Aquila, Inc., dba
AQUILA NETWORKS
KANSAS CITY, MO 64138
For St. Joseph, MO & Environs

TABLE OF CONTENTS
STEAM

STEAM SERVICE
STEAM

AVAILABILITY

Available for firm service from the Company's facilities to customers located in the vicinity of Lake Road Generating Station who shall contract to use this service for continuous periods of not less than two (2) years.

BASE RATE, MO981 Net two parts

1. Reserved Capacity Charge:
   For all BTU of Reserved Capacity, per month, per million BTU..... $404.30

Plus

2. Energy Charge per million BTU:
   For the first 300 million BTU's per million BTU's of reserved capacity..... $5.8768
   For all over 300 million BTU's per million BTU's of reserved capacity..... $4.7762

QUARTERLY COST ADJUSTMENT

The Energy Charge is subject to the Quarterly Cost Adjustment Rider.

LICENSE, OCCUPATION, FRANCHISE OR OTHER SIMILAR CHARGES OR TAXES

See Company Rules and Regulations

LATE PAYMENT CHARGE

See Company Rules and Regulations

DETERMINATION OF RESERVED CAPACITY

The Reserved Capacity shall be the actual demand for the billing period but not less than eighty-percent (80%) of the highest actual demand established in the previous eleven (11) months, and in no case less than three (3) million BTU's per hour.

SPECIAL RULES

The pressure, temperature and heat content of all service under this schedule shall be only as specified by the Company.

Service will be furnished under, and this schedule shall be subject to Company Rules and Regulations.

STANDBY OR SUPPLEMENTARY SERVICE
STEAM

AVAILABILITY

Available for steam service to any customer who shall contract for a minimum monthly Reserved Capacity of three (3) mmBtu for a period of sixty (60) consecutive months, where the customer desires service as standby or supplementary to service provided by the customer's own facilities.

BASE RATE

Demand Charge per mmBtu
For each million Btu's of Reserved Capacity per month $751.71
Fixed Energy Charge per mmBtu
For each million Btu's per month..... $1.4974
Energy Fuel Charge per mmBtu
The energy fuel charge shall be determined based on the incremental cost of fuel for the period of actual energy usage.
Rental Charge per month
The Company and customer shall enter into a steam equipment rental contract and the customer shall agree to pay to the Company, in addition to his bill for service, a monthly rental charge therefor equal to one and three-fourths percent of the Company's total investment in all steam equipment solely dedicated to providing steam service to the customer.

QUARTERLY COST ADJUSTMENT

The Energy Charge is subject to the Quarterly Cost Adjustment Rider.

MINIMUM

The minimum monthly bill shall be the Demand Charge plus the Rental Charge.

LICENSE, OCCUPATION, FRANCHISE OR OTHER SIMILAR CHARGES OR TAXES

See Company Rules and Regulations

LATE PAYMENT CHARGE

See Company Rules and Regulations

DETERMINATION OF RESERVED CAPACITY

The customer shall subscribe to a prespecified demand level that shall be used in the calculation of the demand charge. In no case shall the specified reserved capacity be less than three (3) million BTUs per hour. The Company agrees to deliver, upon a minimum of six (6) hours notification, a demand level equal to, or less than, the subscribed demand level. If the customer requests and the Company delivers a demand greater than the subscribed level, the new actual demand delivered shall be used to calculate the monthly demand charge in the subsequent twenty-four (24) month period. At the end of the twenty-four (24) month period, if no higher demand has been delivered, the customer may again subscribe to a lower demand level. Delivery of a demand level that is higher than the subscribed level is subject to the Company's approval and the system conditions at the time of request. The Company does not assure delivery above the subscribed level.

CONTRACT SERVICE
STEAM

AVAILABILITY, MO982

Company may, in those instances in which it faces competition from an alternate supplier of industrial steam service or the possibility of self-generation of industrial steam by a customer, enter into a special rate contract(s) with the customer on such terms and conditions as may be agreed upon by Company and the customer which, in Company 's sole discretion, are deemed necessary to continue to maintain services to an existing customer, to reestablish service to a previous customer or to acquire new customers.

