

Exhibit No:  
Issues: Tariff Changes  
Lead-lag study  
Other Revenue  
Witness: Robert J. Amdor  
Type of Exhibit: Direct Testimony  
Sponsoring Party: Aquila Networks  
Case No: GR-2003-\_\_\_\_\_  
Date to Be Filed: August 1, 2003

MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. \_\_\_\_\_

**FILED<sup>3</sup>**

JUN 21 2004

DIRECT TESTIMONY

Missouri Public  
Service Commission

OF

ROBERT J. AMDOR

ON BEHALF OF

AQUILA, INC.  
d/b/a  
AQUILA NETWORKS – MPS  
and  
AQUILA NETWORKS – L&P

Omaha, Nebraska  
August, 2003

Exhibit No. 3  
Date 3/31/04 Case No. GR 2004-0072  
Reporter KS

State of Nebraska )  
 ) ss  
County of Douglas )

AFFIDAVIT OF ROBERT J. AMDOR

Robert J. Amdor, being first duly sworn, deposes and says that he is the witness who sponsors the accompanying testimony and schedules entitled "Direct Testimony of Robert J. Amdor"; that said testimony was prepared by him and/or under his direction and supervision; that if inquiries were made as to the facts in said testimony and schedules, he would respond as therein set forth; and that the aforesaid testimony and schedules are true and correct to the best of his knowledge, information, and belief.

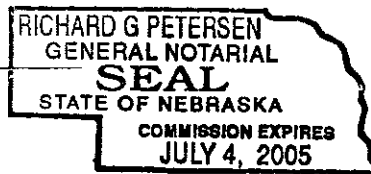
Robert J. Amdor

Subscribed and sworn to before me this 11<sup>th</sup> day of June, 2003.

Richard G. Petersen  
Notary Public

My Commission expires:

7/4/05



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1 **DIRECT TESTIMONY OF ROBERT J. AMDOR**

2  
3 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

4 A. Robert J. Amdor, 1815 Capitol Avenue, Omaha, NE 68102.

5 **Q. WHAT IS YOUR POSITION WITH AQUILA, INC. ("AQUILA" OR**  
6 **"COMPANY")?**

7 A. I am State Regulatory Manager for the Company's Iowa and Missouri gas  
8 operations.

9 **Q. PLEASE STATE YOUR EDUCATIONAL AND PROFESSIONAL**  
10 **BACKGROUND.**

11 A. I graduated from Iowa State University in 1979 with a bachelor's degree in  
12 Finance, then in 1982, I received a Juris Doctorate from Creighton University and  
13 was admitted to the Nebraska Bar Association in 1983. I worked in the legal and  
14 investment professions from 1983 to 1995.

15 **Q. HOW LONG HAVE YOU BEEN EMPLOYED WITH AQUILA?**

16 A. I have been employed with Aquila, formerly UtiliCorp United Inc., since July 1995.

17 **Q. WHAT POSITIONS HAVE YOU HELD WITHIN AQUILA?**

18 A. I was hired as a Senior Regulatory Analyst in July 1995 and was promoted to  
19 State Regulatory Manager in January 2001.

20 **Q. WHAT ARE YOUR RESPONSIBILITIES?**

21 A. I am currently responsible for all gas regulatory issues in the states of Iowa and  
22 Missouri, and report to the Director of Regulatory Services for Iowa, Missouri and  
23 Minnesota.

24 **Q. HAVE YOU PREVIOUSLY PRESENTED TESTIMONY IN ANY**  
25 **REGULATORY PROCEEDINGS?**

1 A. Yes. I have testified in rate case proceedings in Iowa, Kansas and Missouri.

2 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?**

3 A. I will describe the lead lag study used in calculating the cash working capital  
4 requirement and explain the proposed changes in the Company's tariffs.

5

6 **Lead/Lag Study**

7 **Q. WHAT IS A LEAD/LAG STUDY AND HOW IS IT USED?**

8 A. A lead/lag study is a method used to calculate the cash working capital  
9 requirements necessary to meet the ongoing operating expenses of a company.  
10 The results of a lead/lag study are one component used in calculating the  
11 company's rate base.

12 **Q. HAVE YOU MADE ANY SIGNIFICANT CHANGES TO THE LEAD/LAG STUDY  
13 METHODOLOGY USED BY THE COMPANY IN RATE CASES FILED IN  
14 OTHER STATES?**

15 A. No. The methods used in this lead/lag study are essentially the same as those  
16 that were filed by the company in rate cases since 1995.

17 **Q. HOW DOES A LEAD/LAG STUDY MEASURE THE AMOUNT OF CASH  
18 REQUIRED TO MEET OPERATING EXPENSE?**

19 A. A lead-lag study measures the difference between: (1) the time a service is  
20 rendered until the time revenues for that service are received (lag), and (2) the  
21 time that services, materials, etc. are obtained or used and the time expenditures  
22 for those services are made (lead). The applicable lead period for each major  
23 category of expense is compared to the revenue lag period. The difference  
24 between those periods, expressed in days, multiplied by the average daily  
25 operating expense provides the amount of cash working capital required.

1 Q. HOW WERE THE TEST YEAR AVERAGE LEAD DAYS FOR REVENUE AND  
2 LEAD DAYS FOR OPERATING EXPENSE DETERMINED?

3 A. The revenue days were determined by first compiling actual data for the test year  
4 2002 for each of the following categories:

- 5 • Metering Period
- 6 • Bill Processing Period
- 7 • Bill Collection Period

8 The expense lead days were determined by compiling actual data for the same  
9 time period for each of the following categories:

- 10 • Purchased Gas Expense
- 11 • Payroll Expense
- 12 • Other O&M Expense

13 Each of these components and the related methodology used in the lead/lag  
14 study are discussed in detail in the 2002 Lead-Lag Study for Missouri Gas  
15 operations, which is presented in Exhibit RJA-1 (\_\_\_\_), attached to my testimony.

