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Missouri Public Service Commission

Exhibit No.
Witness: Robert R. Stephens
Type of Exhibit: Direct Testimony
Sponsoring Party: Federal Executive Agencies, SIEUA and St. Joseph Missouri Industrial Users
Subjects: Revenue Requirements: Natural Gas Prices and Merger Savings
Date: December 9, 2003

BEFORE THE

PUBLIC SERVICE COMMISSION OF MISSOURI

In the Matter of Aquila, Inc., d/b/a Aquila Networks - L&P and Aquila Networks – MPS, to Implement a General Rate Increase in Electricity	))))	Case No. ER-2004-0034
In the Matter of the Request of Aquila, Inc., d/b/a Aquila Networks - L&P, to Implement a General Rate Increase in Steam Rates	)))	Case No. HR-2004-0024

Direct Testimony and Schedules of

Robert R. Stephens

On Behalf of

Federal Executive Agencies
Sedalia Industrial Energy Users Association
St. Joseph, Missouri Industrial Energy Users

December 9, 2003
Project 8051, 8052, 8053

BRUBAKER & ASSOCIATES, INC.
ST. LOUIS, MO 63141-2000

Exhibit No. 143
Case No(s). ER-2004-0034
Date 2-23-04 **Rptr** KF

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Affidavit of Robert R. Stephens

STATE OF MISSOURI)
) SS
COUNTY OF ST. LOUIS)

Robert R. Stephens, being first duly sworn, on his oath states:

1. My name is Robert R. Stephens. I am a consultant with Brubaker & Associates, Inc., having its principal place of business at 1215 Fern Ridge Parkway, Suite 208, St. Louis, MO 63141-2000. We have been retained by the Federal Executive Agencies, the Sedalia Industrial Energy Users Association, and the St. Joseph, Missouri Industrial Energy Users in this proceeding on their behalf.

2. Attached hereto and made a part hereof for all purposes is my direct testimony and schedules which were prepared in written form for introduction into evidence in the ER-2004-0034/HR-2004-0024 Proceeding.

3. I hereby swear and affirm that my direct testimony and schedules are true and correct and show the matters and things they purport to show.

Robert R. Stephens

Robert R. Stephens

Subscribed and sworn before this 9th day of December, 2003.

CAROL SCHULZ
Notary Public - Notary Seal
STATE OF MISSOURI
St. Louis County
My Commission Expires: Feb. 26, 2004

Carol Schulz

Notary Public

My Commission expires on February 26, 2004.

BEFORE THE

PUBLIC SERVICE COMMISSION OF MISSOURI

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<u>Direct Testimony of Robert R. Stephens</u>

Q **PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

A Robert R. Stephens; 1215 Fern Ridge Parkway, Suite 208, St. Louis, MO 63141-2000.

Q **WHAT IS YOUR OCCUPATION?**

A I am a consultant in the field of public utility regulation with the firm of Brubaker & Associates, Inc., energy, economic and regulatory consultants.

Q **PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.**

A This information is included in Appendix A to my testimony.

Q **ON WHOSE BEHALF ARE YOU APPEARING IN THIS PROCEEDING?**

A I am appearing on behalf of the Federal Executive Agencies, the Sedalia Industrial Energy Users Association (SIEUA), and the St. Joseph, Missouri Industrial Energy Users. Members of SIEUA participating in this proceeding take service from Aquila Networks - MPS (MPS). The St. Joseph, Missouri Industrial Energy Users take both electric and steam service from Aquila Networks – L&P (L&P). The Federal Executive Agencies take electric service from both MPS and L&P.

Q WHAT IS THE SUBJECT OF YOUR TESTIMONY?

A I will address the natural gas price assumptions used by Aquila[1] in the fuel and purchased power forecasts and the proposed treatment of savings associated with the merger of the L&P and MPS Systems.

The fact that I have not addressed other elements of MPS' or L&P's revenue requirement claim should not be construed as an endorsement of Aquila's claims or positions. Moreover, the fact that I have not addressed a particular element or claim does not indicate that the parties that I am appearing on behalf of in this case have no interest in the issues. We expect that the Staff of the Missouri Public Service Commission and Public Counsel will address many of these issues. The parties on whose behalf I am appearing reserve their rights to respond to testimony of other parties on all issues, and to actively participate in hearings and any potential settlement with respect to any and all issues in this proceeding. Furthermore, the fact that any testimony at all is offered should not be construed as any limitation on the ability of these intervenors to pursue to its logical conclusion the results of the October 28, 2003 Decision of the Missouri Supreme Court in Ag Processing, Inc. v Public Service Commission, Supreme Court Docket No. SC 85352.

