2006. In some cases there were no trades for a given month. This means that the price for that month is left over from the last trade made at some unknown point in the past. The few trades made in the "out" years are most likely made for speculative reason and not because the trader wants to secure gas for the future.

To put the 2005 and 2006 NYMEX traded volumes into perspective; the Company will consume nearly 1,000 contracts of gas in Missouri during 2004. The entire NYMEX only traded 941 contracts for 2005 and 340 contracts for 2006 on November 20, 2003. It is highly unlikely that you would actually find anyone willing to sell 1,000 contracts at the prices in Mr. Stephens's testimony.

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.

The ten days of NYMEX prices (November 13-26, 2003) utilized by Mr. Stephens were taken at much the same time as Mr. Busch's, at one of the lowest points in 2003. After the brief dip in November, when Mr. Stephens was developing his testimony, the 2004-

2006 NYMEX strip was back to $4.99/mcf on December 19, 2003, utilizing the same 10-day averaging process as Mr. Stephens.

This discussion is not meant to diminish the value of NYMEX in the marketplace. Trading on the NYMEX is critical to arriving at the actual price paid for natural gas. It provides an opportunity for risk management, price discovery, and an indication of direction for the market. Forecasting a future price is not the true purpose of the NYMEX.

After Mr. Stephens prepared his testimony, the EIA revised its 2004 forecast upward to a composite spot of $5.14/mcf (Rebuttal Schedule JCB-3). If Mr. Stephens were to re-file his testimony using December 19th data and the current EIA forecast, his recommended price would be $5.07/mcf.

Q. In Table 1 on page 6 of Mr. Stephens's direct testimony, he indicates that the contents of that table are what Aquila used in modeling for this case and implies a discrepancy between the average of those numbers and the $5.14/mcf in your testimony. Please explain the difference in the numbers.

A. The numbers quoted by Mr. Stephens are the values used in modeling only for the Lake Road Plant. They are specific to that plant and include a basis and variable transportation component. Generally, each plant has a different cost for transportation; so the modeling cost inputs will be plant specific. The underlying $5.14/mcf was used for all plants, but, as I mentioned in my direct testimony, it does not include basis or transport. Additionally, the $5.14/mcf is an average for the year with each month having a different value. The monthly distribution of prices in our number was based on the distribution in the CERA and PIRA forecasts used to determine the $5.14/mcf price. Gas is usually

more expensive in the winter than in the summer months, so to accurately model, you must have monthly prices.

Maurice Brubaker Testimony

Q. What comments do you have with respect to Mr. Brubaker's testimony?

A. On page 4, lines 16-20 of his direct testimony, Mr. Brubaker states:

> *"I recommend that a more recent outlook for natural gas prices be used. Mr. Stephens presents one such outlook in his testimony, and I expect other witnesses will do so as well. When the Commission makes its final decision, it should decide what is the most realistic outlook for natural gas prices at that time, and incorporate those numbers into the fuel model for purposes of determining the base values (i.e., the values before adding 50¢ per Mcf to gas prices) for the average cost of fuel..."*

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.