16 Q. WHAT WERE THE RESULTS OF THE LEAD/LAG STUDY?

17 A. Please refer to Exhibit RJA-1 (\_\_\_\_), which shows the calculations for average  
18 lead days for Payroll (7.000 days), Purchased Gas Expense (59.913 days), and  
19 Other Operating and Maintenance Expense (29.956 days). The average lag days  
20 are also shown for Metering period (15.200 days), Bill Processing period (6.244  
21 days) and Bill Collection period (21.177 days).

22

23 Tariff Changes

24 Q. ARE YOU RESPONSIBLE FOR THE CHANGES TO THE COMPANY'S  
25 CURRENT TARIFF?

1 A Aquila's proposed tariff changes will be described by several witnesses. Mr.  
2 Thomas Sullivan will address rate-related changes. Mr. Joseph Bahr will address  
3 changes to the company's line extension policy. I will address the remaining  
4 changes.

5 **Q. PLEASE SUMMARIZE THE CHANGES SOUGHT BY THE COMPANY.**

6 A The company has filed tariffs reflecting the following general changes:

- 7 • Consolidation of the MPS and L&P tariffs into one set of rate schedules and  
8 rules.
- 9 • Changes in rates for the MPS and L&P operating systems. These changes  
10 establish uniform usage thresholds for rates and standard operational rules.  
11 Aquila's cost of service and rate design consultant, Mr. Thomas Sullivan, will  
12 address these issues.
- 13 • Changes to the Company's line extension rules, which will be addressed by  
14 Joe Bahr, the Director of Financial Management for the Company's Missouri  
15 gas divisions.
- 16 • Miscellaneous changes intended to update the tariff and other fees.

17 To simplify the review process, I have prepared Exhibit RJA-2 (\_\_\_\_), which  
18 summarizes the proposed changes and provides sheet references to the existing  
19 and proposed tariffs.

20 **Q. PLEASE DESCRIBE THE PROPOSED CHANGES.**

21 A The Company proposes to merge the MPS and L&P tariffs and to create one set  
22 of rules and regulations for all Aquila service territories, while retaining separate  
23 rate schedules for the MPS and L&P operating areas. These changes are  
24 summarized in Exhibit RJA-2 (\_\_\_\_), and the item numbers below refer to the left  
25 column of that exhibit.

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**Changes to All Sheets:**

1. All Sheets. The company has adopted the following names for its Missouri operations: Aquila, Inc. d/b/a Aquila Networks – MPS for the former Missouri Public Service operations and Aquila, Inc. d/b/a Aquila Networks-L&P for the former St. Joseph Light & Power operations. All tariff sheets now reflect these name changes. In addition, the existing tariffs use the full divisional names within the body of each schedule. For brevity, Aquila proposes use of the term “Company” instead of the old divisional names “Missouri Public Service” or “St. Joseph Light & Power.”
2. Aquila has eliminated many pages designated “Reserved for Future Use” and has consolidated the tariff to reduce length. The rate schedules for each operating system have been segregated so that all schedules applicable to the MPS territories are presented together.

**Changes to MPS Rate Schedules:**

3. Aquila has adopted a new cover page for the rate schedules.
4. Sheets 0.1. The existing adoption notice for the Aquila corporate name has been removed, because the legal names of the corporation are now reflected in the tariffs.
5. Sheet 1. The tariff indices have been consolidated to reflect provisions adopted from both tariffs, and to move the transportation service rate schedules to the rate schedule section. The indices also reflect the schedules for the proposed rate design.
6. Sheet 1. The Communities Served section has been consolidated to reflect towns and rural areas served by both MPS and L&P.
7. Sheets 1.1-1.3. The Description of Authorized Gas Service Territory has been



- 1 consolidated to reflect the metes and bounds description of territory served by  
2 both MPS and L&P.
- 3 8. New sheet. A new map has been included to show the Company's systems.
- 4 9. Sheet 2. The existing General Service rate class includes Residential and all  
5 commercial and industrial customers that are not served under another schedule.  
6 This change proposes to eliminate block rates and divide this class into four  
7 classes – Residential, Small Commercial, Small Volume, and Large Volume. Mr.  
8 Sullivan will address the specifics of the proposed rate design.
- 9 10. New sheet. A new Residential Service schedule (RS-M) is proposed.
- 10 11. New sheet. A new Small Commercial Firm Service schedule (SCF-M) is  
11 proposed.
- 12 12. New sheet. A new Small Volume Firm Service schedule (SVF-M) is proposed.
- 13 13. Sheets 4-6. The Large Volume Firm Service schedule (LVF-M) schedule has  
14 been changed to reflect a lower threshold (40,000 Ccf from 150,000 Ccf),  
15 eliminate block rates, and increase the energy and demand charges.
- 16 14. Sheets 6-9. The Large Volume Firm Sales contract has been deleted from the  
17 tariff. The company proposes to make all customer service agreements available  
18 on the Aquila website.
- 19 15. Sheets 10-12. The Large Volume Interruptible Service schedule (LVI-M) schedule  
20 has been changed to reflect a lower threshold (40,000 Ccf from 150,000 Ccf),  
21 eliminate block rates, and increase the energy and demand charges.
- 22 16. Sheets 12-15. The Large Volume Interruptible Sales contract has been deleted  
23 from the tariff. The company proposes to make all customer service agreements  
24 available on the Aquila website.
- 25 17. Sheets 16-18. The Transportation Service rate schedules have been deleted. In

1           October 2002, the Commission approved new transportation terms and  
2           conditions and a Small Volume rate schedule for both MPS and L&P. Sheets 16-  
3           18 were not withdrawn at that time, because they addressed the rates and terms  
4           for Large Volume Transportation Service. In June 2003, the Company filed a new  
5           Large Volume Transportation rate schedule to reflect current industry practices,  
6           and to withdraw Sheets 16-18. These changes are pending before the  
7           Commission, and are reflected in the proposed tariffs.