Q PLEASE SUMMARIZE YOUR FINDINGS AND RECOMMENDATIONS.

A My findings and recommendations may be summarized as follows:

1. The commodity prices for natural gas that Aquila proposes to use to set rates are excessive. They were established at a time when gas prices were at abnormally

[1] As used in this testimony, "Aquila" refers to MPS and L&P collectively.

high levels. They exceed the current expectations of future gas prices for the period in which rates set in this case will apply by approximately \$0.43/MMBtu to \$1.15/MMBtu, with a midpoint estimate of \$0.79/MMBtu.

2. The natural gas commodity prices which I recommend Aquila use in establishing its revenue requirement are based on a combination of the current level of NYMEX futures prices for calendar years 2004 through 2006 and the 2004 forecast from the Energy Information Administration. The recommended average value for this period is \$4.35/MMBtu.

3. A precise indication of the system savings associated with the lower forecasted gas prices would require Real-Time model dispatch runs incorporating the requested natural gas commodity prices. SIEUA recently forwarded a data request to Aquila requesting that it perform these runs and provide the results.

4. I have estimated the reduction in the claimed revenue requirement associated with the forecasted natural gas prices at approximately \$7,219,000 for MPS electric service, approximately \$728,000 for L&P electric service, and approximately \$714,000 for L&P steam service. These estimates are calculated by scaling up Aquila's proposed Adjustment Nos. FPP-40, which estimate the impact of a \$0.50 per Mcf[2] increase in natural gas prices over Aquila's original natural gas price estimates.

5. Aquila proposes to make adjustments to its 2002 test-year rate base and operating expenses to credit to customers only one-half of the savings associated with the merger of L&P into the Aquila System.

6. Aquila's approach requires the estimation of what total stand-alone costs would have been absent the merger and consequently is speculative by its nature. In addition, allowing Aquila to increase the revenue requirement by one-half of the purported merger savings provides an incentive to overstate the merger savings.

7. While conceptually I agree that there may be synergistic savings associated with the merger, Aquila's support for the adjustments in its testimony and prepared workpapers lacks sufficient detail to independently verify and to justify the increase in revenue requirement.

8. Aquila has projected increases in the synergy savings over time. Regulatory lag already provides a mechanism for sharing merger benefits with Aquila particularly in times of increasing savings. For these reasons, I recommend that the adjustments related to sharing merger benefits be denied.

9. The impact of disallowing the CS-17 and FPP-30 adjustments to cost of service is approximately \$5,762,000 and \$1,338,000, for MPS and L&P, respectively, based on Aquila's September 30, 2003 updated filing.

[2] Please note that gas prices are stated in both \$/MMBtu and \$ per Mcf in Aquila's testimony. Consequently, both terms are used in this testimony as well. One Mcf of natural gas contains approximately one MMBtu of energy.

Natural Gas Price Forecast

Q HAVE YOU REVIEWED THE NATURAL GAS PRICE FORECAST WHICH AQUILA PROPOSES TO USE TO ESTABLISH RATES IN THIS PROCEEDING?

A Yes, I have. In its original filing, this issue is addressed by Company Witness John C. Browning. Mr. Browning discusses at Pages 8 through 12 how he came up with his recommended gas price forecast, which is based on a combination of actual NYMEX settlement prices for January and February 2003 and an average of six analysts' forecasts. The analysts' price forecasts are summarized by Mr. Browning and are from the February and March 2003 time period.

Mr. Browning indicated in response to data request SIE-30 that the initial draft of his testimony was completed in late March 2003 and that editing was completed in early June 2003.

Q DID AQUILA PROVIDE AN UPDATED NATURAL GAS PRICE FORECAST IN ITS SEPTEMBER 30, 2003 REVENUE REQUIREMENT UPDATE?

A No. According to Aquila's response to data request SIE-27, there has been no update. Also, my review of the workpapers associated with the updated filing indicates that the natural gas price assumptions used for modeling purposes remain the same as in the original filing.

Q HAVE NATURAL GAS MARKET CIRCUMSTANCES CHANGED SINCE THE TIME MR. BROWNING PREPARED HIS TESTIMONY?

A Yes, they have changed significantly. Schedule 1 is a graph showing the 2003 Henry Hub monthly index prices as well as 2004 Henry Hub futures prices. As can be seen in the 2003 line, monthly prices peaked dramatically in March 2003 (at over $9/MMBtu), the very time at which Mr. Browning prepared his testimony, and then dropped dramatically over the remainder of the year. Schedule 1 also shows that, in contrast, 2004 futures prices are generally in the $5 or below range for the year.

