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Service Commission

Exhibit No.
Witness: Maurice Brubaker
Type of Exhibit: Direct Testimony
Sponsoring Party: Federal Executive Agencies, SIEUA and St. Joseph Missouri Industrial Users
Subjects: Revenue Requirements: Treatment of Fuel Costs and Steam Rates
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 Schedule of

Maurice Brubaker

On behalf of

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

December 9, 2003
Projects 8051, 8052, 8053

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

Exhibit No. 27
Case No(s). ER-2004-0034
Date 2/23/04 Rptr KF

BEFORE THE

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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
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Affidavit of Maurice Brubaker

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

Maurice Brubaker, being first duly sworn, on his oath states:

1. My name is Maurice Brubaker. 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 schedule 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 schedule are true and correct and show the matters and things they purport to show.

Maurice Brubaker

Maurice Brubaker

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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Direct Testimony of Maurice Brubaker

Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A Maurice Brubaker. My business address is 1215 Fern Ridge Parkway, Suite 208, St. Louis, Missouri 63141-2000.

Q WHAT IS YOUR OCCUPATION?

A I am a consultant in the field of public utility regulation and president of Brubaker & Associates, Inc. (BAI), 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.

Q WHAT IS THE SUBJECT OF YOUR TESTIMONY?

A I will address the subject of the appropriate treatment of fuel cost recoveries for both steam sales and electric sales. In so doing I will comment on the proposals made by Aquila Networks - L&P (L&P) for both its electric and its steam systems, and the proposals made by Aquila Networks – MPS (MPS) with respect to its electric system. After analyzing the proposal put forward by the Utilities, I will present an alternate proposal.

I also will comment on the revenue requirement determination and cost recovery for steam sales by L&P.

The fact that other issues are not addressed in this testimony should not be construed as an endorsement of the positions advanced by the Utilities. 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.

FUEL AND PURCHASED POWER COST RECOVERY

Q WHAT PROPOSAL HAVE THE UTILITIES MADE WITH RESPECT TO RECOVERY OF FUEL AND PURCHASED POWER?

A They propose to use estimated prices of all inputs, including the same gas price that was estimated when the original filing was made. (In other words, the estimate of gas prices has not been modified to reflect an update, although many other costs have been updated.) In addition, Utilities proposed that the estimated prices of natural gas be increased by 50¢ per Mcf in order to provide them with some margin above the base forecast of natural gas prices. Also, the Utilities propose that they would refund to customers 100% of the difference between the final gas prices actually experienced and the gas prices used to establish rates.

Q DO YOU BELIEVE IT IS APPROPRIATE TO PROVIDE FOR THE RECOVERY OF GAS COSTS IN THIS FASHION?

A Not entirely. I would note, however, that gas prices are currently at fairly high levels (compared to more normal historic levels), that gas prices have become increasingly volatile, and that a similar (but not identical) mechanism was employed in 2001 in Docket No. ER-2001-299 involving the rates of Empire District Electric Company.

Q IS THERE A RISK TO CUSTOMERS IF RATES ARE SET USING CURRENT GAS PRICES, WITHOUT ANY POSSIBILITY OF SUBSEQUENT REFUND IF GAS PRICES DROP?

A Yes, there is a risk. The risk is that gas prices may come down from the levels used to establish rates. If that occurs, then consumers will have paid more for gas than the utility actually experienced to purchase the gas. Given the current level of gas prices, and the future outlook, as more fully discussed by my colleague, Mr. Stephens, I believe there is a greater likelihood that gas prices will decrease than that they will increase. Of course, no one knows for certain. But, this is the very reason that some mechanism similar to that proposed by the Utilities makes sense in the current environment.

Q IF SOMETHING SIMILAR TO WHAT HAS BEEN PROPOSED IS ADOPTED, SHOULD THE MECHANISM ADDRESS ONLY GAS COSTS, OR ONLY FUEL COSTS?

A No. The Utilities can serve their electric needs by a combination of various fuels, including oil, gas and coal, as well as power purchased under contract from other utilities or purchased on more of a spot basis. To the extent that surplus coal-fired power exists in the market, it is possible that the Utilities will be able to adjust their mix of inputs to reduce the percentage of natural gas below that which is currently estimated.