8           18. Sheet 19. The Flexible Rate Transportation schedule has been updated to  
9           provide the service to the L&P system and to affirm the applicability of the Billing  
10          Demand charge to this schedule.

11          19. Sheet 20. The Transportation Special Contract Rates schedule has been  
12          updated to provide the service to the L&P system.

13          20. Sheets 21-28. As noted in Change No. 17 above, the transportation service  
14          provisions found on Sheets 16-18 and 21-28 have been removed. The  
15          transportation service provisions found on current MPS Sheets 32.1 - 32.25 are  
16          retained.

17          21. Sheet 32.8. The Small Volume Transportation Service rate schedule (SVTS-M)  
18          has been changed to match the customer charge, energy charge and usage  
19          limits of the SVF-M service (5,000 Ccf to 39,999 Ccf).

20          22. Sheet 16. The Large Volume Transportation Service rate schedule (LVTS-M) has  
21          been changed to match the customer charge, energy charge and usage limits of  
22          the LVF-M service (40,000 Ccf or greater).

23          23. Sheets 29-32. The Large Volume Interruptible Transportation contract has been  
24          deleted from the tariff. The company proposes to make all customer service  
25          agreements available on the Aquila website.

- 1 24. Sheets 31.2 – 32.25. The terms and conditions of transportation service have  
2 been moved to Sheets 22-52.
- 3 25. Sheets 33 – 44.1. The Purchased Gas Adjustment clauses for MPS and L&P  
4 have been consolidated so that the MPS language applies to all systems. This  
5 section has been changed slightly to reflect the changes proposed in the Docket  
6 GO-2002-452. Aquila provided sample PGA tariffs to the Staff in that docket to  
7 reflect: (1) electronic filing of PGA work papers, (2) adoption of one annual  
8 scheduled ACA filing and up to three unscheduled filings per year, (3) clarification  
9 of charges to be included in the filings, and (4) elimination of the DCCB Carrying  
10 Costs.
- 11 26. Sheet 45. The Tax and License Rider has been moved to Sheet 65.
- 12 27. Sheets 46-49. The Promotional Practices rules have been moved to the Rules  
13 and Regulations section.
- 14 28. Sheet 50. The promotional practices variance for conversion costs for the towns  
15 of Salem and Owensville have expired, so this section has been deleted.
- 16 **Changes to L&P Rate Schedules:**
- 17 29. Sheet 0.1. The adoption notice for the Aquila corporate name has been deleted.
- 18 30. Sheet 1. The L&P Index has been consolidated with the MPS Index.
- 19 31. Sheet 2. The L&P Index of Communities Served has been consolidated with the  
20 MPS Index.
- 21 32. Sheet 2.1-2.2. The L&P Index of certificated territories has been consolidated  
22 with the MPS Index.
- 23 33. Sheet 3. The L&P System Map has been deleted. A new Missouri map showing  
24 the four Aquila gas operating systems is now presented at Sheet 7.
- 25 34. Sheet 4. The Residential Service Rate Schedule 910 for all territory except

- 1 Fairfax, Rockport and Tarkio has been merged with Sheet 4.1, and is now  
2 presented at Sheet 15.
- 3 35. Sheet 4.1. The Residential Service Rate Schedule 911 for the towns of Fairfax,  
4 Rockport and Tarkio has been merged with Sheet 4, and is now presented at  
5 Sheet 15.
- 6 36. New Sheet 15. A new consolidated Residential Service applies to all L&P  
7 territory. The new schedule consolidates customer charges and eliminates block  
8 rates.
- 9 37. Sheet 5. The General Service Rate Schedule 920 for all territory except Fairfax,  
10 Rockport and Tarkio has been deleted.
- 11 38. Sheet 5.1. The General Service Rate Schedule 921 for the towns of Fairfax,  
12 Rockport and Tarkio has been deleted.
- 13 39. Sheets 5-5.1. The existing General Service Schedules have been divided into  
14 Small Commercial, Small Volume and Large Volume schedules. These new  
15 rates are described below.
- 16 40. New sheet. A new Small Commercial Firm Service schedule (SCF-L) is  
17 proposed.
- 18 41. New sheet. A new Small Volume Firm Service schedule (SVF-L) is proposed.
- 19 42. Sheet 6. The Large Volume Firm Service schedule (LVF-L) schedule has been  
20 changed to reflect the usage threshold created by the SCF-L and SVF-L  
21 schedules.
- 22 43. Sheet 6. The Large Service Schedule 930 has been deleted.
- 23 44. New sheet. A new Large Volume Interruptible Service schedule (LVI-L) has been  
24 added.
- 25 45. Sheets 7.1-7.8. The Transportation Service rate schedule and rules provisions

1 have been deleted. The provisions found at Sheets 32.1-32.21 are retained and  
2 moved to Sheets 22-52.

3 46. Sheets 7.1-7.4. Transportation service schedule 971 has been deleted.

4 47. Sheet 32.8. The Small Volume Transportation rate schedule (SVTS-L) has been  
5 changed to set the usage limits consistent with the MPS service areas (5,000 to  
6 39,999 Ccf).

7 48. Sheets 7.1-7.4. A new Large Volume Transportation rate schedule (LVTS-L) has  
8 been created to match the usage limits of the small volume service, and to be  
9 consistent with the MPS service areas (40,000 Ccf or greater.)

10 49. New sheet. The Flexible Rate provisions of the MPS tariff have been extended to  
11 the L&P system.

12 50. New sheet. The Special Contract provisions of the MPS tariff have been  
13 extended to the L&P system.

14 51. Sheets 8-9.4. The MPS Purchased Gas Adjustment Clause has been adopted  
15 for L&P so that one set of ACA filing requirements will apply.