In addition, according to Mr. Browning's testimony at Pages 9-11, nearly every analyst cited historically low storage levels coming out of last winter as a contributing factor to their relatively high natural gas price forecasts. In actuality, natural gas storage injections were very robust during this storage season, bringing levels of natural gas storage to very high levels going into this winter period. Consequently, a number of the analysts cited by Mr. Browning have since revised their forecasts downward to reflect more current conditions.

Schedule 2 illustrates what these various analysts were forecasting for 2004 prices at the time Mr. Browning's testimony was prepared, as compared to more recently published forecasts. Some of the analysts cited by Mr. Browning are not shown on Schedule 2 because either a more current forecast was not publicly available, or the comparable 2004 gas price forecast was not available. Most of these analysts have significantly reduced their 2004 price forecast.

In addition to the various analysts' forecasts shown on Schedule 2, I have also included information related to NYMEX futures contracts for 2004 from the period when Mr. Browning's testimony was prepared and finalized, as well as forecasted 2004 natural gas wellhead prices as reported by the Energy Information Administration (EIA), a statistical agency of the U.S. Department of Energy, in its monthly EIA Short-Term Energy Outlook.

The overall conclusion from reviewing Schedule 2 is that various analysts, both private and governmental, as well as industry traders are now considering forecasted

2004 prices to be significantly lower than forecast in the time period when Aquila developed its gas prices.

Q WHAT SPECIFIC PRICES DID AQUILA USE IN PREPARING ITS RATE FILING?

A Mr. Browning indicates at Page 12 of his testimony that a 12-month price of $5.14/MMBtu was used. (This price does not reflect MPS' proposed $0.50 per Mcf increment described by Company Witness Keith G. Stamm in conjunction with Company's proposed gas commodity cost recovery mechanism.)

Mr. Browning does not provide a month-by-month breakdown of the natural gas prices used by Aquila. However, as shown in Aquila workpapers, the average natural gas costs used in the electric model are listed in Table 1 below.

Table 1

Gas Costs Used in Aquila's Modeling

Months	**Average Cost ($/MMBtu)**
Jan	5.259
Feb	5.776
Mar	6.226
Apr	5.686
May	5.353
Jun	5.178
Jul	5.147
Aug	5.111
Sept	5.051
Oct	5.035
Nov	5.407
Dec	5.516
Average	5.336

Q WHAT PERIOD OF NATURAL GAS PRICES DO YOU RECOMMEND BE USED FOR ESTABLISHING RATES IN THIS CASE?

A As Mr. Browning has discussed, 2002 prices may not be representative of gas costs going forward. However, neither are the 2003 prices cited by Mr. Browning, which were a combination of two months' historical prices and an average of analysts' projections for other months in 2003. As I indicated, 2003 actual prices contain some very dramatic and unexpected price swings and ought not to form the basis for rates going forward.

I recommend use of expected prices in the 2004 through 2006 time period. This is the time period during which rates established in this case are likely to be in effect. In addition, the use of a three-year average price smoothes out year-to-year anomalies in prices. Also, this period corresponds to the cost recovery proposal of my colleague, Maurice Brubaker.

I do not recommend use of the analyst sources cited by Mr. Browning as they generally do not provide detailed forecasts of prices in the 2004 through 2006 time period and the information has been made public only sporadically in recent months.

Q ARE THERE ANY PUBLICLY AVAILABLE SOURCES OF INFORMATION RELATED TO GAS PRICES IN THE 2004-2006 PERIOD?

A Yes. NYMEX futures prices are established every trading day for the 2004 through 2006 period. Schedule 3 attached to this testimony shows NYMEX Henry Hub futures contracts for the calendar months in 2004, 2005 and 2006. To smooth out day-to-day pricing volatility, I have averaged closing prices over a recent 10-day period on the schedule.

As you can see on Line 13 at Column 4 of Schedule 3, the average NYMEX price over this period is $4.71/MMBtu.

Q ARE THERE ANY OTHER DATA SOURCES THAT THE COMMISSION SHOULD CONSIDER IN ESTABLISHING THE PROPER GAS PRICE FORECAST?

A Yes. The Energy Information Administration provides a report each month called the "Short-Term Energy Outlook" which, among other things, provides a forecast of natural gas wellhead prices. The most recent report at the time of my testimony preparation, indicates an average projected 2004 price of $3.99 per Mcf.[3]

Unfortunately, EIA does not provide 2005 and 2006 forecasts as part of this monthly report. However, as suggested by the NYMEX futures prices shown on Schedule 3, and indicated by other information we have obtained from EIA, it appears that EIA projects 2005 and 2006 prices to be somewhat lower than 2004. Consequently, use of the 2004 average price could be considered a conservatively high assumption for the average of 2004, 2005 and 2006 EIA projected prices.

