EXHIBIT

Exhibit No.: _____

Issue(s): Cost of Service Study/ Miscellaneous Fees

Witness/Type of Exhibit: Busch/Direct

Sponsoring Party: Public Counsel

Case No.: GR-2004-0072

DIRECT TESTIMONY

OF

JAMES A. BUSCH

Submitted on Behalf of the Office of the Public Counsel

AQUILA, INC.
D/B/A AQUILA NETWORKS—MPS
AND AQUILA NETWORKS—L&P

CASE NO. GR-2004-0072

January 13, 2004

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the matter of the Application by Aquila, Inc. d/b/a Aquila Networks – MPS and Aquila Networks L&P, Natural Gas General Rate Increase.	)))	Case No. GR-2004-0072

AFFIDAVIT OF JAMES A. BUSCH

STATE OF MISSOURI)
) ss
COUNTY OF COLE)

James A. Busch, of lawful age and being first duly sworn, deposes and states:

1. My name is James A. Busch. I am the Public Utility Economist for the Office of the Public Counsel.

2. Attached hereto and made a part hereof for all purposes is my direct testimony consisting of pages 1 through 20 and Schedules JAB-1 – JAB-3.

3. I hereby swear and affirm that my statements contained in the attached testimony are true and correct to the best of my knowledge and belief.

James A. Busch

Subscribed and sworn to me this 13th day of January 2004.

Bonnie S. Howard, Notary Public

My commission expires May 3, 2005.

DIRECT TESTIMONY

OF

JAMES A. BUSCH

CASE NO. GR-2004-0072

AQUILA, INC

d/b/a

AQUILA NETWORKS – MPS

AQUIILA NETWORKS – L & P

Q. Please state your name and business address.

A. My name is James A. Busch and my business address is P. O. Box 2230, Jefferson City, MO 65102.

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

A. I am a Public Utility Economist with the Missouri Office of the Public Counsel (Public Counsel).

Q. Please describe your educational and professional background.

A. In June 1993, I received a Bachelor of Science degree in Economics from Southern Illinois University at Edwardsville (SIUE), Edwardsville, Illinois. In May 1995, I received a Master of Science degree in Economics, also from SIUE. Prior to joining Public Counsel, I worked just over two years with the Missouri Public Service Commission as a Regulatory Economist in the Procurement Analysis Department and worked one year with the Missouri Department of Economic Development as a Research Analyst. I accepted my current position

with Public Counsel in September 1999. Further, I also am a member of the adjunct faculty of Columbia College, Jefferson City Campus, where I teach economics at both the graduate and undergraduate level.

Q. Have you previously testified before this Commission?

A. Yes. Attached is Schedule JAB-1, which is a list of the cases in which I have filed testimony before this Commission.

Q. What is the purpose of your testimony in Case No. GR-2004-0072?

A. The purpose of my testimony is to present Public Counsel's class cost of service (CCOS) study in this proceeding. I will then present Public Counsel's recommended customer charge. Further, I will also address certain Miscellaneous Service Fees that Aquila is proposing to change in this case. Public Counsel witness Barbara Meisenheimer will provide Public Counsel's rate design recommendation. Also, Ms. Meisenheimer will provide the theoretical background for my use of an economies of scale factor in the development of the mains allocator.

Q. How is your testimony organized?

Q. My testimony is organized in the following manner. First, I will discuss the CCOS study. Second, I will discuss the allocators that I developed to utilize in assigning the appropriate costs to the correct rate classes in the COS. Third, I will give Public Counsel's customer charge recommendation. Finally, I will discuss OPC's miscellaneous service fee recommendation.

CLASS COST OF SERVICE STUDY

Q. What is the primary purpose of a class cost of service study?

A. The primary purpose of a class COS study is to provide an estimate of the cost of providing service to each of the customer classes, and is to be used as a guide for setting rates to the extent allowed by other rate design objectives such as affordability.

Q. What are the primary steps in a class COS study?

A. There are three primary steps in performing a class cost of service study. These steps include the functionalization, classification, and allocation of costs.

Q. Please explain what it means to functionalize costs.

A. Functionalization of costs means categorizing accounts according to the type of function with which an account is associated. Accounts are categorized as being related to Production, Transmission, Distribution, Customer Accounts, Administrative and General, etc., depending on the natural gas local distribution company (LDC) functions that they are a part.

Q. How are costs classified?

A. Once costs have been functionalized, they are classified as being customer (related to the number of customers), demand (related to the portion of peak usage), or "other" costs, depending on the classification with which they are associated. For example, customer records and collection expense, meter plant, and meter reading expense are considered customer-related, since company expenditures in these areas are related to the number of customers that it serves. These expenses, although dependent to some extent on a customer's size, will be incurred for each customer whether or not the customer uses any natural gas so it would not be reasonable to classify them as being commodity-related.

Q. What happens after costs are functionalized and classified?

A. Allocation factors are then developed to distribute a reasonable share of jurisdictional costs to each customer class. Allocation factors are based on ratios that reflect the proportion of total units (total number of customers, total annual throughput, etc.) attributable to a certain customer class. Applying these ratios to the appropriate cost categories produces an estimated cost for which each class is responsible.