General Comments

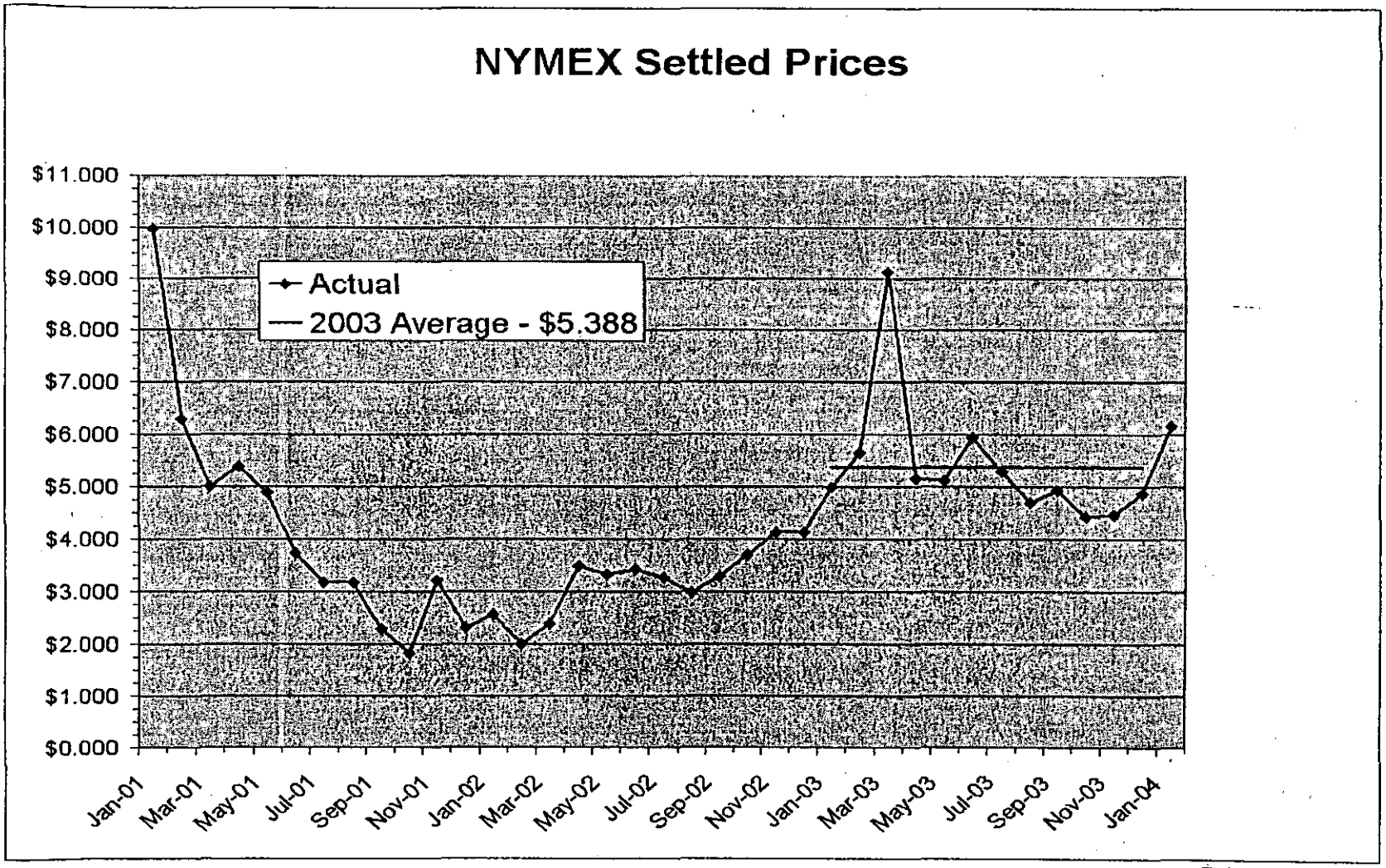
Q. Please summarize your recommendation for gas prices?

A. Future gas prices are difficult to predict with certainty. Weather alone can have a dramatic impact on market prices, as is the case while I prepare this rebuttal testimony. The 12-month strip is currently at $5.796/mcf up from $5.688 on the previous day (1/6/2003). I continue to have the most confidence in the consensus of the industry approach. The $5.14/mcf used in our direct filing was developed in early 2003 using this method. The 2003 actual average NYMEX settled price came in at $5.388/mcf. Our estimate was low but very close to actual which provides considerable validation for the method. Further, the latest EIA forecast of $5.14/mcf for 2004 is identical to what we arrived at nearly a year ago.