All such contracts shall be furnished to the Commission Staff and to the Office of the Public Counsel and shall be subject to the Commission's jurisdiction.

Unless otherwise specified or modified in the contract between the customer and Company, such service shall be subject to all other applicable Company rules, regulations, tariffs and General Terms and Conditions of Service applicable to industrial steam service on file with and approved by the Commission and as the same may be changed lawfully from time to time. The rates provided by any such contract shall not, however, exceed the tariffed rate which would otherwise be applicable nor be less than $4.8943 per mmBtu. Any such contract shall not bind the Commission for ratemaking purposes.

QUARTERLY COST ADJUSTMENT

The Energy Charge of any contract under this tariff is subject to the Quarterly Cost Adjustment Rider.

AG PROCESSING SPECIAL CONTRACT
STEAM

AVAILABILITY

In Case No. ER-2004-0034, the lead case consolidated with Case No. HR-2004-0024, the Missouri Public Service Commission approved a special contract with Ag Processing, Inc., which is on file with the Commission as Appendix C to the Unanimous Stipulation And Agreement approved to become effective on the original effective date of this schedule. In Case No. HR-2005-0450, the Missouri Public Service Commission amended the special contract with Ag Processing, Inc., as shown in the stipulation and agreement approved to become effective on the effective date of the first revised version of this schedule.

QUARTERLY COST ADJUSTMENT RIDER
STEAM

AVAILABILITY

This Quarterly Cost Adjustment (QCA) Rider applies to all sales of steam service provided under all steam rate schedules and contracts.

The Company will file rate adjustments quarterly to reflect eighty percent (80%) of the change in the actual fuel costs above or below a base amount of $3.0050 per million BTU. The sum of the Current Quarterly Cost Adjustment (CQCA), plus the three (3) preceding CQCAs, plus reconciling adjustments, if any, plus the Reconciliation Rate will be billed in addition to all other charges under applicable tariff provisions.

CALCULATIONS

Current Quarterly Cost Adjustment (CQCA):
The CQCA is the rate adjustment component designed to reflect the customer share of the variation in fuel cost for the most recent quarter. In the computation of the CQCA the numerator is the portion of fuel costs to be collected or refunded based on costs incurred for the previous quarter. The denominator is the number of annual billing units used to compute the rate component.

CQCA = Customer Share of Fuel Cost Variation for the Preceding Quarter divided by Annual Billing Determinants

$$\text{Or, CQCA} = \frac{[AM \times (FCPM_{pq} - FCPM_b)] \times BD_{pq}}{BD_{p12} + BDA_{f12}}$$

Or, using spreadsheet software math conventions, except substituting variables for cell references:

$$\text{CQCA} = ((AM * (FCPM_{pq} - FCPM_b)) * BD_{pq}) / IF (OR (BD_{pq} > BD_{pq-4} * 1.05, BD_{pq} < BD_{pq-4} * .95), BD_{p12} + BDA_{f12}, BD_{p12})$$

Where:

CQCA= Current Quarterly Cost Adjustment
AM= Alignment Mechanism = 80%
$FCPM_{pq}$= Fuel Cost per million BTU for the preceding quarter
$FCPM_b$= Base Fuel Cost per million BTU = $3.0050
BD_{pq}= Billing Determinants (million BTU delivered to retail customers) for the preceding quarter
BD_{pq-4} = Billing Determinants for the corresponding quarter one (1) year prior to the preceding quarter
BD_{p12}= Billing Determinants for the preceding year
BDA_{f12}= Billing Determinants Adjustment for the following year; provided, however, that this term shall be zero (0) unless BD_{pq} varies by more than five percent (5%) up or down from BD_{pq-4} and Company determines that an adjustment is appropriate.

Note: Billing determinants shall reflect usage corresponding to the period of fuel cost computations, regardless of the "billing" or "revenue month" in which such usage is billed.