Q. Briefly describe Aquila Inc.'s Missouri operations.

A. Aquila Inc. operates in Missouri through two operating divisions, Aquila Networks – MPS and Aquila Networks L & P.

Q. Please describe Aquila Networks – MPS.

A. Aquila Networks – MPS is divide into three systems, Northern, Southern and Eastern. The Northern system includes towns such as Chillicothe, Salisbury, Brookfield, and Brunswick. The Southern system includes towns such as Lexington, Marshall, Sedalia, and Nevada. The Eastern system includes Rolla, Owensville, and Salem.

Q. Pleas describe Aquila Networks – L & P.

A. Aquila Networks – L & P is the former St. Joseph Light and Power district. It serves customers in extreme northwestern Missouri in such towns as Fairfax, Maryville, Rockport, and Skidmore.

Q. How many studies are you presenting in this proceeding?

A. I am presenting two studies. The first study is for Aquila Networks – MPS (MPS). This study incorporates Aquila's Northern and Southern systems. The

second study is for Aquila Networks – L & P (L&P). However, the methodology and allocation methods were identical for each study, except for the meters, services, and regulators allocators, which I describe below. For a detailed explanation of Public Counsel's rate recommendation for Aquila Networks – MPS Eastern System, please see the direct testimony of Public Counsel witness Barbara Meisenheimer.

Q. Did you perform a total MPS specific CCOS study?

A. Yes.

Q. Did you perform an MPS Eastern System CCOS study?

A. Yes. The results of all CCOS studies are attached to my testimony as Schedule JAB - 2.

Q. Which customer classes have you used in the MPS CCOS study?

A. I have utilized the following customer classes: Residential, General Service, Small Transportation, and Large Transportation. These classes are similar to the classes utilized by the Company.

Q. What customer classes have you used in the L&P CCOS study?

A. I have utilized the following customer classes: Residential, General Service, Interruptible, and Large Volume. These classes are similar to the classes utilized by the Staff.

Q. Why did you utilize the classes as developed by the Staff?

A. Since I am relying on Staff data for my CCOS study, I felt it was appropriate to utilize the same customer classifications Staff utilized.

Q. On what data is your class COS study based?

A. I utilized the Missouri Public Service Commission Staff (Staff) Accounting Schedules that Staff filed on January 6, 2004 in its non-rate design testimony in this proceeding for the source of most of the financial data that I utilized in my class COS study. I have also used certain customer numbers, volumes, and class specific revenues developed by Staff. I also used data received from Aquila in response to Public Counsel Data Requests. My use of this data is not an endorsement of either Staff's or Aquila's methods. I used this information because it was readily available and contains the level of detail necessary to perform a class COS study.

❑ Rate Base accounts

Q. Please discuss the way you allocated the various Gas Plant Accounts.

A. Transmission Plant accounts were allocated based on the transmission allocator that I developed.

Q. Please continue.

A. Accounts in Distribution Plant were allocated in various ways. Accounts 374 through 376 (Land and Land Rights, Structures and Improvements, and Mains) were allocated using the mains allocator that I developed. All of the costs associated with these accounts (374 through 376) are mains related and allocated on that basis. Accounts 378 and 379 (Measuring & Regulating Station Equipment) are related to regulating system gas flow and are allocated based on annual margin sales. Accounts 380, 381, and 383 (Services, Meters, and Regulators) were allocated based on the services, meters, and regulators allocators, respectively. Account 385 (Industrial Measuring and Regulating

Station Equipment) was allocated based on large customer bills since this account involves costs used for large customers.

Q. How did you allocate general plant?

A. General plant accounts were allocated on the basis of each class' proportion of total non-general net plant.

Q. With regard to the services, meters, and regulators allocators, have you accepted the Company's allocators for the L&P system?

A. Yes. Upon reviewing the workpapers provided to OPC, I have determined that the allocators used by Aquila for purposes of this proceeding are fair and reasonable for allocating the costs of meters, services, and regulators to each class. Therefore, I adopted Aquila's allocators for those accounts.

Q. How did you develop allocators for meters, services, and regulators for Aquila's MPS division?

A. Allocators for these three accounts were developed by determining an appropriate weight for each customer class times the number of customers in each class. For example, the weight for meters was determined by finding the cost of a meter for the residential class. Once that figure was determined, I then calculated the cost of meters for the other classes. The weight assigned to each class was the amount by which a different class' cost was greater than the residential cost. This weight was then multiplied by the number of customers in each class. These numbers were then summed to determine the appropriate allocator.

❑ Mains Allocator

Q. Please describe the mains allocator methodology you have utilized in this proceeding.

A. The methodology I utilized is called the modified RSUM (relative system utilization method). It is based on a method originally developed by Charles Laderoute in a paper presented at the NARUC Biennial Regulatory Information Conference in 1988 and later modified in a paper presented by former OPC economist Philip Thompson at the 1992 NARUC Biennial Regulatory Information Conference. The modified RSUM allocation takes into account economies of scale and the fact that all users benefit from the system and should share in the cost. The basic idea is to identify the portion of the capacity that corresponds to each month's demand, and then allocate the costs that correspond to that capacity to the customers who use gas in that month that is their portion of the system is used. For the theoretical discussion of the economies of scale concept, please see the direct testimony of Public Counsel witness Barbara Meisenheimer.