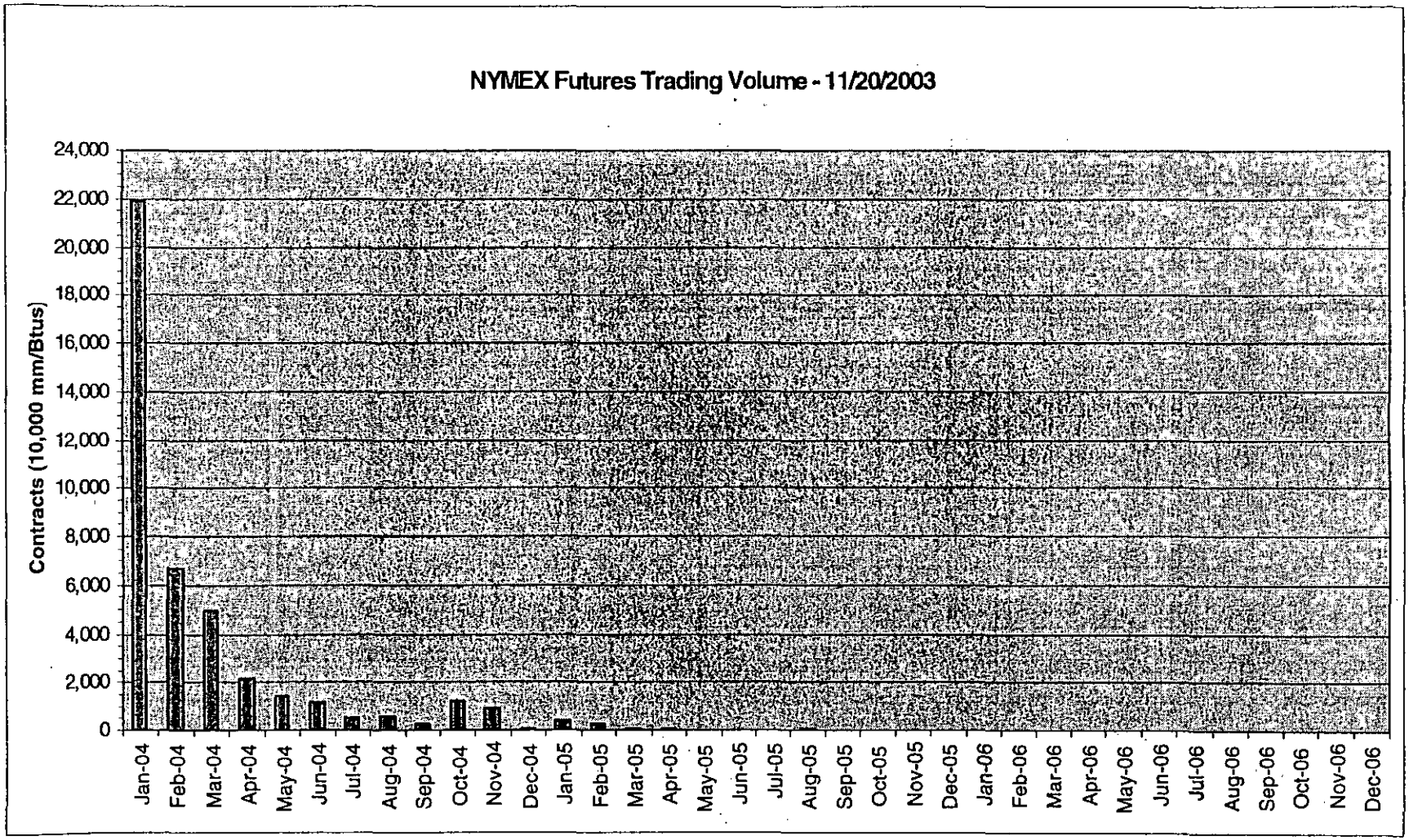
Gas prices seemed to be leveling out during 2003 although they are at a new plateau over the $5.00/mcf mark (Rebuttal Schedule JCB-1). The EIA forecast for 2004 and 2005 also show the same trend (Rebuttal Schedule JCB-3). January 2004 already closed at $6.15/mcf, February is trading over $7.00/mcf, and the 12-month NYMEX strip is at $5.796/mcf. The $5.14/mcf originally requested by Aquila in this case continues to be reasonable.

Q. Does this conclude your testimony?

A. Yes.



Schedule JCB-1



Schedule JCB-2

Table 4. U.S. Energy Prices: Base Case
(Nominal Dollars)