Q WHAT PRICE SHOULD AQUILA USE IN ITS MODELING FOR REVENUE REQUIREMENTS IN THIS CASE?

A Based on the NYMEX futures contracts discussed above as well as the EIA forecasted gas prices, it appears that natural gas prices in the 2004 through 2006 period should average in the range of $3.99 to $4.71, with a midpoint of $4.35/MMBtu. I recommend that this midpoint price be used to establish rates in this case, based on the information available at this time. This represents a $0.79/MMBtu reduction from the $5.14/MMBtu figure cited by Mr. Browning.

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[3] A graph of EIA's forecasts of 2004 projected average price during 2003 is shown as Schedule 4. While the EIA forecast was higher earlier in the year, especially during the time when Mr. Browning's testimony was finalized, it has been relatively stable around the $4.00 per Mcf level for the last several months.

Q **WHAT IS THE REVENUE REQUIREMENT IMPACT ASSOCIATED WITH A $0.79 REDUCTION IN THE NATURAL GAS PRICE FORECAST?**

A I cannot state with certainty what the overall revenue requirement impact would be, because this would require additional production cost model runs that only Aquila can perform. SIEUA recently issued a data request to Aquila asking it to rerun its production cost model assuming the recommended $4.35/MMBtu natural gas price. However, Aquila has not had time to perform this run and respond to the data request. I recommend that Aquila provide this information in its rebuttal testimony in this case. In the event Aquila fails to do so, I will seek to provide information from the response for the record.

To illustrate the potential magnitude of this adjustment, I have utilized the information provided by Aquila in its Adjustment Nos. FPP-40[4], which provide the revenue impacts associated with a $0.50 per Mcf increase in natural gas costs associated with its proposed gas commodity cost recovery mechanism, which is described in the direct testimony of Aquila Witness Keith G. Stamm. Table 2, below, shows the amount of the FPP-40 adjustments on the various Aquila revenue requirements as well as the estimated gas cost reductions, based on scaled up values to reflect a $0.79/MMBtu change.

[4] There are separate FPP-40 adjustments for L&P – electric, L&P – steam and MPS.

Table 2

Estimated Impact of Natural Gas Price Decrease

Utility	FPP-40 Adjustment (at $.050 per Mcf)	Estimated Gas Cost Reduction (at $0.79/MMBtu)
MPS – Electric	$4,569,000	$7,219,000
L&P – Electric	461,000	728,000
L&P – Steam	452,000	714,000

Merger Savings

Q HAVE YOU REVIEWED AQUILA'S FILING AS IT RELATES TO MERGER SAVINGS?

A Yes, I have. Aquila claims that the merger of the L&P and MPS Systems created a significant amount of savings in operations and maintenance (O&M) expense, as well as savings associated with the joint dispatch of electric units. As discussed in the direct testimony of Aquila Witness Vern Siemek, Aquila proposes to reflect only 50% of the alleged merger savings in rates, while keeping the other 50% for itself, with 25% earmarked for application to the low-income assistance program.

Aquila indicated that the test-year cost of service already reflects the synergistic benefits of the merger and that in order to apply the sharing mechanism proposed, adjustments should be made to the test-year cost of service essentially to add back one-half of the estimated savings. In order to calculate the estimated savings, it is necessary to try to construct a hypothetical situation in which the merger did not occur, estimate what costs would have been in that circumstance, and compare that to the actual book costs.

Q **WHAT ADJUSTMENTS HAS AQUILA PROPOSED?**

A While the merger synergy impacts a number of the book accounts, as well as a number of the adjustments, the major adjustments related to merger synergies are No. CS-17 as discussed by Aquila Witness Beverly Agut and Nos. FPP-30 which are discussed by Aquila Witness Lisa Starkebaum. The amounts of the proposed adjustments are shown below.

Table 3
Major Adjustments Related to Merger Synergies

Adjustment Number	Amount
CS-17 MPS O&M Merger Synergies	$1,868,000
FPP-30 MPS Synergies From Joint Dispatch	$3,894,000
FPP-30 L&P Synergies From Joint Dispatch	$1,338,000

Q **DO YOU AGREE WITH THE COMPANY'S PROPOSED ADJUSTMENTS RELATED TO MERGER SAVINGS?**

A No. Sharing the merger savings in the manner proposed by Aquila creates an incentive to overstate claimed merger savings, since one-half of the alleged savings are to be added to the revenue requirement. In addition, the notion of setting rates based on "would-have-been" situations absent the merger requires a high degree of speculation and is difficult to analyze and impossible to verify. The third reason, which is related to the second reason, is because I did not find the adjustments to be adequately supported in the Company's primary filing and workpapers. Finally, the fourth reason is because regulatory lag provides an ongoing opportunity for Aquila shareholders to benefit from the merger savings.