Q. Please describe the steps involved in developing the mains allocator.

A. My description will include information for the MPS northern system; however, the methodology is the same for all systems. First I sorted the peak demands Staff provided by total class demands in descending order. This step is shown on page 1 in Schedule JAB-3.

Next, as shown on page 2 of Schedule JAB-3, I converted the peak day demands into percentages of the maximum monthly peak day demand (see column (3)). For example, the month with the greatest peak day demand, February, would be 100%. The next highest month, January, would be 99.80% (618,938/620,161). Then, I took the percentages of peak day and converted them to percentages of total capacity costs by raising the capacity percentages to an *r*th power (see column (4)). The *r*th power that I utilized is 0.3. This is the same power originally developed by Public Counsel witness Barry Hall in his testimony in Case No. GR-97-393, a Union Electric Company general rate case.

Q. Please explain the relationship between columns (3) and (4).

A. Column (4) associates the cost with the need for incremental capacity. For example, column (3) shows that nearly 26% of the available capacity is needed for base gas during July. This 26% of base capacity represents roughly 67% of the total costs of the system. Likewise, just over 54% of the capacity requirements, as shown in the month of October, require almost 83% of the total costs. The remaining 46% of capacity accounts for just under than 17% of the costs. Thus the winter system peaks should only be associated with approximately 17% of the total cost.

Q. Please continue your step-by-step explanation.

A. Column (5), on page 2 of Schedule JAB-3, shows the incremental cost for successive months from column (4). For example, July's percentage difference is 66.61% since it is the minimum peak month. August adds 0.63% in incremental cost, which is calculated as the difference between 67.24% and 66.61%.

Next, column (6) depicts the number of months over which each cost increment should be spread. For example, the peak month only occurs once, in February, and should be assigned only in February. The minimum peak capacity occurs in each month, and should be allocated then 12 times. Column (7) then divides each month's additional cost increment by the amount of times the corresponding capacity is realized. The February peak additional cost increment from column (5) is 0.06%. It happens only one month out of the year. Thus 0.06% is divided by one. A peak level equal to July's peak occurs in every month. Its cost increment is thus spread to each month by dividing the 66.61% by 12.

Finally column (8) shows the sum of all cost increments that occur for a particular month. For example, February is the sum of all monthly cost increments since it is the month in which the overall system peak occurs. July, on the other hand, exhibits only the base increment.

Q. Please continue.

A. Page 3 of JAB-3 contains two tables. The first table, which provides the class peak day demands by month was previously provided on page 1 of JAB-3. The second table converts those class peaks to percentages of the sum of the peak day demands for all the classes for each month. For example, in February, the residential class peak is 46.54% of the overall system peak. However, in July, the residential class peak is only 12.07% of the system peak in that month.

Q. Please explain page 4 of JAB-3.

A. The top table shows the product of each class' percent of monthly peaks and the total cost increments that were developed on page 2, column (8) of JAB-3. This result is the monthly share allocated to each class. For example, the residential class' share of the January peak is 46.54%. January's incremental cost is 12.10%. Multiplying these two percentages together is 5.63%. This represents the residential class' share of January's incremental cost. Thus each customer class' share of the usage in each month is weighted by the relative system utilization for that month. Finally, these monthly class responsibilities are summed to arrive at the appropriate allocator for transmission and distribution mains for each class.

❑ **Expenses allocators**

Q. Within Operation and Maintenance expense, how did you allocate gas distribution expense?

A. I used the "expenses follow plant principle" for allocating most of the accounts in this category. For example, the allocator that I applied to Mains plant (account 376) was also applied to Mains maintenance (account 887).

Q. Please explain the "expenses follow plant principle."

A. "Expenses follow plant" basically means that for any expense related to a particular rate base component, the expense should be allocated in the same manner as the rate base account.

Q. How did you allocate customer accounts expense?

A. Expenses within customer accounts were allocated based on allocators developed to address customer accounts expense and meter reading expense. Uncollectible expense was allocated based on the cost of service for each customer class.

Q. How were Customer Service and Sales Promotion expense allocated?

A. Customer Service accounts were allocated on the basis of unweighted customer numbers and Sales Promotion expenses was allocated based on my COS allocator. I chose to use my COS allocator for Sales Promotion expenses since these cost are incurred for the purpose of lowering the average margin cost (by increasing sales) of providing service to customers in each of the customer classes. The amount by which customers in each class benefit from a lower average cost will be proportional to the share of overall costs of service per customer that they are responsible for incurring.

Q. How did you allocate Administrative and General (A & G) expenses?

A. I divide these expenses into two categories. Injuries and Damages and Employee Pensions and Benefits (accounts 925 and 926) are both payroll related expenses so they were allocated on the basis of the amount of payroll expense that I had previously allocated to each class. All remaining A & G accounts represent expenditures that support the Company's overall operation, so I have allocated them on the basis of each class's share of total Company COS.