With respect to the steam system, all of the same considerations apply, except that purchased power would not be used to supply steam service.

Q THAT BEING THE CASE, WHAT DO YOU RECOMMEND?

A I recommend that if a mechanism is established that the parameter used be the net variable cost of fuel and purchased power. In other words, for the electric systems, the base number would be the total expected delivered cost of all fuels, plus the variable component of purchased power, divided by the expected kilowatthour sales.

For the steam system, the base number would be the estimated cost of fuel to produce steam for sale, divided by the total heat content (million Btu) of steam sales as currently estimated.

Q SHOULD THE GAS PRICES CURRENTLY PROPOSED BY THE UTILITIES BE USED?

A No. 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 and variable purchased power for the electric systems, and the base value of fuel for steam sales. I have no objection to doing a second calculation with a gas price assumption 50¢ per Mcf higher than the base number. This higher number would form the basis for the rates actually charged to customers.

Q HOW WOULD REFUNDS BE DETERMINED AND MADE IN SUBSEQUENT PERIODS?

A I recommend that whatever mechanism is established be put in place for a three-year period. At or near the end of the three-year period the utilities would be required to present calculations of their average per kilowatthour cost of fuel and variable purchased power and the average cost per million Btu of fuel used for steam sales. To the extent that these numbers are less than what was included in the rates, customers would be owed a refund.

Q SHOULD THE CUSTOMERS RECEIVE A REFUND OF 100% OF ANY AMOUNT THAT IS SUBSEQUENTLY DETERMINED TO HAVE BEEN OVERCOLLECTED?

A With respect to the 50¢ per Mcf added-on gas price, I believe that a 100% refund should be required. After all, the purpose of this margin is primarily to provide the Utilities with some additional comfort and to reduce their risk.

With respect to amounts below the base costs (absent the 50¢ per Mcf add-on) consumers, in theory, also would be entitled to a 100% refund. However, I think there is merit in providing the Utilities with some additional incentive to minimize the costs of fuel and purchased power. They will experience a greater incentive if they are not compelled to refund 100% of the difference between estimated and actual costs. Thus, in order to provide an incentive for the Utilities, and to allow them to participate in the benefits of lower fuel prices, it would be my recommendation that the Commission consider allowing the Utilities to keep a modest portion of any amounts below this base number. For example, allowing the Utilities to retain 10% of this amount would provide them with an incentive and allow them to participate in the benefits if they are successful in procuring fuel and purchased power at lower costs.

Q HAVE YOU DEVELOPED AN ILLUSTRATIVE EXAMPLE OF HOW YOUR PROPOSAL WOULD WORK?

A Yes. Please refer to Schedule 1, which is attached to this testimony. In this schedule I have developed an example showing the calculation of the costs included in the test period, and illustrated how a different level of cost experienced during a three-year reconciliation period would be compared to the costs included in rates and how refunds to customers would be calculated.

Q ARE THESE NUMBERS INTENDED TO REPRESENT A RECOMMENDATION WITH RESPECT TO THE SPECIFIC VALUES?

A No. However, the numbers that I have employed for this illustration are somewhat similar in magnitude to those proposed by Aquila for the MPS system.

Q PLEASE DESCRIBE YOUR ILLUSTRATIVE EXAMPLE.

A Column 1 shows the test period fuel and variable purchased power cost data as assumed to be approved by the Commission in its final order. Line 1 shows base fuel and variable purchased power costs of $100,000,000. This would be the cost of fuel as delivered to each generating station, and the variable component of purchased power cost. Line 2 shows retail sales, and Line 3 shows the cost per kilowatthour using these base costs and retail sales.

Line 4 shows an additional assumed premium for gas costs above the forecast level in this case, in the amount of $5,000,000. The cost per kilowatthour sold impact of the premium is shown on Line 5, and Line 6 shows the total cost included in rates of 2.1¢ per kilowatthour.

Q WHAT IS SHOWN IN COLUMN 2?

A Column 2 shows the total statistics for the assumed three-year reconciliation period. Line 7 shows the total fuel and variable purchased power costs actually incurred during the three-year period. Line 8 shows total retail sales, and Line 9 shows that the average cost per kilowatthour was 1.8¢, which is less than the base fuel and purchased power cost included in the tariffs.