Q **DO YOU DISPUTE THE NOTION THAT THE MERGER CAN CREATE SYNERGISTIC SAVINGS FOR MPS, L&P OR BOTH?**

A No. Conceptually, it makes sense that there could be savings in certain O&M costs and savings through the joint dispatch of the system's generating units. Indeed, these types of savings were cited by the Company in seeking approval of the merger in the first place, in Case No. EM-2000-292. On Aquila Witness Siemek's Schedule VJS-1 in that case, he estimated savings associated with dispatching/generation at $5,216,000 per year, on average, during Years 1 through 5 and $6,777,000 per year, on average, during Years 7 through 10. For general and administrative savings, he estimated an average of $5,688,000 per year during Years 1 through 5 and $6,497,000 per year during Years 6 through 10. Other O&M items, which included distribution savings, transmission savings and conversion to UtiliCorp benefits, combined to average $5,372,000 per year during Years 1 through 5 and $7,303,000 during Years 6 through 10.

Against these projected savings, Aquila estimated capital costs and allocated support function costs to L&P. The total synergies, net of costs to achieve and allocated costs, were $4,255,000 per year during Years 1 through 5 and $7,681,000 per year during Years 6 through 10.

These figures show not only the scale of expected cost savings that would be achieved through the merger, but also indicate that Aquila expected the cost savings to grow over time.

Q **WHY IS THAT LAST POINT RELEVANT?**

A Aquila's expectation that merger synergy benefits would grow over time is important in the context of regulatory lag. Mr. Siemek indicates at page 3 of his direct testimony in this case that Aquila has not enjoyed the full benefits of the synergies so far, as its other, unrelated, costs have increased. Consequently, he does not feel that regulatory lag has provided adequate benefit of the merger to Aquila shareholders up to this point. While I do not agree with his point of view on this issue (as any revenue deficiencies likely would have been even greater absent the merger benefits), I think the fact that merger savings are expected to increase improves the likelihood that regulatory lag would provide benefit to shareholders over time, as merger synergies grow after rates are set.

Q **IN THE MERGER CASE, CASE NO. EM-2000-292, DID THE MISSOURI PUBLIC SERVICE COMMISSION INDICATE HOW MERGER BENEFITS ARE TO BE TREATED IN SUBSEQUENT RATE CASES?**

A No, not based on my review.

Q **WHY DO YOU BELIEVE IT WOULD BE BAD POLICY TO TRY TO ESTIMATE MERGER SAVINGS IN THIS CASE AND EMPLOY THE SHARING MECHANISM PROPOSED BY AQUILA?**

A With the proposed sharing mechanism, Aquila would enjoy the benefits of both the add-back of 50% of the merger savings, as well as increased savings achieved in years after rates are set, through regulatory lag. In addition are the reasons I mentioned earlier, that the sharing mechanism provides an incentive to overstate claimed merger savings and that the savings are difficult to quantify and impossible to verify.

Q HOW DO THE ALLEGED MERGER SAVINGS IN THIS CASE COMPARE TO THE ESTIMATED MERGER SAVINGS OFFERED IN THE MERGER CASE, CASE NO. EM-2000-292?

A In the merger case, on the Annual Detail page of Schedule VJS-1, Mr. Siemek estimated that dispatching/generating savings for the year 2002 would be approximately $4,358,000. In contrast, the total synergies shown on the Adjustment No. FPP-30 workpapers associated with MPS and L&P in this case are $7,830,000 and $2,676,000, respectively, which total well over $10 million, or more than <u>double</u> previously estimated savings for 2002. This discrepancy introduces doubt as to the veracity of the original estimate, the current estimate or both.

Q ARE THE SAVINGS WELL DOCUMENTED IN THE CURRENT MPS FILING?

A No. Aquila's testimony lays out general principles and shows the amount of the adjustments. Some detail is provided in the workpapers associated with the filing but it is impossible to independently verify the dispatch savings without use of Aquila's production cost model. Even more importantly, there is no way to validate the reasonableness of the input assumptions. The workpapers that were provided appear only to show a summary page of the results of various production cost simulation scenarios and how the results of the production cost model were used for calculating the adjustment.

Similarly, the support for the O&M merger synergies associated with Adjustment No. CS-17 consists of many pages of account information, utility allocation factors, jurisdictional adjustments, etc. Again, it is difficult to verify the figures.