Q. How did you allocate taxes?

A. Taxes were allocated on the basis of the amount of class cost of service to each class.

Q. How did you allocate state and federal income taxes?

A. These taxes are allocated on the basis of rate base since a utility company's income taxes are a function of the size of its rate base, and thus a class should

contribute revenues for income taxes in accordance with the proportion of rate base that is necessary to serve it.

❑ Class Cost of Service results

Q. What are the results of your study for Aquila's MPS division?

A. The resulting revenue neutral class shifts indicated by my study are summarized in Table 1.

TABLE 1

	Residential	General Service	Sm. Transport	Lg. Transport
Class Shifts	$ (2,039,847)	$ (203,054)	$ 9,485	$ 2,233,417
% Change	-19.44%	-4.98%	90.7%	140.3%

This table shows that on a revenue neutral basis, the residential class would receive a decrease of 19.44%, and the small transportation class would receive a 90.7% increase. Schedule JAB-2 summarizes Public Counsel's overall cost of service study. Public Counsel witness Barbara Meisenheimer will take the results of my study and will provide Public Counsel's rate design recommendation.

Q. What are the results of your study for Aquila's L&P division?

A. The resulting revenue neutral class shifts indicated by my study are summarized in Table 2.

TABLE 2

	Residential	General Service	Interruptible	Lg Volume
Class Shifts	$ (56,650)	$ 65,178	$ 150,145	$ (158,673)
% Change	-4.98%	12.13%	395.24%	-66.43%

This table shows that on a revenue neutral basis, the residential class would receive a decrease of 4.98%, and the large volume class would receive a 66.43% decrease. Schedule JAB-2 summarizes Public Counsel's overall cost of service study. Public Counsel witness Barbara Meisenheimer will take the results of my study and will provide Public Counsel's rate design recommendation.

Q. Did you perform CCOS studies where you removed the economies of scale factor?

A. Yes I did. The results of these studies are presented here in Table 3.

TABLE 3

		Residential	General Service	Sm. Transport	Lg. Transport
		Economies of Scale			
MPS - NS	Revenue Neutral Shift	$ (2,039,847)	$ (203,054)	$ 9,485	$ 2,233,417
	Revenue %	-19.44%	-4.98%	90.70%	140.30%
MPS - E	Revenue Neutral Shift	$ (172,385)	$ (26,950)	$ 199,334	
	Revenue %	-19.67%	-7.10%	196.07%	
MPS - Tot	Revenue Neutral Shift	$ (2,189,956)	$ (248,105)	$ 11,163	$ 2,426,899
	Revenue %	-19.26%	-5.56%	106.75%	143.31%
		No Economies of Scale			
MPS - NS	Revenue Neutral Shift	$ (1,696,110)	$ (62,126)	$ 8,602	$ 1,749,635
	Revenue %	-16.17%	-1.52%	82.26%	109.91%
MPS - E	Revenue Neutral Shift	$ (147,659)	$ (16,339)	$ 163,998	
	Revenue %	-16.85%	-4.30%	161.31%	
MPS - Tot	Revenue Neutral Shift	$ (1,820,539)	$ (96,648)	$ 10,214	$ 1,906,973
	Revenue %	-16.01%	-2.17%	97.68%	112.60%

		Residential	General Service	Interruptible	Lg. Volume
		Economies of Scale			
L & P	Revenue Neutral Shift	$ (56,650)	$ 65,178	$ 150,145	$ (158,673)
	Revenue %	-4.98%	12.13%	395.24%	-66.43%
		No Economies of Scale			
L & P	Revenue Neutral Shift	$ (39,349)	$ 69,978	$ 131,304	$ (161,933)
	Revenue %	-3.46%	13.02%	345.65%	-67.80%

Q. What do these results indicate?

A. These results show, that on a revenue neutral basis, more costs will be allocated to the residential class when the economies of scale factor is removed. For example, in the MPS – Northern and Southern systems, the economies of scale factor

results in a revenue neutral decrease of $2,039,847 to the residential class. When the economies of scale factor is removed, the revenue neutral decrease to the residential class is only $1,696,110. Generally, more costs are allocated to the residential and general service class without the economies of scale factor, and fewer costs are allocated to the other classes.

CUSTOMER CHARGE RECOMMENDATION

Q. Do you have a recommendation for the appropriate customer charge for Aquila Networks – MPS and Aquila Networks – L & P?

A. Yes.

Q. What is the customer charge that you are recommending for the residential class on the MPS system?

A. I recommend that the customer charge for residential customers remain at $9.00.

Q. What is your customer charge recommendation for the general service class on the MPS system?

A. For the commercial class within the general service class, I recommend that the customer charge remain at $15.00. I have no recommendation for larger customers.

Q. What is your customer charge recommendation for residential consumers on the L & P system?

A. I recommend that the customer charge move to $6.00. This is an increase of 35 cents for consumers in the old Fairfax, Rock Port, and Tarkio area, and a 66-cent decrease for the rest of the L & P customers.