Q WHAT IS THE FIRST STEP IN THE REFUND CALCULATION?

A The first step in the refund calculation is to determine the total dollars of fuel and variable purchased power costs collected by the utility during the three-year reconciliation period. This is shown on Lines 10 through 12. Line 10 is the base cost recovered which is determined by multiplying the base cost per kilowatthour included in rates, of 2.0¢ per kilowatthour in this example, times total retail sales. The amount related to the premium is determined in a similar manner, multiplying the total retail sales times the incremental cost recovery attributable to the inclusion of the assumed gas price premium. The total is shown on Line 12. In this illustration, $336 million was collected by the utility during the three-year reconciliation period.

The next step is shown on Lines 13 through 15. This is the determination of the dollar amount to be refunded. Since the total variable fuel and purchased power cost was less than the base amount, 100% of the premium is refunded. In addition, 90% of the remaining difference between fuel costs incurred and the base fuel costs is refunded.

Line 16 shows the amount retained by the utility, which equals the actual costs incurred minus the refund obligation. In this case, $44.8 million would be refunded to customers. As shown on Line 17, shareholders would benefit by retaining $3.2 million.

Q **HOW WOULD THE REFUND BE ACCOMPLISHED?**

A The refund would be implemented as a percentage applied to the base tariffs of all customers whose rates recovered fuel costs during this period of time. The calculation is shown on Line 19, and in this illustration equals 4.595% of the base tariff revenues collected. Having calculated the refund percentage, each customer whose base revenues during the applicable period of time included fuel cost recovery would receive a refund equal to 4.595% of the amount paid for electric service during the refund period.

Q **AS A PART OF THIS RECONCILIATION AND REFUND PROCEEDING, SHOULD A PRUDENCY REVIEW BE REQUIRED?**

A Yes. The Utilities should be required to file a complete and detailed explanation of their acquisition practices for both fuel and purchased power during the period for which reconciliation is provided. This evidence should be subject to testing in a regular evidentiary proceeding. Any costs that are found to have been imprudently incurred should be refunded to customers as a part of this process.

Q **SHOULD CARRYING CHARGES BE ACCRUED ON THE OVER/UNDER COLLECTIONS DURING THIS PERIOD?**

A Yes. Carrying charges, at a rate to be established by the Commission, should be accrued each month.

Q **IF THE FILING BY THE UTILITY INDICATES THAT A REFUND IS APPROPRIATE, SHOULD THE REFUND BE DELAYED UNTIL THE FULL PRUDENCY REVIEW IS CONDUCTED?**

A No. If the utility believes that customers are due a refund, it should be required to include a refund plan in its filing. As soon as the Commission has reviewed and approved the plan, these refunds should be made. To the extent that the prudency review reveals the need to refund any additional amounts, those amounts can be refunded after the Commission has processed the prudency review and reached a determination. Customers should not be required to wait until the prudency review is completed to receive refunds that the utility has agreed are appropriate.

STEAM SYSTEM REVENUE REQUIREMENTS

Q **HAVE YOU REVIEWED THE PRESENTATIONS AND ADJUSTMENTS CONCERNING THE RATES FOR INDUSTRIAL STEAM SERVICE?**

A Yes. The key elements of L&P's study and revenue requirement calculations are contained in the testimony of Stephanie A. Murphy, and in the "SAM" series of schedules.

Q **HOW IS INDUSTRIAL STEAM SERVICE PROVIDED?**

A Industrial steam service is provided to six customers from the boilers at the Lake Road generating station. In preparing the revenue requirement analysis, L&P identifies certain investments and expenses as being specific to the provision of industrial steam service, but a significant amount of additional cost is allocated to industrial steam service to recognize the joint use of the boilers and other components of the Lake Road generating station to produce steam not only for direct sales to industrial customers, but also to be used in the production of electricity. This is known as a fully allocated embedded cost of service study.

Q **ON THIS FULLY ALLOCATED BASIS, BEFORE THE PRO FORMA ADJUSTMENTS THAT L&P HAS PROPOSED, WHAT RATE OF RETURN WAS EARNED ON STEAM SERVICE?**

A This can be determined by dividing the net operating income before adjustments shown on Schedule SAM-3 by the claimed rate base shown on Schedule SAM-2.