As illustrated by these workpapers, the myriad of computations associated with seeking to quantify after-the-fact merger synergistic savings is not only complex, but also is susceptible to overstatement and errors.

Q WHAT IS YOUR OVERALL RECOMMENDATION ON THIS ISSUE?

A Given the complexity of trying to calculate savings from "would-have-been" scenarios, the impossibility for outside parties to objectively verify the savings, the negative incentives such a sharing program creates and the opportunity for benefit of Aquila's shareholder from merger savings through normal regulatory lag, the Company's adjustments related to sharing of merger savings are untenable and I recommend against their adoption. The better approach is to set the rates based on the actual cost of service and allow regulatory lag to provide the mechanism by which shareholders benefit from increasing merger synergies. As noted by Mr. Siemek, this is the approach advocated by Staff on this issue in the past.

The main adjustments related to merger savings are Nos. FPP-30 and CS-17, with amounts of these adjustments listed earlier in my testimony.

Q DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A Yes, it does.

Qualifications of Robert R. Stephens

Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A Robert R. Stephens. My business mailing address is P. O. Box 412000, 1215 Fern Ridge Parkway, Suite 208, St. Louis, Missouri 63141-2000.

Q PLEASE STATE YOUR OCCUPATION.

A I am a consultant in the field of public utility regulation with the firm of Brubaker & Associates, Inc. (BAI), energy, economic and regulatory consultants.

Q PLEASE STATE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

A I graduated from Southern Illinois University at Carbondale in 1984 with a Bachelor of Science degree in Engineering. During college, I was employed by Central Illinois Public Service Company in the Gas Department. Upon graduation, I accepted a position as a Mechanical Engineer at the Illinois Department of Energy and Natural Resources. In the summer of 1986, I accepted a position as Energy Planner with City Water, Light and Power, a municipal electric and water utility in Springfield, Illinois. My duties centered on integrated resource planning and the design and administration of load management programs.

From July 1989 to June 1994, I was employed as a Senior Economic Analyst in the Planning and Operations Department of the Staff of the Illinois Commerce Commission. In this position, I reviewed utility filings and prepared various reports and testimony for use by the Commission. From June 1994 to August 1997, I worked directly with a Commissioner as an Executive Assistant. In this role, I provided technical and policy analyses on a broad spectrum of issues related to the electric, gas, telecommunications and water utility industries.

In May 1996, I graduated from the University of Illinois at Springfield with a Master of Business Administration degree.

In August 1997, I joined Brubaker & Associates, Inc. as a Consultant. Since that time, I have participated in the analysis of various utility rate and restructuring matters in several states and the evaluation of power supply proposals for clients. I am currently an Associate in the firm.

The firm of Brubaker & Associates, Inc. provides consulting services in the field of energy procurement and public utility regulation to many clients, including large industrial and institutional customers, some utilities, and on occasion, state regulatory agencies. More specifically, we provide analysis of energy procurement options based on consideration of prices and reliability as related to the needs of the client; prepare rate, feasibility, economic and cost of service studies relating to energy and utility services; prepare depreciation and feasibility studies relating to utility service; assist in contract negotiations for utility services; and provide technical support to legislative activities.

In addition to our main office in St. Louis, the firm also has branch offices in Denver, Colorado; Chicago, Illinois; Asheville, North Carolina; Corpus Christi, Texas; and Plano, Texas.