Q. What is your customer charge recommendation for the general service class on the L & P system?

A. I recommend for the commercial customers in the general service class that the customer charge move to $15 for all L & P areas. I do not have a recommendation for larger customers.

MISCELLANEOUS SERVICE FEES

Q. Has Aquila proposed any changes to miscellaneous service fees?

A. Yes. Aquila has proposed to change its service fee charges for the following services: connections, reconnections, excess flow valves, special meter reads, collection fees, charge for returned checks, and a change in the late payment fee.

Q. Are any of these new fees?

A. Yes. The connections fee, collection fee, and returned check fee are all new charges to Aquila customers.

Q. Does Public Counsel oppose the returned check fee?

A. No.

Q. Does Public Counsel oppose the increases to the after business hours connections fees, reconnections fees, or the excess flow valves fees?

A. No.

Q. Does Public Counsel oppose the collection fee?

A. No. Aquila has proposed to charge customers $30 when a customer pays their bill when the Company arrives to shut off service to that customer. Public Counsel agrees that the Company should be allowed to collect a fee for the time and expense it takes for a service technician to drive out to a customer's premises for

a disconnect that turns into a bill collection. However, Public Counsel disagrees with the $30 charge proposed by the Company.

Q. What should be the fee charged by the Company for collections done in this manner?

A. Similar to my recommendation in Aquila's electric case, I believe that the appropriate fee should be $20. Lowering the charge by $10 takes into account the time that would normally be needed to actual disconnect the customer.

Q. What is the revenue adjustment due to your lower fee?

A. Based off of Company's workpapers, a $10 lower fee, based on 462 potential returned checks would lower miscellaneous revenues by $4,620.

Q. Does Public Counsel oppose the special meter read charge?

A. Yes.

Q. Why?

A. The Company's proposed tariff for the special meter reading charges states as follows:

> If Company is unable to obtain an actual meter reading for three (3) consecutive billing periods, Company shall advise the customer by first class mail or personal delivery that the bills being rendered are estimated, that estimation may not reflect the actual usage, and that the customer may read and report gas usage to Company on a regular basis. The procedure by which this reading and reporting may be initiated shall be explained. Company shall attempt to secure an actual meter reading from customers reporting their own usage at least annually. These attempts shall include personal contact with the customer to advise the customer of the regular meter reading day. Company may offer appointments for meter readings on Saturday or prior to 9:00 p.m. on weekdays. Where special appointments are arranged for reading meters, Company may charge the customer for the excess cost of the meter reading out of

normal meter reading sequence or for meter readings outside of normal business hours.
(Proposed Tariff Sheet P.S.C. MO No. 1 Original Sheet No. 32)

Public Counsel does not believe that certain customers should have to pay extra to have their meters read. It is the Company's responsibility to read the meters. The Company receives due compensation through its normal rates for meter reading activities. An additional charge should not be imposed on certain customers because the Company is unable to obtain an actual meter reading for that customer.

Q. Is Public Counsel recommending that the Company eliminate the current special meter reading charge for MPS customers?

A. Not at this time.

Q. What is the revenue adjustment for Public Counsel's opposition to this increase?

A. Aquila had built in an additional revenue amount of $1,708 to account for an increase in this fee. This amount would have to be subtracted from miscellaneous revenues.

Q. Does Public Counsel agree with the new 1½ % late payment charge to L&P customers?

A. No. Public Counsel believes that the late payment charge should be no more than 1¼ % for both operating divisions of Aquila. Further, Public Counsel believes that a clarification needs to be made regarding the late payment charge language.

Q. What language clarification should be made to the late payment charge tariff language?

A. As proposed by the Company, a late payment charge will be added to any unpaid bill. An unpaid bill is defined as any billing amount that remains "owing" to the Company and not in dispute after the delinquent date stated on the bill. (Proposed Tariff Sheet P.S.C. MO No. 1, Original Sheet R-39) This should be clarified such that the late payment charge is not compounded on each subsequent bill.

Q. Please explain.

A. If a customer is late paying his bill, a late payment charge will be applied to the amount owed. As long as this amount remains outstanding, a late charge could continue to be added to any unpaid late charge amount. This, in effect, compounds the amount of the late payment charge. Public Counsel recommends that the language should be clarified so that it indicates the late payment charge will not be charged on any previous late payment charge amount.

Q. Does this conclude your direct testimony?

A. Yes it does.

Cases of Filed Testimony
James A. Busch

Company	Case No.
Union Electric Company	GR-97-393
Missouri Gas Energy	GR-98-140
Laclede Gas Company	GO-98-484
Laclede Gas Company	GR-98-374
St. Joseph Light & Power	GR-99-246
Laclede Gas Company	GT-99-303
Laclede Gas Company	GR-99-315
Fiber Four Corporation	TA-2000-23; et al.
Missouri American Water Company	WR-2000-281/SR-2000-282
Union Electric Company d/b/a AmerenUE	GR-2000-512
St. Louis County Water	WR-2000-844
Empire District Electric Company	ER-2001-299
Missouri Gas Energy	GR-2001-292
Laclede Gas Company	GT-2001-329
Laclede Gas Company	GO-2000-394
Laclede Gas Company	GR-2001-629
UtiliCorp United, Inc.	ER-2001-672
Union Electric Company d/b/a AmerenUE	EC-2002-1
Laclede Gas Company	GR-2002-356
Empire District Electric Company	ER-2002-424
Southern Union Company	GM-2003-0238