	2003				2004				2005				Year		
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	2003	2004	2005
Crude Oil Prices (dollars per barrel)															
Imported Average [a]	**30.58**	**25.58**	**27.37**	*28.29*	*28.75*	*27.40*	*26.30*	*25.70*	*25.50*	*25.50*	*25.50*	*25.50*	*27.86*	*27.02*	*25.50*
WTI [b] Spot Average	**34.10**	**28.98**	**30.21**	*31.19*	*31.50*	*30.00*	*28.80*	*28.20*	*28.00*	*28.00*	*28.00*	*28.00*	*31.12*	*29.63*	*28.00*
Natural Gas (dollars per thousand cubic feet)															
Average Wellhead	**5.54**	**5.01**	**4.74**	*4.63*	*5.39*	*4.55*	*4.51*	*4.96*	*5.12*	*4.52*	*4.49*	*4.68*	*4.98*	*4.85*	*4.70*
Composite Spot	**6.56**	**5.52**	**4.88**	*5.06*	*5.57*	*4.82*	*4.81*	*5.35*	*5.32*	*4.78*	*4.79*	*5.03*	*5.51*	*5.14*	*4.98*
Petroleum Products															
Gasoline Retail [c] (dollars per gallon)															
All Grades	**1.63**	**1.57**	**1.64**	*1.56*	*1.57*	*1.61*	*1.55*	*1.47*	*1.49*	*1.57*	*1.55*	*1.48*	*1.60*	*1.55*	*1.52*
Regular Unleaded	**1.59**	**1.52**	**1.60**	*1.52*	*1.52*	*1.57*	*1.51*	*1.43*	*1.44*	*1.53*	*1.51*	*1.44*	*1.56*	*1.51*	*1.48*
No. 2 Diesel Oil, Retail (dollars per gallon)	**1.62**	**1.47**	**1.46**	*1.48*	*1.57*	*1.53*	*1.47*	*1.47*	*1.48*	*1.46*	*1.44*	*1.48*	*1.51*	*1.51*	*1.46*
No. 2 Heating Oil, Wholesale (dollars per gallon)	**1.00**	**0.78**	**0.80**	*0.88*	*0.94*	*0.86*	*0.81*	*0.83*	*0.85*	*0.79*	*0.79*	*0.84*	*0.88*	*0.87*	*0.82*
No. 2 Heating Oil, Retail (dollars per gallon)	**1.45**	**1.28**	**1.17**	*1.32*	*1.42*	*1.33*	*1.21*	*1.33*	*1.38*	*1.27*	*1.20*	*1.33*	*1.33*	*1.36*	*1.33*
No. 6 Residual Fuel Oil, Retail [d] (dollars per barrel)	**33.71**	**26.66**	**28.76**	*28.49*	*30.88*	*27.21*	*26.38*	*26.74*	*26.42*	*24.66*	*25.09*	*26.11*	*29.58*	*27.89*	*25.63*
Electric Power Sector (dollars per million Btu)															
Coal	**1.27**	**1.29**	**1.27**	*1.24*	*1.26*	*1.27*	*1.24*	*1.23*	*1.25*	*1.26*	*1.23*	*1.23*	*1.27*	*1.25*	*1.24*
Heavy Fuel Oil [e]	**5.05**	**4.67**	**4.01**	*4.56*	*5.21*	*4.66*	*3.86*	*4.32*	*4.48*	*4.26*	*3.71*	*4.24*	*4.57*	*4.48*	*4.13*
Natural Gas	**6.13**	**5.52**	**5.06**	*4.86*	*6.05*	*4.84*	*4.87*	*5.50*	*5.56*	*4.94*	*4.97*	*5.26*	*5.33*	*5.22*	*5.13*
Other Residential															
Natural Gas (dollars per thousand cubic feet)	**8.63**	**10.52**	**12.52**	*9.36*	*9.69*	*10.52*	*11.79*	*9.76*	*9.76*	*10.54*	*11.81*	*9.63*	*9.42*	*10.01*	*10.00*
Electricity (cents per kilowatthour)	**8.08**	**9.02**	**9.12**	*8.51*	*8.39*	*9.00*	*9.16*	*8.72*	*8.43*	*9.01*	*9.17*	*8.74*	*8.69*	*8.82*	*8.84*

[a] Refiner acquisition cost (RAC) of imported crude oil.
[b] West Texas Intermediate.
[c] Average self-service cash prices.
[d] Average for all sulfur contents.
[e] Includes fuel oils No. 4, No. 5, and No. 6 and topped crude fuel oil prices.

Notes: Prices exclude taxes, except prices for gasoline, residential natural gas, and diesel. Minor discrepancies with other published EIA historical data are due to rounding. Historical data are printed in bold; estimates and forecasts are in italics. The forecasts were generated by simulation of the Short-Term Integrated Forecasting System.

Sources: Historical data: EIA: latest data available from EIA databases supporting the following reports: *Petroleum Marketing Monthly*, DOE/EIA-0380; *Natural Gas Monthly*, DOE/EIA-0130; *Monthly Energy Review*, DOE/EIA-0035; *Electric Power Monthly*, DOE/EIA-0226.