QUARTERLY COST ADJUSTMENT RIDER (Continued)
STEAM

Reconciling Adjustments and the Reconciliation Rate:

At the end of the twelve (12) months of collection of each CQCA, the over- or under-collection of the intended revenues (the numerator of the CQCA) will be applied to customers' bills thru a Reconciliation Rate. The Company shall use a collection/refund/credit amortization period of twelve (12) months, provided that an amortization period of twenty-four (24) months may be used, if needed in the Company's discretion, to minimize any extraordinary increases in energy charges. Other fuel cost refunds, or credits related to the operation of this rider may also flow through this reconciliation process, as ordered by the Commission. The Reconciliation Rate shall be calculated similarly to the CQCA, except that the amount shall not be multiplied by the Alignment Mechanism again. Any remaining over- or under-collection from the Reconciliation Rate shall be applied to the next Reconciliation Rate.

DETAILS

1. The cost of fuel will be the amounts expensed in account 501. The amounts expensed will continue to be based on the cost definitions currently used for the inclusion of costs in these accounts and on the currently used cost allocation methods, as explained in some additional detail: the cost of gas will include the cost of physical gas deliveries and financial instruments associated with gas delivered in the quarterly period. The cost of coal expenses to account 501 will continue to reflect the average cost of coal inventory and the cost allocation method(s) including but not limited to the following:

The fuel allocation is performed on a daily basis as is done in actual operations at the Lake Road Generating Station. Fuel is expense allocated based on the following equations:

$$F_S = [S / (E + S)]$$
$$F_E = F - F_S$$

Where,

F is total 900-PSI boiler fuel
F_S is 900-PSI boiler fuel allocated to industrial steam sales
F_E is 900-PSI boiler fuel allocated to the electric turbines
S is industrial steam sales steam mmBtu from boilers
E is 900-PSI electric turbine steam mmBtu from boilers

The remaining fuel not allocated to the industrial steam sales system in the first equation is allocated to the electric system as shown in the second equation. Because the variable "F" shown above includes fuel burned for Lake Road plant auxiliary steam, fuel consumed for that purpose is properly allocated between the electric and industrial steam sales systems.

QUARTERLY COST ADJUSTMENT RIDER (Continued)
STEAM

2. There shall be defined minimum amounts of coal generation. The BTUs from coal, for the purposes of the Quarterly Cost Adjustment mechanism shall be the actual BTUs for the computation period, provided however, that in any period of computation for a rate adjustment, the BTU attributed to coal shall not be less than 495,695 million for the most recent three (3) months, shall not be less than 1, 052,814 million for the most recent six (6) months, shall not be less than 1,617,803 million for the most recent nine (9) months, and shall not be less than 2,184,104 million for the most recent twelve (12) months. If coal generation falls below any defined minimum amount, additional coal generation will be imputed for the computation period up to the defined minimum that produces the largest adjustment and the amount of gas fired generation for the computation period will be reduced for the purposes of the Quarterly Cost Adjustment by a like amount. The cost attributed to any coal BTU imputed as a result of this coal performance standard shall be either the cost used for BTU burned during the period that is the basis for the adjustment (the 3, 6, 9, or 12 month standard) or the cost from the most recent quarter in which coal was burned, whichever is less. The gas cost associated with any reduction in gas BTU occasioned by any coal imputation will be the average gas cost per BTU for the time period that is used to price any imputed coal usage. Aquila agrees that it will not seek an accounting authority order for fuel costs incurred, but not recovered, due to operation of this minimum coal provision.

3. Aquila will make quarterly rate filings with the Commission to adjust the Quarterly Cost Adjustment Rider. Each quarterly rate adjustment will include the fuel costs from the preceding quarter. The Current Quarterly Cost Adjustment factors will be calculated by dividing the fuel costs by the preceding twelve (12) month billing determinants; provided, however, that in the event that steam BTU billing units in a computation period increase or decrease by more than five percent (5%) compared to the corresponding period one year earlier Company may make an adjustment to the historic billing determinants for use in the denominator of the Current Quarterly Cost Adjustment rate computation. Each Quarterly Cost Adjustment will remain in effect for twelve (12) months.