Aquila, Inc.	EF-2003-0465
Missouri American Water Company	WR-2003-0500
Union Electric Company d/b/a	GR-2003-0571

OFFICE OF THE PUBLIC COUNSEL

Class Cost of Service Study
Aquila Inc. d/b/a
Aquila Networks - MPS
Case No. GR-2004-0072

	TOTAL COST OF SERVICE SUMMARY		TOTAL	Residential	General Service Rate	Sm Transport	Lg Transport
1	O & M Expenses		9,170,231	4,998,164	2,274,626	9,776	1,887,665
2	Depreciation Expenses		2,406,392	1,247,537	571,169	3,065	584,621
3	Taxes		1,443,042	731,679	336,915	1,954	372,494
4							
5	TOTAL - Expenses and Taxes		13,019,665	6,977,380	3,182,710	14,795	2,844,780
6							
7	Current Revenue (non-gas)						
8	Rate Revenue (non-gas)		16,173,925	10,491,889	4,079,731	10,457	1,591,848
10	Other Revenue	20	322,113	166,992	76,455	410	78,256
11							
12	TOTAL - Current Revenues		16,496,038	10,658,881	4,156,186	10,867	1,670,104
13	Current Revenue Percentage		100.00%	64.61%	25.20%	0.07%	10.12%
14							
15	OPERATING INCOME		3,476,373	3,681,501	973,476	(3,928)	(1,174,676)
16							
17	TOTAL RATE BASE		54,171,947	26,120,966	12,189,118	82,805	15,779,058
18							
19	Implicit Rate of Return (ROR)		6.42%	14.09%	7.99%	-4.74%	-7.44%
20							
21	PSC Recommended Rate of Return		8.180%	8.180%	8.180%	8.180%	8.180%
22							
23	Recommended Operating Income With						
24	Equalized (OPC) Rates of Return		4,431,265	2,136,695	997,070	6,773	1,290,727
25							
26	Additional Current Income Tax	20	582,720	302,097	138,312	742	141,569
27	Class COS at OPC's Recommended Rate of Retur		18,033,650	9,416,172	4,318,092	22,311	4,277,076
28	Revenue Percentage		100.00%	52.21%	23.94%	0.12%	23.72%
29							
30	Allocation of Difference Between Current						
31	Revenue and Recommended	20	**1,537,612**	**797,138**	**364,960**	**1,959**	**373,555**
32							
33	Margin Revenue Required to Equalize						
34	Class ROR - Revenue Neutral		16,496,038	8,619,034	3,953,132	20,352	3,903,521
35	Revenue Percentage		100.00%	52.25%	23.96%	0.12%	23.66%

OFFICE OF THE PUBLIC COUNSEL
Class Cost of Service Study
Aquila Inc. d/b/a
Aquila Networks - MPS
Case No. GR-2004-0072

	TOTAL COST OF SERVICE SUMMARY		TOTAL	Residential	General Service Rate	Lg Volume
1	O & M Expenses		1,426,146	767,730	381,967	276,449
2	Depreciation Expenses		242,012	121,906	61,303	58,803
3	Taxes		319,372	151,176	76,991	91,205
4						
5	TOTAL - Expenses and Taxes		1,987,530	1,040,812	520,261	426,457
6						
7	Current Revenue (non-gas)					
8	Rate Revenue (non-gas)		1,357,641	876,245	379,730	101,666
10	Other Revenue	20	-	-	-	-
11						
12	TOTAL - Current Revenues		1,357,641	876,245	379,730	101,666
13	Current Revenue Percentage		100.00%	64.54%	27.97%	7.49%
14						
15	OPERATING INCOME		(629,889)	(164,567)	(140,531)	(324,791)
16						
17	TOTAL RATE BASE		4,801,081	2,177,974	1,119,250	1,503,857
18						
19	Implicit Rate of Return (ROR)		-13.12%	-7.56%	-12.56%	-21.60%
20						
21	PSC Recommended Rate of Return		8.180%	8.180%	8.180%	8.180%
22						
23	Recommended Operating Income With					
24	Equalized (OPC) Rates of Return		392,728	178,158	91,555	123,016
25						
26	Additional Current Income Tax	20	-	-	-	-
27	Class COS at OPC's Recommended Rate of Ret		2,380,258	1,218,970	611,816	549,473
28	Revenue Percentage		100.00%	51.21%	25.70%	23.08%
29						
30	Allocation of Difference Between Current					
31	Revenue and Recommended Re	20	**1,022,617**	**515,110**	**259,035**	**248,472**
32						
33	Margin Revenue Required to Equalize					
34	Class ROR - Revenue Neutral		1,357,641	703,860	352,780	301,000
35	Revenue Percentage		100.00%	51.84%	25.98%	22.17%