16 52. Sheets 32.1-32.21 are almost identical to MPS Sheets 32.1-32.25. These sheets  
17 are now found at Sheets 22-52 in the proposed tariff.

18 **Changes to MPS Rules and Regulations:**

19 53. Aquila has adopted a new cover page for the Rules and Regulations section.

20 54. Sheets R1-R2. A new index has been adopted for the consolidated tariff.

21 55. Sheets R3-R4. The terms "Company" and "Normal Business Hours" have been  
22 defined.

23 56. Sheet R5. A provision from the L&P tariff has been adopted for all operations,  
24 affirming the customer's responsibility to notify the Company of changes in load  
25 characteristics or requirements.

- 1 57. Sheet R7. The Company proposes a 6.0 percent interest rate on deposits.
- 2 58. Sheet R15. Aquila proposes new charges for connections and reconnections.
- 3 The charge for reconnections made during regular business hours would
- 4 increase from \$20 to \$30, and reconnections performed after regular hours would
- 5 remain at \$50. All references to the price of services have been moved to the
- 6 table in Section 10.
- 7 59. Sheet R15. No charge would be applicable to new service connections during
- 8 normal business hours. A \$50 charge would be applied to new connections
- 9 performed after normal business hours.
- 10 60. New section. This language establishes a charge to cover trip costs when crews
- 11 are scheduled to perform a disconnection, but accept payment from the
- 12 customer at the premise. In this situation, the company incurs the costs to send
- 13 a representative to the premise, so the charge is intended to cover the costs of
- 14 the trip.
- 15 61. New section. This language will establish a special reconnection charge for
- 16 customers that turn off gas service for several months and return to service. This
- 17 type of short-term service is relatively expensive for the company, since
- 18 customers currently pay only \$20 to re-establish service. This is unfair to other
- 19 customers, since they indirectly pay for the trip costs and lost customer charges
- 20 created by these service disconnections. The company proposes language to
- 21 require these customers to pay the greater of \$30 or the sum of customer
- 22 charges that would have been charged in the period of disconnection.
- 23 62. New section. This provision would affirm that connection and reconnection
- 24 charges do not include the costs of extensions.
- 25 63. New section. Aquila proposes to establish a \$20 charge for checks returned for

- 1 insufficient funds.
- 2 64. Sheet R16. Aquila no longer performs appliance connections or reconnections,  
3 due to the potential liability. To reflect this change in business practice, Aquila  
4 proposes deleting language requiring a trip charge for such services.
- 5 65. Sheets R16. Aquila proposes adoption of one standard charge for installing  
6 excess flow valves in new services. The \$65 amount was previously approved in  
7 the L&P tariff.
- 8 66. Sheet R18. Aquila seeks to simplify the priority rules for curtailment of service.  
9 The proposed Priority of Service schedule reduces the number of curtailment  
10 categories from ten to five.
- 11 67. New section. Aquila seeks to offer a new service to customers that challenge the  
12 accuracy of the company's meters. Customers would have the opportunity to  
13 request a special meter test. If the test shows the meter is within the proscribed  
14 tolerance limits, the customer would pay the lesser of the cost of the test or \$30.
- 15 68. Sheet R23. Aquila seeks to clarify the existing MPS tariff language. This change  
16 would affirm that when a meter is found to have an average error of more than  
17 two percent, the refund and corrected billing provisions of Section 5.04 apply.
- 18 69. Sheets R24. The current MPS tariff requires customers to remain on a rate  
19 schedule for one year. The transportation tariff found on Sheets 32.1-32.25  
20 allows customers on the SVTS schedule to return to sales service every six  
21 months. This provision would retain the existing one year restriction for all rate  
22 schedules, except SV transportation customers will be allowed to return to sales  
23 service every six months.
- 24 70. Sheet R25. This change is intended to reflect modernization of the company's  
25 business practices. Aquila no longer encourages customers to read meters by

1 postcard. Instead, use of an interactive voice response system is promoted.  
2 71. Sheet R26. Aquila proposes a standard charge for all gas and electric trip  
3 charges - \$30 for visits made during business hours, and \$50 for after-hours  
4 visits. The cost of all charges have been moved to the table of charges in Section  
5 10.  
6 72. Sheet R28. This change would reflect the company's current business practices,  
7 which encourage customers to contact Aquila's 24 hour Customer Service  
8 Center to resolve disputes.  
9 73. Sheets R32-R34. Aquila proposes a new line extension policy. The testimony of  
10 Mr. Joseph Bahr addresses these changes.  
11 74. Sheets R36-R37. The Company's table of charges has been updated to reflect  
12 the proposed changes.

13 **Changes to L&P Rules and Regulations**

14 Aquila proposes to adopt one set of Rules and Regulations for all gas service territories.  
15 The MPS Rules and Regulations, with the changes described above, are proposed.  
16 Exhibit RJA-2, pages 5-6, provides a cross reference of existing L&P tariff sections and  
17 the Sheet references where the applicable language may be found in the new tariff.  
18

19 **Other Revenue**

20 **Q. HAVE YOU REVIEWED THE FINANCIAL IMPACT OF CHANGES TO THE**  
21 **MPS AND L&P SERVICE CHARGES?**

22 **A.** Yes. I collected and reviewed the MPS and L&P data for connections,  
23 reconnections, excess flow valves, special meter reads, collection of funds at  
24 disconnection, and charges for checks returned for insufficient funds. I calculated  
25 the total test year and proposed revenue for each type of charge. This



1 information is summarized in Exhibit RJA-3 ( ). For example, MPS had 7,581  
2 connections during normal business hours during 2002, and 549 after-hours  
3 connections. The actual and proposed revenue is shown. The net effect of the  
4 proposed changes in tariff charges is to increase Other Revenue from \$226,390  
5 to \$344,018 for MPS, and from \$2,340 to \$28,749 for L&P. These revenues are  
6 reflected in the cost of service supported by Mr. Sullivan.

7 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

8 **A.** Yes, it does.