4. There are provisions for prudence reviews and the true-up of revenues collected with costs intended for collection. The reconciliation account shall track, adjust and return true-up amounts and any prudence amounts not otherwise refunded. Fuel costs collected in rates will be refundable based on true-up results and findings in regard to prudence. Adjustments, if any, necessary by Commission order pursuant to any prudence review shall also be placed in the reconciliation account for collection unless a separate refund is ordered by the Commission. A reconciliation rate shall be established at a level designed to bring the reconciliation account to zero over a period of not less than twelve (12) months, provided that an amortization period of twenty-four (24) months may be used, if needed in the Company's discretion, to minimize any extraordinary increases in energy charges. Other fuel cost refunds, or credits related to the operation of this rider may also flow through this reconciliation process, as ordered by the Commission. The Reconciliation Rate shall be calculated similarly to the CQCA, except that the amount shall not be multiplied by the Alignment Mechanism again. Any remaining over- or under-collection from the Reconciliation Rate shall be applied to the next Reconciliation Rate.

5. The quarterly rate adjustments will not include carrying costs related to the timing of fuel cost recovery.

QUARTERLY COST ADJUSTMENT RIDER (Continued)
STEAM

6. In consideration of the sharing provision of this Rider, and the intent to rely on an alignment of customer and Company interests in efficient operations, a two (2) step approach to the review of prudence review will be followed. In Step One, Commission Staff will review to ascertain:

6.1. that the concept of aligning of Company and customer interests is working as intended; and,

6.2. that no significant level of imprudent costs is apparent.

7. This review may be entirely a part of surveillance activity. Customers will be given timely notice of the results of the Step One review no later than 75 days after the end of each year. In consideration of Step One results, the Staff may proceed with Step Two, a full prudence review, if deemed necessary. A full prudence review, if pursued, shall be complete no later than 225 days after the end of each year. Such full prudence review shall be conducted no more often than once every twelve (12) months and shall concern the prior twelve (12) month period or calendar year only, provided however that the full prudence review addressing the first partial year, if pursued, will be included with a full prudence review of the first full calendar year of operation of this rate mechanism.

8. Any customer or group of customers may make application to initiate a complaint for the purpose of pursuing a prudence review by use of the existing complaint process. The application for the complaint and the complaint proceeding will not be prejudiced by the absence of a full (Step Two) prudence review by Staff.

9. Pursuant to any prudence review of fuel costs, whether by the Staff process or the complaint process, there will be no rate adjustment unless the resulting prudence adjustment amount exceeds 10% of the total of the fuel costs incurred in an annual review period.

QUARTERLY COST ADJUSTMENT RIDER (Continued)
STEAM

RATE:

Current Quarterly Cost Adjustment Table:

Period	First Effective Date	Last Effective Date	CQCA (by Quarter)
2006 Q2			

Reconciliation Table:

Period	First Effective Date	Months	Last Effective Date	Monthly Recon (by Quarter)
2006 Q2				

Quarterly Cost Adjustment Table:

Period	First Effective Date	Last Effective Date	Monthly QCA
2006 Q2			

Credits are shown in parentheses, e.g. ($.05).

AQUILA NETWORKS - L&P STEAM
CASE NO. HR-2005-0436
ADJUSTMENTS TO STEAM SALES AND REVENUE
(CALENDAR YEAR 2004, UPDATED THROUGH JUNE 30, 2005)

	Sales (MMBTU)			Revenue		
	MO810 (1)	MO812 (2)	Total	MO810 (1)	MO812 (2)	Total
TY Steam Sales & Revenues	234,509	1,514,510	1,749,019	$1,104,072	$5,864,216	$6,968,288
Annualization for Billing Corrections	6,114	-	6,114	$25,088	$0	$25,088
Annualization for Unbilled	81	2,055	2,136	$18,008	$57,990	$75,997
One Steam Account Becomes Inactive	(12,889)	-	(12,889)	($71,643)	$0	($71,643)
Annualization for Rate Change		-	-	$64,117	$342,084	$406,202
Leap Day Adjustment	(768)	(4,542)	(5,310)	($3,246)	($19,790)	($23,036)
Special Contract Discounts		-	-		$290,500	$290,500
Anualization for Conjunctive Billing		-	-		$53,048	$53,048
Annualization for Load Changes	870,546	-	870,546	$4,282,042	$0	$4,282,042
Total	1,097,593	1,512,023	2,609,616	$5,418,436	$6,588,049	$12,006,485

(1) MO810 refers to steam accounts billed on the standard steam rate schedule.
(2) MO812 refers to steam accounts billed on a special steam contract.