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Class Cost of Service Study
Aquila Inc. d/b/a
Aquila Networks - MPS
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	TOTAL COST OF SERVICE SUMMARY		TOTAL	Residential	General Service Rate	Sm Transport	Lg Transport
1	O & M Expenses		10,596,377	5,787,476	2,635,928	11,234	2,161,739
2	Depreciation Expenses		2,648,404	1,373,002	628,612	3,374	643,417
3	Taxes		1,762,414	890,232	410,329	2,410	459,444
4							
5	TOTAL - Expenses and Taxes		15,007,195	8,050,710	3,674,868	17,017	3,264,599
6							
7	Current Revenue (non-gas)						
8	Rate Revenue (non-gas)		17,531,566	11,368,134	4,459,461	10,457	1,693,514
10	Other Revenue	20	322,113	166,992	76,455	410	78,256
11							
12	TOTAL - Current Revenues		17,853,679	11,535,126	4,535,916	10,867	1,771,770
13	Current Revenue Percentage		100.00%	64.61%	25.41%	0.06%	9.92%
14							
15	OPERATING INCOME		2,846,484	3,484,416	861,048	(6,150)	(1,492,830)
16							
17	TOTAL RATE BASE		58,973,028	28,357,607	13,231,224	92,077	17,292,119
18							
19	Implicit Rate of Return (ROR)		4.83%	12.29%	6.51%	-6.68%	-8.63%
20							
21	PSC Recommended Rate of Return		8.180%	8.180%	8.180%	8.180%	8.180%
22							
23	Recommended Operating Income With						
24	Equalized (OPC) Rates of Return		4,823,994	2,319,652	1,082,314	7,532	1,414,495
25							
26	Additional Current Income Tax	20	582,720	302,097	138,312	742	141,569
27	Class COS at OPC's Recommended Rate of Retur		20,413,909	10,672,459	4,895,494	25,291	4,820,664
28	Revenue Percentage		100.00%	52.28%	23.98%	0.12%	23.61%
29							
30	Allocation of Difference Between Current						
31	Revenue and Recommended Re	20	**2,560,230**	**1,327,290**	**607,683**	**3,261**	**621,995**
32							
33	Margin Revenue Required to Equalize						
34	Class ROR - Revenue Neutral		17,853,679	9,345,169	4,287,811	22,030	4,198,669
35	Revenue Percentage		100.00%	52.34%	24.02%	0.12%	23.52%

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Class Cost of Service Study
Aquila Inc. d/b/a
Aquila Networks - L P
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	TOTAL COST OF SERVICE SUMMARY		TOTAL	Residential	General Service	Interruptible	Lg Volume
1	O & M Expenses		1,407,151	788,592	441,818	125,504	51,237
2	Depreciation Expenses		276,126	151,545	84,292	28,154	12,135
3	Taxes		145,482	79,677	44,260	15,019	6,525
4							
5	TOTAL - Expenses and Taxes		1,828,759	1,019,814	570,371	168,677	69,898
6							
7	Current Revenue (non-gas)						
8	Rate Revenue (non-gas)		1,952,526	1,138,259	537,436	37,988	238,843
10	Other Revenue	20	30,752	16,877	9,388	3,135	1,351
11							
12	TOTAL - Current Revenues		1,983,278	1,155,136	546,824	41,123	240,194
13	Current Revenue Percentage		100.00%	58.24%	27.57%	2.07%	12.11%
14							
15	OPERATING INCOME		154,519	135,323	(23,547)	(127,553)	170,297
16							
17	TOTAL RATE BASE		5,747,224	3,079,266	1,686,730	669,561	311,666
18							
19	Implicit Rate of Return (ROR)		2.69%	4.39%	-1.40%	-19.05%	54.64%
20							
21	PSC Recommended Rate of Return		8.180%	8.180%	8.180%	8.180%	8.180%
22							
23	Recommended Operating Income With						
24	Equalized (OPC) Rates of Return		470,123	251,884	137,975	54,770	25,494
25							
26	Additional Current Income Tax	20	101,335	55,615	30,934	10,332	4,453
27	Class COS at OPC's Recommended Rate of Retu		2,400,217	1,327,313	739,279	233,779	99,846
28	Revenue Percentage		100.00%	55.30%	30.80%	9.74%	4.16%
29							
30	Allocation of Difference Between Current						
31	Revenue and Recommended Revenu	20	**416,939**	**228,826**	**127,278**	**42,511**	**18,324**
32							
33	Margin Revenue Required to Equalize						
34	Class ROR - Revenue Neutral		1,983,278	1,098,486	612,001	191,268	81,522
35	Revenue Percentage		100.00%	55.39%	30.86%	9.64%	4.11%