Q **WHAT IS THE RESULT OF THIS CALCULATION?**

A According to Schedule SAM-3, the net operating income on an actual, or before adjustment basis, for 2002 from steam sales to industrial customers was $838,028. According to SAM-2, the claimed total rate base is $6,473,435. Dividing the operating income by the rate base indicates that during 2002 L&P actually earned 12.9% on the investment it has attributed to steam sales. This is, of course, significantly higher than even the overall rate of return (mid-point of 9.85%) which L&P has claimed as its cost of capital.

Q **GIVEN THE HIGH RATE OF RETURN ACTUALLY EARNED ON STEAM SERVICE DURING THE TEST YEAR, WHAT ACCOUNTS FOR THE SIGNIFICANT INCREASE IN REVENUE REQUIREMENTS THAT L&P CLAIMS IN CONNECTION WITH STEAM SERVICE?**

A The two largest factors contributing to this result are the pro forma increase in fuel costs, and the proposed increase in depreciation expense.

Q PLEASE EXPLAIN THE INCREASE IN FUEL COST AND ITS IMPACT.

A L&P states that it actually incurred fuel costs of $3,828,000 for the production of steam for sales to industrial customers during the test year. However, it proposes an upward adjustment to fuel cost recovery from steam customers that is significant. In FPP-10, L&P proposes an increase of $2,417,714 for its estimated fuel cost associated with steam service, and in FPP-40 it proposes an additional $379,291 of increase based on annualizing gas prices at 50¢ above the forecasted level of gas costs. In total, the adjustment is $2,797,000, which is more than a 70% increase in the cost of fuel associated with the production of industrial steam service.

Q WHY DO THE HIGHER GAS PRICES HAVE SUCH A LARGE IMPACT ON THE COST OF PROVIDING STEAM SERVICE?

A Steam is produced at Lake Road in boilers that burn coal and natural gas. At least according to the modeling performed by L&P, a significant percentage of the fuel used in these boilers for the production of steam service is natural gas. Company workpapers indicate that over 60% of the fuel cost for the test year would be natural gas. This is a much higher percentage than for the electric operations, where gas is less than 15% for L&P electric, and 2% for MPS (46% if purchases from AIRES are included).

In addition, fuel cost itself is a much larger percentage of the cost of producing and delivering steam than is the case for the electric systems. This stems in large part from the fact that only a minimal amount of distribution system is utilized to deliver the steam, because all steam customers are situated geographically in very close proximity to the Lake Road generating station. Also, it is essentially only the boiler and appurtenant equipment at the generating station that is necessary to produce steam service. The electric generators are not required to produce and deliver steam service, so none of those costs are included.

In the Company's pro forma calculations, fuel cost represents over 60% of the total claimed embedded cost revenue requirement. In the case of electric service, the fuel and variable purchased power costs constitute about 25% of the total claimed electric revenue requirement for L&P and for MPS. Obviously, increases in the cost of fuel, and especially natural gas, have a disproportionately large impact on steam customers.

Q **YOU ALSO MENTIONED AN INCREASE IN DEPRECIATION EXPENSE AS BEING A MAJOR CONTRIBUTOR TO THE SIGNIFICANT INCREASE IN THE INDICATED REVENUE DEFICIENCY. HOW DOES THIS IMPACT THE CLAIMED REVENUE DEFICIENCY?**

A As shown on Schedule SAM-3, L&P proposes to increase the depreciation expense applicable to industrial steam sales from $294,000 to $636,000, an increase of $342,000, or 116%.

Q **DO YOU HAVE ANY CONCERNS ABOUT THE DEVELOPMENT OF THE DEPRECIATION RATES THAT WERE UTILIZED TO DEVELOP THE PROPOSED LEVEL OF DEPRECIATION EXPENSE?**

A Yes. First, the composite depreciation rate was calculated for the industrial steam operations using a technique of "harmonic weighting" of the expected life span of each vintage addition. This represents a departure from past practices and I believe this has not been utilized by the MPSC in establishing depreciation rates for other electric utilities.