Exhibit No.:
Issues: Lake Road Generating Station, Production Modeling System, And Natural Gas Pricing
Witness: Timothy M. Nelson
Sponsoring Party: Aquila Networks-L&P
Case No.: HR-

Before the Public Service Commission
of the State of Missouri

Direct Testimony

of

Timothy M. Nelson

APPENDIX C

TMN 3: 3-Month Average 2006 NYMEX Strip, Oct 1 to Dec 31, 2004

I. Lake Road Generating Station Operating Description

Q. Please describe the Lake Road generating facilities.

A. The plant is located in south St. Joseph, Missouri, on the east bank of the Missouri River. The plant consists of four steam turbine-generators, three combustion turbines, and six steam boilers. The plant's generating units have a net electric generating capability of 253.8 MW. In addition to generating electricity, the plant also supplies steam in the form of continuous process steam for sale to industrial steam customers. The steam sales are provided at a nominal pressure of 150-PSI. Steam sales are also provided to one customers at a nominal pressure of 850-PSI. When I refer to PSI, as in 150-PSI, I mean pressure measured in pounds per square inch. I will also use the term "pound" as in 900-pound system, which means the 900-PSI system.

Q. Please explain the Lake Road 900-PSI system.

A. The 900 PSI system, which is used to provide steam for the 900-PSI turbine-generators and L&P's industrial steam sales, operates at a nominal steam pressure of 900 PSI and is fed by four 900-PSI boilers (Boilers 1, 2, 4 & 5) and one 200-PSI boiler (Boiler 3). Boilers 1, 2, 3 and 4 burn natural gas as their primary fuel. With the exception of Boiler 3, these boilers use #2 fuel oil as a back-up fuel. Much of the 900-PSI system energy is produced by Boiler 5, which burns coal for its primary fuel, and natural gas for its back-up fuel. Therefore, in the 900-PSI system there are multiple boilers providing steam to a common header system

which in turn can drive three turbine-generators (1, 2, and 3) and also supply steam for industrial steam sales.

Q. Which fuels and production systems are dedicated to providing services to the steam customers?

A. There is no dedicated fuel source and there are no dedicated production systems for these customers. The configuration of this plant has common facilities used for both electric and steam production. Schedule TMN 1 entitled "Lake Road Generating Station – Fuel and Steam Flow Diagram", is attached. By inspection of this diagram it is evident that the 900-PSI system is common to multiple fuel inputs and produces steam for multiple turbines as well as the steam customers. The 200-PSI system also operates via multiple sources and has no dedicated production equipment.

II. Production Modeling System

Q. What method is used to allocate Lake Road's operating costs between the electric and steam customers.

A. Aquila uses production costing modeling software to simulate the electric system and steam customer loads. Schedule TMN 2 entitled "Steam Production Model for Lake Road" is a diagram that describes the process flow for the calculation method.

Q. What is a production costing model?

A. Aquila uses the production costing model, RealTime®, to perform an hour-by-hour chronological simulation of the Company's electric system, where the generators are

"dispatched" to meet the hourly system electric load, to determine the energy costs and fuel consumption.

Q. What is meant by "hour-by-hour chronological simulation"?

A. RealTime® solves each hour's demand chronologically before moving onto the next hour. Using this methodology, RealTime® can more accurately simulate real world operating conditions and constraints.

Q. How are the fuel expenses associated with the operation of the 900-PSI and 200-PSI systems allocated between the L&P division's electric and industrial steam operations?

A. Aquila allocates fuel expense between its L&P division's electric operations and industrial steam operations using the allocation methodology approved by the Commission in its Case No. EO-94-36.

Q. Please describe the steam/electric fuel and purchase power expense model used by Aquila.

A. Aquila created two models in RealTime®, one for electric and one for steam, and two Microsoft Excel® spreadsheets to determine the annualized fuel and purchase power expense costs for the electric system. The RealTime® "electric" model is used first to dispatch the electric system to meet the system load

After the electric model has been run the 900-PSI electric turbines hourly MW load is exported to a text file. This text file is then imported into the "Unit 123 to Steam" spreadsheet where the steam input necessary for each of the three generators is calculated using the respective unit heat rate curves. In this spreadsheet, the total steam required for

the turbines is calculated and then exported to a comma separated value (csv) file. The csv file is imported into the RealTime® steam model as another steam load for the steam system.