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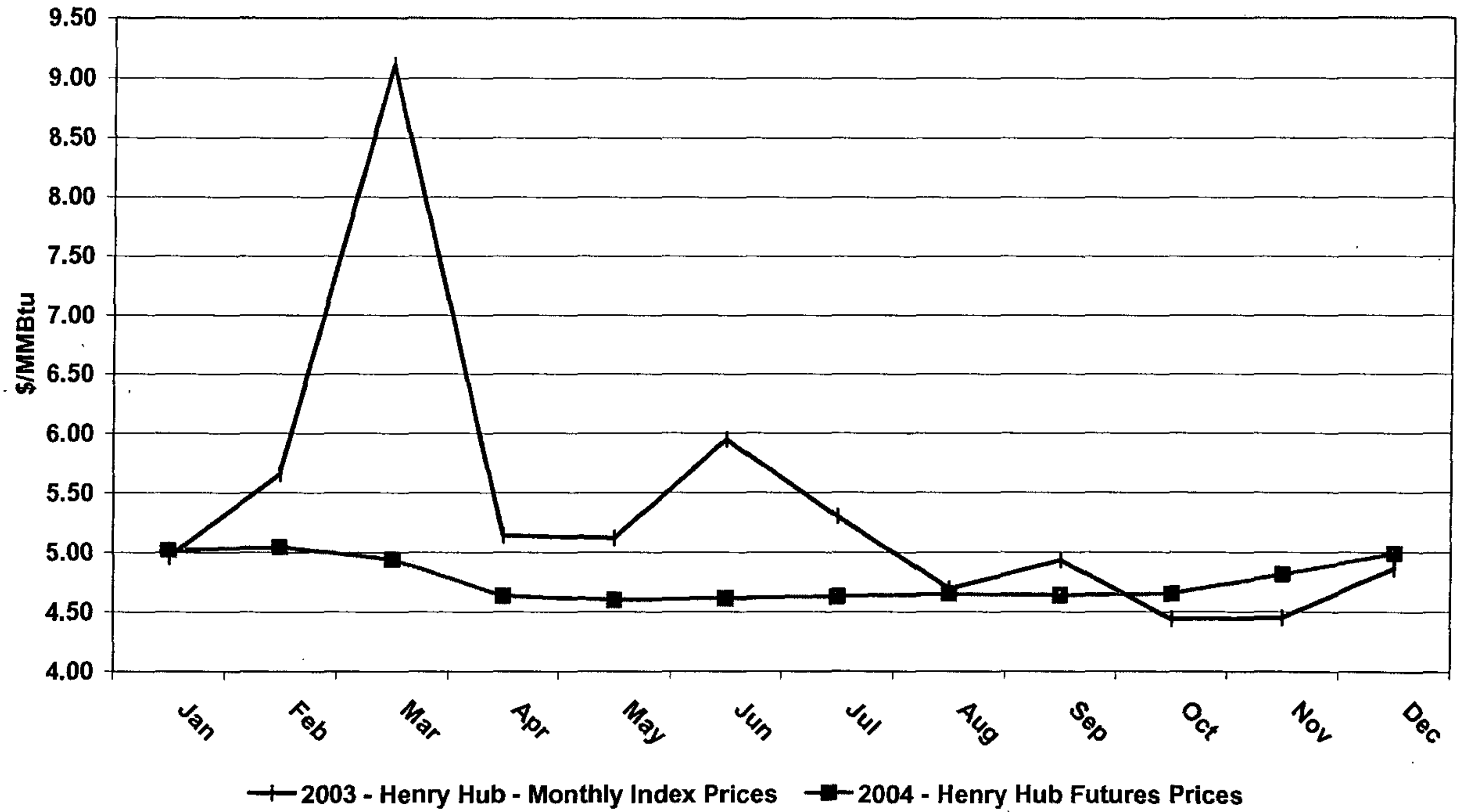
Schedule 1

COMPARISON OF HISTORICAL 2003 HENRY HUB MONTHLY INDEX PRICES TO RECENT 2004 HENRY HUB FUTURES PRICES



Sources: 2003 prices: Platts Monthly Gas Daily Prices Guide
2004 prices: NYMEX.com "Daily Natural Gas Market Data" - Ten Day Average (11/13/03 - 11/26/03)

Comparison of Expected 2004 Annual Natural Gas Prices by Various Sources From the Time of Aquila Direct Testimony and More Recently

($/MMBtu or $/Mcf)

Line	Information Source	Forecast "Then" (1)	Forecast "Now" (2)
	Sources Quoted by Mr. Browning:		
1	Cambridge Energy Research Associates	$5.35	$4.62
2		3/20/03	9/16/03
3	Energy and Environmental Analysis[1]	$6.50	$5.00
4		3/13/03	9/11/03
5	Jefferies & Co.[2]	$4.50	$4.00-$6.00
6		3/11/03	10/23/03
7	Fitch Ratings	$3.50	$4.00
8		3/5/03	Oct-03
9	Lehman Brothers	$4.50	$3.75
10		2/27/03	10/15/03
	Other Industry Sources:		
11	Energy Information Administration	$4.99	$3.99
12		Jun-03	Nov-03
13	NYMEX Futures	$5.44	$4.77
14		Jun-03	11/13/03-11/26/03

[1] Quoted but not used in Browning estimate.