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	Residential	General Service	Interruptible	Transportation	Total
Jan	301,886	147,625	373	169,053	618,938
Feb	288,629	140,704	435	190,393	620,161
Mar	212,338	106,092	273	144,538	463,241
Apr	154,258	77,414	279	164,414	396,364
May	88,304	45,928	279	140,493	275,004
Jun	37,008	22,235	288	135,500	195,031
Jul	19,326	14,173	290	126,299	160,087
Aug	21,434	15,273	277	128,190	165,174
Sep	88,578	45,514	346	130,467	264,905
Oct	135,483	66,646	0	137,612	339,740
Nov	208,026	100,006	570	146,500	455,101
Dec	297,079	142,301	405	154,865	594,650
Annual	1,852,349	923,910	3,815	1,768,323	1,473,155

	Residential	General Service	Interruptible	Transportation	Total
Feb	288,629	140,704	435	190,393	620,161
Jan	301,886	147,625	373	169,053	618,938
Dec	297,079	142,301	405	154,865	594,650
Mar	212,338	106,092	273	144,538	463,241
Nov	208,026	100,006	570	146,500	455,101
Apr	154,258	77,414	279	164,414	396,364
Oct	135,483	66,646	0	137,612	339,740
May	88,304	45,928	279	140,493	275,004
Sep	88,578	45,514	346	130,467	264,905
Jun	37,008	22,235	288	135,500	195,031
Aug	21,434	15,273	277	128,190	165,174
Jul	19,326	14,173	290	126,299	160,087

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total	Months % of Highest Peak	% of Cost to Satisfy	% Cost Increment in Month over Prev	No. Months w/increment	Increment/Months Occuring	Sum Cost Increments Occuring each Month
Feb	620,161	100.00%	100.00%	0.06%	1	0.06%	12.10%
Jan	618,938	99.80%	99.94%	1.19%	2	0.60%	12.04%
Dec	594,650	95.89%	98.75%	7.13%	3	2.38%	11.45%
Mar	463,241	74.70%	91.62%	0.49%	4	0.12%	9.07%
Nov	455,101	73.38%	91.13%	3.70%	5	0.74%	8.95%
Apr	396,364	63.91%	87.43%	3.95%	6	0.66%	8.21%
Oct	339,740	54.78%	83.48%	5.13%	7	0.73%	7.55%
May	275,004	44.34%	78.35%	0.87%	8	0.11%	6.82%
Sep	264,905	42.72%	77.48%	6.80%	9	0.76%	6.71%
Jun	195,031	31.45%	70.68%	3.44%	10	0.34%	5.95%
Aug	165,174	26.63%	67.24%	0.63%	11	0.06%	5.61%
Jul	160,087	25.81%	66.61%	66.61%	12	5.55%	5.55%

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	Residential	General Service	Interruptible	Transportation	Total
Feb	288,629	140,704	435	190,393	620,161
Jan	301,886	147,625	373	169,053	618,938
Dec	297,079	142,301	405	154,865	594,650
Mar	212,338	106,092	273	144,538	463,241
Nov	208,026	100,006	570	146,500	455,101
Apr	154,258	77,414	279	164,414	396,364
Oct	135,483	66,646	-	137,612	339,740
May	88,304	45,928	279	140,493	275,004
Sep	88,578	45,514	346	130,467	264,905
Jun	37,008	22,235	288	135,500	195,031
Aug	21,434	15,273	277	128,190	165,174
Jul	19,326	14,173	290	126,299	160,087

	Residential	General Service	Interruptible	Transportation	Total
Feb	46.54%	22.69%	0.07%	30.70%	100%
Jan	48.77%	23.85%	0.06%	27.31%	100%
Dec	49.96%	23.93%	0.07%	26.04%	100%
Mar	45.84%	22.90%	0.06%	31.20%	100%
Nov	45.71%	21.97%	0.13%	32.19%	100%
Apr	38.92%	19.53%	0.07%	41.48%	100%
Oct	39.88%	19.62%	0.00%	40.50%	100%
May	32.11%	16.70%	0.10%	51.09%	100%
Sep	33.44%	17.18%	0.13%	49.25%	100%
Jun	18.98%	11.40%	0.15%	69.48%	100%
Aug	12.98%	9.25%	0.17%	77.61%	100%
Jul	12.07%	8.85%	0.18%	78.89%	100%

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	Residential	General Service	Interruptible	Transportation	Total
Feb	5.63%	2.75%	0.01%	3.72%	12.10%
Jan	5.87%	2.87%	0.01%	3.29%	12.04%
Dec	5.72%	2.74%	0.01%	2.98%	11.45%
Mar	4.16%	2.08%	0.01%	2.83%	9.07%
Nov	4.09%	1.97%	0.01%	2.88%	8.95%
Apr	3.19%	1.60%	0.01%	3.40%	8.21%
Oct	3.01%	1.48%	0.00%	3.06%	7.55%
May	2.19%	1.14%	0.01%	3.48%	6.82%
Sep	2.24%	1.15%	0.01%	3.30%	6.71%
Jun	1.13%	0.68%	0.01%	4.14%	5.95%
Aug	0.73%	0.52%	0.01%	4.35%	5.61%
Jul	0.67%	0.49%	0.01%	4.38%	5.55%
Total	38.64%	19.46%	0.09%	41.81%	100.00%

	Residential	General Service	Interruptible	Transportation	Total
Allocators	**38.64%**	**19.46%**	**0.09%**	**41.81%**	100.00%