Aquila, Inc.  
d/b/a Aquila Networks – MPS  
and Aquila Networks – L&P

**Lead/Lag Study  
For  
Missouri Gas Operations**

For the Calendar Year 2002

**Purpose.** A lead/lag study is performed to determine the cash working capital component necessary to compute the working capital portion of rate base. The remaining components of working capital, such as the investment in materials and supplies, liquefied petroleum (propane) inventories, prepayments, etc., are determined by generally accepted regulatory methods. A lead/lag study measures the differences in time frames between (1) the time that service is rendered until the revenues for that service are received (lag) and (2) the time that labor, materials, or services are used in providing service until expenditures for such items are made (lead). Each major category of expense and its applicable lag days is compared to the calculated revenue lead days. The difference between these periods, expressed in terms of days, times the average daily operating expenses, produces the cash working capital required or available for those operating expenses.

**Components of the Lead/Lag Study.** This lead/lag study will compile and analyze revenues collected and expenses paid to determine the lead or lag days. This study has been categorized into the following major classifications:

Lag Time for Revenues Collected

- A. Metering Period
- B. Processing Time
- C. Collection Period

Lead Time for Expenses Paid

- A. Payroll Expense
- B. Gas Purchase Expense
- C. Other Operation and Maintenance Expense

**Calculation of Revenue Lag Time.**

- A. Metering Period. Aquila's gas meters are read and bills are computed on a monthly basis. The total number of days between initially providing service to a customer and the date of reading the customer's meter is  $365 / 12$ , or 30.4 days. Since a lead/lag study is computed on an average basis, the midpoint of a metering cycle would be one half the 30.4 days, or 15.2 days. This reflects the average number of days the Company incurs expenses until the customer's meter is read.
  
- B. Processing Time. Bill processing reflects the number of days from the date a meter is read until the bills are mailed. There are two categories of bills - Cycle 21 for transportation and aggregated bills, and Non-Cycle 21 for sales.

Non-Cycle 21 refers to all meter-read customers. By using ITRON equipment to read meters and transmit data, the Company is able to read a customer's meter in a three-day period and generally produce a bill within 24-48 hours. The Company's billing system is designed to prepare sales customer bills in three to five business days. In 2002, the average time necessary to prepare a Missouri gas sales bill was 9.02 days. This statistic was unusually long due to the transfer of billing operations from Omaha to Raytown, which delayed many bills. To correct this problem, a second query was run with all bill preparation times greater than five days changed to 5 days. This time period was chosen because the Company's billing system is designed to prepare all sales bills within five days, and because it is close to the average of all non-adjusted data. After making this change, the average time to prepare a sales bill was 4.516 days.

Cycle 21 customers are handled differently. These meters can be either chart-read or tele-metered. Since these are usually transportation customer bills, information must frequently be obtained from interstate pipelines before the bills can be prepared. Once the meter reading data for these customers is obtained, the volumes for each customer are sent to the Company's transportation billing department, where the bills are manually calculated, checked through various control procedures, and mailed. The average Cycle 21 bill was prepared in 18.5 days.

To calculate the bill processing period, a computer query was written to calculate the number of days between the end of the meter reading period and the date each bill was issued for every Missouri gas customer during the calendar year 2002 (both Cycle 21 and Non-Cycle 21.) Each bill amount was multiplied times the number of preparation days to determine a weighted average lag period per customer. Dividing the total weighted end-of-period to bill issue date amount by the payment amount yields the average number of days necessary to process bills. In 2002, the Company prepared Sales bills in an average of 4.52 days, Cycle 21 bills in an average of 18.52 days, or a weighted average of 6.24 days for all bills.

The following table shows the computation of the average bill processing time for all Missouri customers during calendar 2002:

Bill Cycle	Annual Payment Amount	Weighted End of Period to Bill Issue Date	Bill Processing Days
Cycle 21	\$10,621,830.38	\$196,702,896.94	18.52days
Non-Cycle 21	\$75,430,620.82	\$340,651,405.98	4.52 days
Total – All Cycles	\$86,052,451.20	\$537,354,302.92	6.24 days

- C. Collection Period. The collection period is the average number of days for the Company to receive customer payments. The same query used to calculate the bill processing period calculated the collection period by comparing the number of days between bill issuance and the date the bill was paid. The bill collection days was calculated by dividing the

Weighted Bill Collection Period by the Annual Payment Amount. This analysis was performed for all Missouri customers. In 2002, the average bill was paid in 21.177 days.

Bill Cycle	Annual Payment Amount	Weighted End of Period to Bill Issue Date	Bill Collection Days
Cycle 21	\$10,621,830.38	\$207,708,010.67	19.55 days
Non-Cycle 21	\$75,430,620.82	\$1,614,619,608.29	21.41 days
Total – All Cycles	\$86,052,451.20	\$1,822,327,618.96	21.18 days

### Calculation of Expense Lead

- A. Payroll. Both the Field (Operations) and Central Office (Administrative) employees are paid bi-weekly (every other Friday). There are 26 pay periods in the year. The average lead time is 365 days divided by 26 pay periods, or 14.0 days. The average lead time would be one-half of the 14.0 days, or 7.0 days. In addition, payroll is paid 7 days in arrears, so the average payroll lead time is 14.0 days. This is the number of days between the midpoint of the pay period and the date the payroll is paid.
- B. Gas Purchase Expense. The payment period for gas purchases is calculated by taking the number of days from the midpoint of the delivery period to the payment date for each invoice. The resulting payment time is then multiplied by the amount paid. Dividing the total weighted average payment amount by the total amount paid provides the lead

time for gas purchases. This study reviewed all gas purchase invoices in all of the Company's operations for the calendar year 2002, with the following results: Weighted Payment Amount (payments x lag days) \$32,678,304,085.11 / Annual Payment Amount \$730,848,206.03 = 44.713 days.