In the RealTime® steam model the electric turbine steam input from above is combined with the hourly steam sales loads too produce 900-PSI boiler hourly steam load input to the model. Boilers 1, 2, 3, and 4 are modeled as burning natural gas and Boiler 5 burns coal. The RealTime® steam model is then run using these steam loads to determine the total fuel burn and fuel cost for the Lake Road 900-PSI boilers.

After running the RealTime® steam model the fuel allocation is performed on a daily basis in the "Steam electric model" spreadsheet. To perform the allocation several inputs are required. From the steam model: 1) daily fuel quantity burned, by fuel type, 2) daily fuel cost by fuel type, and, 3) industrial steam sales mmBtu. From the electric model: 1) daily MW generated by the 900-PSI electric turbines, and, 2) the 900-PSI electric turbines steam mmBtu from the "Unit to Steam" spreadsheet.

The fuel allocation is performed on a daily basis as is done in actual operations at the Lake Road Generating Station. Fuel is expense allocated based on the following equations:

$$F_S = [S / (E + S)] \times F$$

$$F_F = F - F_S$$

Where,

F is total 900-PSI boiler fuel

F_S is 900-PSI boiler fuel allocated to industrial steam sales

F_E is 900-PSI boiler fuel allocated to the electric turbines

S is industrial steam sales steam mmBtu from boilers

E is 900-PSI electric turbine steam mmBtu from boilers

The remaining fuel not allocated to the industrial steam sales system in the first equation is allocated to the electric system as shown in the second equation. Because the variable "F" shown above includes fuel burned for Lake Road plant auxiliary steam, fuel consumed for that purpose is properly allocated between the electric and industrial steam sales systems.

Q. Has the significant increase in steam load caused fuel costs charged to steam to change?

A. Yes.

Q. Why?

A. The steam capacity from Boiler 5 that burns coal for it fuel source has reached its maximum output. Boilers 1, 2, 3 and 4, which use gas as the primary fuel, have to be used to supply any additional steam load. Steam from Boilers 1, 2, 3 and 4 cost per mmBtu is significantly higher than Boiler 5 causing the cost of service to increase.

III. Natural Gas Pricing

Q. What does Aquila propose as the price of natural gas?

A. Attached is Schedule TMN 3. This is the average of NYMEX futures prices for the 2006 time frame. Aquila proposes to use this average of actual market transactions as the estimate for market prices.

Confidential and Priviledged Settlement Document
Confidential Draft January 12, 2006

Aquila Steam
Coal System Performance Standard

	Test Period Fuel Million BTU per Aquila Direct Case			
Month	Coal	Coal - Quarterly Totals	Coal - Sorted Quarterly Totals	Coal - Cumulative Performance Standards
J	202,635			
F	195,170			
M	159,314	557,119	495,695	**495,695**
A	177,341			
M	198,924			
J	188,724	564,989	557,119	**1,052,814**
J	187,991			
A	187,887			
S	190,423	566,301	564,989	**1,617,803**
O	110,912			
N	188,695			
D	196,088	495,695	566,301	**2,184,104**

Coal Performance Standard:

The btus from coal, for the purposes of the rate adjustment mechanism shall be the actual btus for the computation period, provided however, that in any period of computation for a rate adjustment, the BTU attributed to coal shall not be less than 495,695 million for the most recent 3 months, shall not be less than 1, 052,814 million for the most recent six months, shall not be less than 1,617,803 million for the most recent nine months, and shall not be less than 2,184,104 million for the most recent 12 months.

Cost of Imputed Coal fired production

The Cost attributed to any coal BTU imputed as a result of the coal performance standard shall be either the cost used for BTU burned during the period that is the basis for the adjustment (the 3, 6, 9, or 12 month standard) or the cost from the most recent quarter in which coal was burned, whichever is less.