Second, the depreciation rates are developed based on a retirement date for the Lake Road facility of 2012 (see Statement F of Schedule REW-2). The selection of this retirement date is not adequately supported in the filing. In addition, it is unclear how the retirement date was specifically developed.

Third, to develop the net salvage associated with the industrial steam production, the estimated cost of $50 per kW in 2001 dollars was utilized to develop the eventual dismantling cost. The cost was escalated to 2012 to determine the final estimated cost to dismantle, and this escalated cost was used to develop the proposed depreciation rates. Not only is the 2001 estimated cost not supported, but Aquila Networks is asking today's ratepayers to fund future estimates of escalation.

Therefore, the MPSC should reject Aquila Networks' proposed depreciation rates as they are not adequately supported and may be inconsistent with past MPSC practices.

Q ON PAGES 16 AND 17 OF HER DIRECT TESTIMONY, WITNESS MURPHY DISCUSSES THE CALCULATION OF THE REVENUE DEFICIENCY FOR STEAM CUSTOMERS AND THEN INDICATES THAT IT IS APPROPRIATE FOR $1.8 MILLION OF THE ALLOCATED COSTS TO BE SUPPORTED BY THE ELECTRIC SYSTEM, RATHER THAN BY STEAM CUSTOMERS. WHAT IS THE BASIS FOR THIS PROPOSAL?

A As outlined on Page 17 of her testimony, adoption of all of the Company's claims in this matter would produce an increase in excess of 40% for steam service. She also notes that such a large increase could cause steam customers to exit the system and move operations. She also notes, correctly, that the result of such actions would be that the electric customers would then pick up 100% of the fixed costs that are currently being covered by the steam customers – to the detriment of the electric customers.

Q IS THE INDICATED REVENUE REQUIREMENT AND THE REVENUE DEFICIENCY DRIVEN BY THE METHOD OF COST ALLOCATION?

A Most definitely. Not only do the directly assigned costs affect the steam revenue requirement, but so do the allocations of joint expenses and jointly used investment.

Moreover, the decision to look at the steam service on a fully allocated basis also produces a result that is somewhat misleading as to the benefit of the steam sales, as indicated by Ms. Murphy in her testimony.

Q PLEASE ELABORATE.

A Steam service supplied to industrial customers is an adjunct or ancillary service to the operation of the Lake Road generating station for the production of electricity. If the steam service were not provided, there would be no difference in the investment, and no difference in many of the expenses. Only relatively small amounts of incremental expenses, in addition to fuel cost, are directly caused by the production of steam in addition to the production of electricity.

For example, the Company's claimed proposed fuel cost element of the steam revenue requirement is approximately $6,625,000. At the current pro forma level of revenues of $6,977,000, steam customers are covering the cost of fuel required to generate power, on a pro forma basis, and contributing over $350,000 to the recovery of other costs. With L&P's proposed increase to steam customers of $1,354,000, this amount would increase to over $1.7 million. Thus, even the current level of revenues is sufficient to cover the incremental cost of steam production for steam sales and provide some contribution margin to the benefit of electric customers.

Q **HOW SHOULD THE REVENUE REQUIREMENT BE ESTABLISHED FOR STEAM SERVICE IN THIS CASE?**

A First, all of the adjustments that the Commission finds appropriate as a result of the testimony by all parties should be made in determining the final calculated revenue requirement for steam service. The recommendations that I have made with regard to fuel cost recovery should also be incorporated in that determination. Finally, the revenue transfer adjustment that Ms. Murphy makes should also be incorporated.

Q **DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

A Yes.

Qualifications of Maurice Brubaker

Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A Maurice Brubaker. 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 and President of the firm of Brubaker & Associates, Inc., energy, economic and regulatory consultants.

Q PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

A I was graduated from the University of Missouri in 1965, with a Bachelor's Degree in Electrical Engineering. Subsequent to graduation I was employed by the Utilities Section of the Engineering and Technology Division of Esso Research and Engineering Corporation of Morristown, New Jersey, a subsidiary of Standard Oil of New Jersey.

In the Fall of 1965, I enrolled in the Graduate School of Business at Washington University in St. Louis, Missouri. I was graduated in June of 1967 with the Degree of Master of Business Administration. My major field was finance.