Introducing EIA's Short-Term Projections for 2005

This edition of the Short-Term Energy Outlook is the first to include projections for 2005. Highlights of these initial estimates include:

- The Outlook assumes continued growth in the U.S. economy, with projected gross domestic product (GDP) growth in 2005 at 3.7 percent (compared to 4.5 percent in 2004 and 3.0 percent in 2003). As business restocking continues to gain speed and manufacturing adjustments to high energy prices move forward, growth in manufacturing and overall industrial output is expected to accelerate to between 5 and 6 percent in 2005 (compared to 4 to 5 percent in 2004 and near zero in 2003).

- The (generally) modest reductions in energy prices from the average highs seen in 2003 projected for 2004 are expected to continue in 2005, but the general levels of oil and gas prices are projected to remain relatively high by historical standards. Real gasoline, heating oil, and residential natural gas prices in 2005 (for examples) are expected to remain well above the levels seen in 2002. Tight natural gas markets in the United States, the assumption of continued oil production restraint by OPEC, and a generally strong atmosphere for world energy demand growth contribute to this baseline energy price scenario.

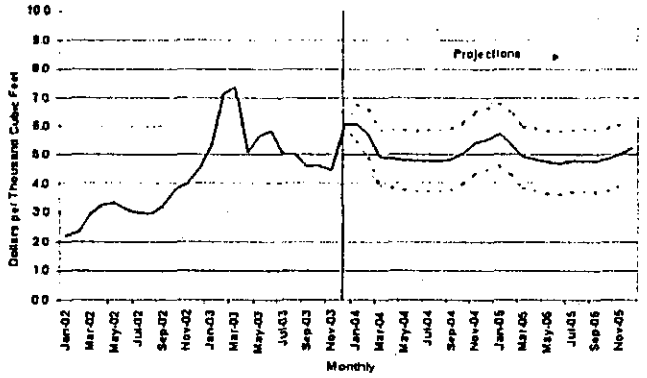
- Petroleum demand growth should accelerate in 2005 relative to the 2003-2004 rates as transportation requirements continue to grow and continued recovery in the industrial sector keep fuel oil and general industrial petroleum product demand strong. A 2.2-percent growth rate in 2005 is expected, stepping up from the 1.9-percent growth expected in 2004 and the 1.4-percent advance exhibited in 2003.

- The economic recovery drives expanding demand for natural gas through 2005, with increased requirements from all sectors. The amount of natural gas actually consumed will be limited by supply considerations. Thus, projected growth of gas demand to 22.6 trillion cubic feet in 2005 (which would be the highest level since 2000) depends critically on the ability of North American gas suppliers to increase production, at least modestly, and on the appearance of at least some additional imports of liquefied natural gas in 2004 and 2005. Without gains in new supply over the next 2 years, increasing pressure from the economy is likely to translate into renewed increases in natural gas prices. This assessment is based on the assumption of "normal" weather in 2005.

- Growth in U.S. electricity demand was relatively flat in 2003 but is expected to resume at rates of 2.2 and 2.3 percent in 2004 and 2005. Although coal remains the predominant fuel for electricity generation, all sources of fossil fuel and renewables generation are expected to grow with nuclear generation reaching record levels.

- Coal demand in the United States, which showed signs of recovery in 2003, should continue to grow. Record consumption is expected in 2004 at just over 1,090 million short tons and a 2.4-percent growth rate (to beyond 1,100 million tons for the first time) is expected for 2005.

Figure 8. U.S. Natural Gas Spot Prices
(Base Case and 95% Confidence Interval*)



*The confidence interval shows ... [illegible] ... the effects of future unpredictable events.

Sources: History: Natural Gas Week; Projections: Short-Term Energy Outlook, January 2004

eia

01/09/2004

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

County of Jackson)
) ss
State of Missouri)

AFFIDAVIT OF JOHN C. BROWNING

John C. Browning, being first duly sworn, deposes and says that he is the witness who sponsors the accompanying testimony entitled "Rebuttal Testimony of John C. Browning;" 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.

John C. Browning

Subscribed and sworn to before me this 16th day of January, 2004.

Notary Public
Terry D. Lutes

My Commission expires:

8-20-2004

TERRY D. LUTES
Jackson County
My Commission Expires
August 20, 2004