- C. Other Operation and Maintenance Expense. Other O&M Expense consists of cash disbursements for items such as materials, miscellaneous services, professional and contractor services, and employee expenses. To determine the lead time for Other O&M Expenses, a computer query sorted all Missouri expenditures for 2002, excluding gas purchases and payroll. The query calculated the number of days between the invoice date and the date of payment, weighted the results, and then averaged the weighted results. The division of the total weighted Other O&M lead days amount by the total payment amount provides the average number of days between the invoice date and the payment date. The overall lead days for Missouri O&M Expenses in 2002 was 29.956 days.

<u>Weighted Other O&amp;M Expenses</u>	<u>\$4,987,142,695.39</u>	= 29.956 days
Total Payment Amount	\$166,182,569.97	

A second method, the 1/8<sup>th</sup> Rule, was also considered for O&M Expenses. Under this approach, 365 days per year is divided by 1/8<sup>th</sup> or 0.125 = 45 days. Aquila chose this approach because it provides a more conservative result (i.e., longer lead).



**Calculation of Days Cash Required.** The difference between revenue lag and expense lead times for each expense category provides the net number of days of cash required.

The cash requirement for Payroll Expense is calculated as follows:

Payroll lag time	42.621 days
Less: Payroll lead time	<u>14.000 days</u>
Days cash required	28.620 days

The cash requirement for Gas Purchase Expense is calculated as:

Gas Purchase lag time	42.621 days
Less: Gas Purchase lead time	<u>44.710 days</u>
Days cash required/(provided)	(2.090) days

The case requirement for Other Operations and Maintenance Expense is:

O&M lag time	42.621 days
Less: O&M Expense lead time	<u>45.000 days</u>
Days cash required	(2.380) days



Description of Tariff Change

No. Old Sheet New Sheet Sec. No.

Changes to All Sheets

1 Change company names to Aquila Networks-MPS and Aquila Networks-L&P  
2 Eliminate reserved pages and re-paginate

Changes to MPS Rate Schedules

3 New cover page

4 0.1 N/A N/A Delete Adoption Notice

5 1 1 Index - update, consolidate MPS, L&P

6 1 2 Communities served - consolidate MPS, L&P

7 1.1-1.3 3-6 Description of Authorized Gas Service Territory - consolidate MPS, L&P

8 New 7 Map of service systems

9 2 8-14 General Service Rate Schedule -- divide class into Residential, Small Commercial, Small Volume and Large Volume classes; eliminate block rates

10 New 8 Residential Service (RS-M) rate schedule applicable to Southern, Northern and Eastern systems; increase customer charge from \$9.00 to \$15.00; increase energy charge from \$0.22295/Ccf to \$0.26825/Ccf

11 New 9 Small Commercial Firm (SCF-M) rate schedule applicable to Southern, Northern and Eastern systems; 5000-Ccf annual usage; increase customer charge from \$9.00 to \$25.00; increase energy charge from \$0.22295/Ccf to \$0.26200/Ccf

12 New 10 Small Volume Firm (SVF-M) rate schedule applicable to Southern, Northern and Eastern systems; 39,999 Ccf annual usage; increase customer charge from \$9.00 to \$50.00; decrease energy charge from \$0.22295/Ccf to \$0.19200/Ccf

13 4-6 11 Large Volume Firm (LVF-M) rate schedule - applicable to Southern, Northern and Eastern systems; annual usage of 40,000 Ccf or more, reduced from 150,000 Ccf; eliminate block rates; no change in customer charge; energy charge increased from \$0.0246/\$0.01000/Ccf to \$0.03790/Ccf; demand charge increased from \$0.3900/Ccf to \$0.4000/Ccf.

14 6-9 Delete Large Volume Firm Sales contract - delete

15 10-12 13 Large Volume Interruptible (LVI-M) rate schedule - applicable to Southern, Northern and Eastern systems; annual usage of 40,000 Ccf or more, reduced from 150,000 Ccf; eliminate block rates; no change in customer charge; energy charge increased from \$0.0246/\$0.01000/Ccf to \$0.03790/Ccf; demand charge increased from \$0.3900/Ccf to \$0.4000/Ccf.

16 12-15 Delete Large Volume Interruptible Sales contract - delete

17 16-18 Delete Large Volume Transportation Service schedules - delete

No	Old Sheet	New Sheet	Sec. No.	Description of Tariff Change
18	19	38		Flexible Rates for Transportation Customers
19	20	39		Special Transportation Contract Rates
20	21-28	22-50		Additional provisions applicable to Transportation Service
21	32.8	28		Small Volume Transportation (SVTS-M) rate schedule applicable to Southern, Northern and Eastern systems; 5,000 to 39,999 Ccf annual usage; customer charge \$50.00; energy charge \$0.17150/Ccf
22	16	31		Large Volume Transportation (LVTS-M) rate schedule applicable to Southern, Northern and Eastern systems; 40,000 Cc or greater annual usage; customer charge \$50.00; energy charge \$0.03500/Ccf; demand charge \$0.40000/Ccf
23	29-32	Delete		Large Volume Interruptible Transportation contract - delete
24	32.1-25	22-52		Transportation Service
25	33-44.1	53-64		Consolidate PGAs, adopt MPS PGA clause
26	45	65		Tax and License Rider
27	46-49			Move promotional practices section to Rules and Regulations
28	50	Delete		Promotional Practices variance for Salem and Owensville conversion costs - delete
<b>Changes to L&amp;P Rate Schedules</b>				
29	0.1	N/A	N/A	Delete Adoption Notice
30	1	1		New Index
31	2	2	N/A	Index of communities served - consolidate MPS, L&P
32	2.1-2.2	3-6	N/A	Index of certificated territories - consolidate MPS, L&P
33	3	7	N/A	System map
34	4			Residential service schedule 910 for all territory except Fairfax, Rockport and Tarkio
35	4.1			Residential service schedule 911 for Fairfax, Rockport and Tarkio
36	New	15		New Residential Service (RS-L) rate schedule applicable to all L&P territory; increase customer charge from \$6.66 to \$10.00 (\$5.65 to \$10.00 in Fairfax, Rockport and Tarkio); increase energy charge from \$0.16350/Ccf to \$0.22950/Ccf
37	5	Delete		General service schedule 920 for all territory except Fairfax, Rockport and Tarkio
38	5.1	Delete		General service schedule 921 for Fairfax, Rockport and Tarkio
39	5-5.1	16-18		Divide General Service class into Small Commercial, Small Volume and Large Volume classes; eliminate block rates
40	New	16		New Small Commercial Firm (SCF-L) rate schedule applicable to all L&P territory; 0-4999 Ccf annual usage; increase customer charge from \$12.31 to \$20.00 (\$9.39 to \$20.00 in Fairfax, Rockport and Tarkio); increase