From March of 1966 until March of 1970, I was employed by Emerson Electric Company in St. Louis. During this time I pursued the Degree of Master of Science in Engineering at Washington University, which I received in June, 1970.

In March of 1970, I joined the firm of Drazen Associates, Inc., of St. Louis, Missouri. Since that time I have been engaged in the preparation of numerous studies relating to electric, gas, telephone and water utilities. These studies have included analyses of the cost to serve various types of customers, the design of rates for utility services, cost forecasts, cogeneration rates and determinations of rate base and operating income. I have also addressed utility resource planning principles and plans, reviewed capacity additions to determine whether or not they were used and useful, addressed demand-side management issues independently and as part of least cost planning, and have reviewed utility determinations of the need for capacity additions and/or purchased power to determine the consistency of such plans with least cost planning principles and the prudency of the actions undertaken.

I have testified before the Federal Energy Regulatory Commission (FERC), various courts and legislatures, and the state regulatory commissions of Alabama, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Guam, Hawaii, Illinois, Indiana, Iowa, Kentucky, Louisiana, Michigan, Missouri, Nevada, New Jersey, New Mexico, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, South Dakota, Texas, Utah, Virginia, West Virginia, Wisconsin and Wyoming.

The firm of Drazen-Brubaker & Associates, Inc. was incorporated in 1972 and assumed the utility rate and economic consulting activities of Drazen Associates, Inc., founded in 1937. In April, 1995 the firm of Brubaker & Associates, Inc. was formed. It includes most of the former DBA principals and staff. Our staff includes consultants with backgrounds in accounting, engineering, economics, mathematics, computer science and business.

During the past ten years, Brubaker & Associates, Inc. and its predecessor firm has participated in over 700 major utility rate and other cases and statewide generic investigations before utility regulatory commissions in 40 states, involving electric, gas, water, and steam rates and other issues. Cases in which the firm has been involved have included more than 80 of the 100 largest electric utilities and over 30 gas distribution companies and pipelines.

An increasing portion of the firm's activities is concentrated in the areas of competitive procurement. While the firm has always assisted its clients in negotiating contracts for utility services in the regulated environment, increasingly there are opportunities for certain customers to acquire power on a competitive basis from a supplier other than its traditional electric utility. The firm assists clients in identifying and evaluating purchased power options, conducts RFPs and negotiates with suppliers for the acquisition and delivery of supplies. We have prepared option studies and/or conducted RFPs for competitive acquisition of power supply for industrial and other end-use customers in more than a dozen states, involving total needs in excess of 2,500 megawatts.

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

MEB:cs/8051/41486

Aquila Networks

Illustration of Fuel and Variable Purchased Power Cost Recovery and Reconciliation

Line	Description	Test Period (1)	Three-Year Reconciliation Period (2)
1	Base Fuel and Variable Purchased Power Cost	$100,000,000	
2	Sales, MWh	5,000,000	
3	Cost/kWh	2.0¢	
4	Additional Premium for Gas Costs	$5,000,000	
5	Cost/kWh of Premium	0.1¢	
6	Total Cost/kWh in Rates	2.1¢	
	Refund Calculation		
7	Total Fuel and Variable Purchased Power Costs		$288,000,000
8	Retail Sales		16,000,000
9	Cost/kWh		1.8¢
	Cost in Rates		
10	Base(a)		$320,000,000
11	Premium(b)		16,000,000
12	Total		$336,000,000
	Refund Amount		
13	100% of Premium		$ 16,000,000
14	90% of Remainder		28,800,000
15	Total		$ 44,800,000
16	Retained by Utility(c)		$291,200,000
17	Shareholder Benefit(d)		$ 3,200,000
	Refund Mechanism		
18	Total Tariff Revenue		$975,000,000
19	Refund Percentage(e)		4.595%

(a) Line 3, Column 1 times Line 8, Column 2
(b) Line 5, Column 1 times Line 8, Column 2
(c) Line 12, Column 2 minus Line 15, Column 2
(d) Line 16, Column 2, minus Line 7, Column 2
(e) Line 15, Column 2 divided by Line 18, Column 2