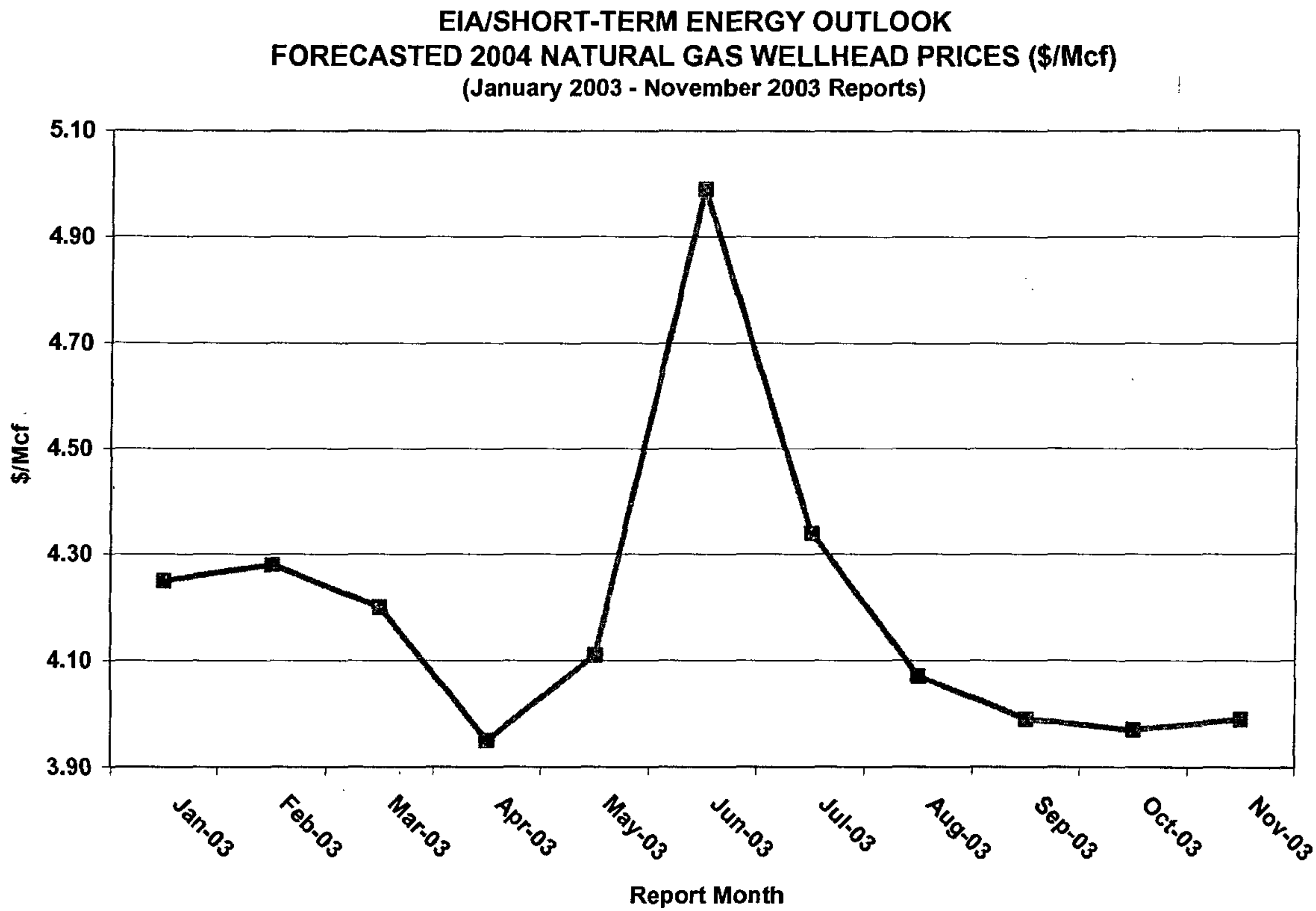
[2] "Now" forecast is for next 3-4 years (starting in 2004)

NYMEX HENRY HUB FUTURES CONTRACTS
TEN DAY AVERAGE OF RECENT CLOSING PRICES ($/MMBtu)
(11/13/03 - 11/26/03)

Line	Month	2004 (1)	2005 (2)	2006 (3)	Average (4)
1	Jan	5.016	5.100	5.004	5.040
2	Feb	5.044	5.062	4.974	5.027
3	Mar	4.940	4.911	4.834	4.895
4	Apr	4.634	4.556	4.558	4.583
5	May	4.600	4.478	4.478	4.519
6	Jun	4.613	4.495	4.474	4.527
7	Jul	4.630	4.518	4.483	4.543
8	Aug	4.649	4.538	4.496	4.561
9	Sep	4.638	4.526	4.493	4.552
10	Oct	4.651	4.551	4.532	4.578
11	Nov	4.813	4.723	4.721	4.752
12	Dec	4.987	4.903	4.889	4.926
13	Average	4.768	4.697	4.661	4.709

Source: NYMEX.com "Daily Natural Gas Market Data"

Schedule 4



Source: Monthly EIA Short-Term Energy Outlook