No	Old Sheet	New Sheet	Sec. No.	Description of Tariff Change
41	New	17		energy charge from \$0.14010/Ccf to \$0.20650/Ccf New Small Volume Firm (SVF-L) rate schedule applicable to all L&P territory; 5000-39,999 Ccf annual usage; increase customer charge from \$12.31 to \$40.00 (\$9.39 to \$40.00 in Fairfax, Rockport and Tarkio); increase energy charge from \$0.14010/Ccf to \$0.17150/Ccf
42	6	18		Large Volume Firm (LVF-L) rate schedule applicable to all L&P territory; 40,000 Ccf or greater annual usage; increase customer charge from \$184.53 to \$200.00; reduce energy charge from \$0.07290/Ccf to \$0.03500/Ccf; add demand charge \$0.40000/Ccf
43	6	18		Large service schedule 930
44	New	20		New Large Volume Interruptible (LVI-L) rate schedule applicable to all L&P territory; 40,000 Ccf or greater annual usage; customer charge \$200.00; energy charge \$0.03500/Ccf; add demand charge \$0.40000/Ccf
45	7.1-7.8	22-50		Remove Transportation Service rate schedule and rules provisions; new transportation provisions were adopted in October 2002 (Sheets 22-50).
46	7.1-7.4			Transportation service schedule 971
47	32.8	33		Small Volume Transportation (SVTS-L) rate schedule applicable to all L&P territory; 5,000 to 39,999 Ccf annual usage; customer charge \$50.00; energy charge \$0.17150/Ccf
48	7.1	36		Large Volume Transportation (LVT-S-L) rate schedule applicable to all L&P territory; 40,000 Cc or greater annual usage; customer charge \$50.00; energy charge \$0.03500/Ccf; demand charge \$0.40000/Ccf
49	New	38		New Flexible Rate Transportation Service (LVTS-F)
50	New	39		New Special Contract Rates for Transportation Service (LVTS-SC)
51	8-9.4	53-64		Purchased gas adjustment clause
52	32.1-21	22-52		Gas transportation service
<b>Changes to MPS Rules and Regulations</b>				
53				New cover page
54	R1-R2	R1-R2		New Index
55	R3-R4	R3-R4		Changes to definitions: "company," "normal business hours"
56	R5	R5		New language to affirm the customer's responsibility to notify company of permanent changes in load characteristics or requirements
57	R7	R8	2.04 G(4)	Adopt a 6.0 percent deposit interest rate
58	R15	R18	2.07A	Increase charge for reconnections from \$20 to \$30 during normal business hours, with no change in charge for connections after normal business hours; moved dollar references to table in Section 10

Description of Tariff Change

No	Old Sheet	New Sheet	Sec. No.
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59	R15	R18	2.07B	New language establishes a connection charge for after-hours reconnections.
60	New	R19	2.07C	New language establishes a trip charge to cover trip costs when crews are scheduled to disconnect service, but customers pay at the premise.
61	New	R19	2.07D	New language to establish a special reconnect charge for customers that order disconnections and reconNECTIONS within a twelve month period. The charge would be the greater of a standard reconnect fee (\$30/\$50) or the sum of customer charges that would have been charged if the customer had remained on gas service during the period of disconnection. This change is intended to address cost subsidization by the general system when customers turn off gas service for several months.
62	New	R19	2.07E	New language to affirm that connection and reconnection charges do not include the costs of line extensions.
63	New	R19	2.08	New language to establish a \$20 charge for returned checks.
64	R16			Delete language requiring a trip charge for connection or disconnection of customer appliances. Aquila Networks no longer performs this service due to the potential liability.
65	R16	R20	2.09	Adopt the L&P charge for installing excess flow valves when new service is installed.
66	R18	R22	3.07	Adopt new language to simplify priority of service for curtailment.
67	New	R27	5.03B	Adopt new language to permit customers to request a special meter test. If the test shows the meter is reading within the allowed two percent tolerance, customer pays the company the cost of the test or \$30, whichever is less.
68	R23	R28	5.04C	Adopt new language to affirm the current practice that when a meter is found to have an average error of more than two percent, the refund and corrected billing provisions of Section 5.04 apply.
69	R24	R30	6.03C	Adopt new language to allow small volume transportation customers to move from transportation service back to sales service every six months, as stated in the transportation rules.
70	R25	R31	6.04B	Adopt new language to reflect changes in the company's business practices, which now encourage customers to use an interactive voice response system to record meter readings, instead of postcards.
71	R26	R32	6.04C	Increase the charge for meter readings by special appointment to the cost of the trip, \$30 during regular business hours, and \$50 after regular business hours.
72	R28	R35	6.06A	Adopt new language to reflect changes in the company's business practices, which now encourage customers to report disputes to the company's 24 hour customer service center.
73	R32-R34	R40-R47	7	Adopt new policies for extensions of mains and service lines, including distinguishing treatment of temporary and permanent service, and a capital project feasibility model.
74	R36-R37	R51-R52	10	Update table of charges.

**Description of Tariff Change**

**Old Sheet No.      New Sheet No.      Sec. No.**

**Changes to L&P Rules and Regulations**

No	Old Sheet	New Sheet	Sec. No.	Description of Tariff Change
75	R1-R2	R1		Index
76	R3-R4	R3-R4	1	Definitions
77	R5	R5	2	Requesting Service
78	R5	R5, R29	2.01	Receipt of Service
79	R5	R5	2.02	Contract Period
80	R6-R9	R25	3	Customer's Service
81	R6	R25	3.01	Customer's Piping and Appliances
82	R6		3.02	Right of Way
83	R7	R40-R46	3.03	Line Extensions
84	R7	R45	3.04	Additional Facilities
85	R10-R13	R26-R27	4	Measuring Service
86	R10	R26	4.01	Meter Installation
87	R10	R26	4.02	Meter Measurement
88	R11	R27	4.03	Meter Failure or Error
89	R12	R27	4.04	Customer Billed Under Wrong Schedule
90	R13	R29	4.05	Estimated Readings
91	R14		4.06	Sub-metering and Resale of Energy
92	R14-R29		5	Paying for Service
93	R14	R6-R8	5.01	Residential Security Deposit Requirements
94	R17	R6-R8	5.02	Non-residential Security Deposit Requirements
95	R18		5.03	Billing of License, Occupation, Franchise or Similar Charges or Taxes
96	R19	R39	5.04	Late Payment Charge
97	R19	R34	5.05	Average Payment Plan
98	R20		5.06	Non-Payment
99	R20	R27	5.07	Billing Adjustments
100	R21	R37	5.08	Settlement Agreements
101	R22	R9-R13	5.09	Disconnection of Service
102	R22.2	R18	5.10	Charge for Reconnecting
103	R23	R14-R17	5.12	Cold Weather Rule
104	R29	R19	5.13	Returned Checks of Drafts
105	R29	R22	5.14	Curtailment of Service

No	Old Sheet	New Sheet	Sec. No.	Description of Tariff Change
106	R30-R33		6	Safety
107	R30		6.01	Customer Equipment
108	R30	R25	6.02	Ownership and Maintenance of Services
109	R30		6.03	Venting of Appliances
110	R30	R22	6.04	Load Limitations
111	R31	R21	6.05	Continuity of Service
112	R31	R22	6.06	Unauthorized Interference, Diversion of Use
113	R33	R21	6.07	Access for Company's Representatives
114	R33	R22	6.08	Opening of Service Lines
115	R33	R21	6.09	Indemnity to Company
116	R34	R20	6.10	Excess Flow Valves
117	R34-R36	R48	7	Promotional Practices





Summary of Test Year Fee Revenue  
2002 Aquila Networks - MPS

	Test Year Number of Transactions	Existing Fee	Existing Revenue	Estimated Number of Transactions	Proposed Fee	Proposed Revenue
Connections						
Business Hours	7,581	\$ 20.00	\$ 151,620.00	7,581	\$ 30.00	\$ 227,430.00
After Bus. Hours	549	\$ 55.00	\$ 30,195.00	549	\$ 50.00	\$ 27,450.00
Reconnections						
Business Hours	1,600	\$ 20.00	\$ 32,000.00	1,600	\$ 30.00	\$ 48,000.00
After Bus. Hours	59	\$ 55.00	\$ 3,245.00	59	\$ 50.00	\$ 2,950.00
Reconnects within 12 months	35	\$ 20.00	\$ 700.00		\$ 20.00	\$ -
Excess Flow Valves New installations	3	\$ 30.00	\$ 90.00	3	\$ 65.00	\$ 195.00
Special meter reads						
Business Hours	1,708	\$ 5.00	\$ 8,540.00	342	\$ 30.00	\$ 10,248.00
After Bus. Hours	-	\$ 10.00	\$ -		\$ 50.00	\$ -
Collection fee at disconnects Business Hours		\$ -	\$ -	462	\$ 30.00	\$ 13,845.00
Charge for NSF Checks		\$ -	\$ -	695	\$ 20.00	\$ 13,900.00
Total Revenue			<u>\$ 226,390.00</u>			<u>\$ 344,018.00</u>

NOTES:

- 1 Assume the increase in fee will reduce special meter reads by 80%
- 2 Assume the collection fee will reduce payments at disconnection by 50%

**Summary of Test Year Fee Revenue  
2002 Aquila Networks - L&P**

	Test Year Number of Transactions	Existing Fee	Existing Revenue	Estimated Number of Transactions	Proposed Fee	Proposed Revenue
Connections						
Business Hours	700	\$	-	700	\$ 30.00	\$ 21,000.00
After Bus. Hours	28	\$	-	28	\$ 50.00	\$ 1,400.00
Reconnections						
Business Hours	95	\$ 20.00	\$ 1,900.00	95	\$ 30.00	\$ 2,850.00
After Bus. Hours	8	\$ 55.00	\$ 440.00	8	\$ 50.00	\$ 400.00
Reconnects within 12 months	-	\$	-	-	\$ 20.00	\$ -
Excess Flow Valves						
New installations	-	\$ 65.00	\$ -	-	\$ 65.00	\$ -
Special meter reads						
Business Hours	179	\$ -	\$ -	36	\$ 30.00	\$ 1,074.00
After Bus. Hours	-	\$ -	\$ -	-	\$ 50.00	\$ -
Collection fee at disconnects						
Business Hours	13	\$ -	\$ -	7	\$ 30.00	\$ 195.00
Charge for NSF Checks	78	\$	\$ -	78	\$ 20.00	\$ 1,560.00
<b>Total Revenue</b>			<u>\$ 2,340.00</u>			<u>\$ 28,479.00</u>

NOTES:

- 1 Assume the increase in fee will reduce special meter reads by 80%
- 2 Assume the collection fee will reduce payments at disconnection by 50%