Exhibit No:	
Issues:	Extension Policy Eastern System
Witness:	Joseph M. Bahr
Type of Exhibit:	Direct Testimony
Sponsoring Party:	
Case No:	
Date Testimony To Be Filed:	August 1, 2003

MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. _____

DIRECT TESTIMONY

OF

JOSEPH M. BAHR

ON BEHALF OF

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

Kansas City, Missouri

August, 2003

State of Missouri)
) ss
County of Jackson)

AFFIDAVIT OF JOSEPH M.BAHR

Joseph M. Bahr, being first duly sworn, deposes and says that he is the witness who sponsors the accompanying testimony and schedules entitled "Direct Testimony of Joseph M. Bahr"; 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.

Joseph M Bahr

Subscribed and sworn to before me this 17th day of July, 2003.

Alexa Nunnery
Notary Public

My Commission expires:

ALEXA NUNNERY
Notary Public – State of Missouri
County of Jackson
My Commission Expires May 4, 2004

ALEXA NUNNERY NOTARY SEAL
MY COMM. EXPIRES MAY 4, 2004
NOTARY PUBLIC STATE OF MISSOURI

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DIRECT TESTIMONY OF JOSEPH M. BAHR

Q. Please state your name and business address.

A. My name is Joseph M. Bahr and my business address is 10700 E 350 Hwy. Kansas City, MO 64138.

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

A. I am employed by Aquila Inc. ("Aquila") in the Financial Management group of the domestic networks business unit. My position is Senior Manager, Financial Management, directly supporting the state jurisdictions of Iowa Gas and Missouri Gas. I am submitting this testimony on behalf of Aquila's two natural gas operating divisions in Missouri: Missouri Public Service ("MPS") and St Joseph Light & Power ("SJLP").

Q. Please state your educational background and experience.

A. I attended Fort Hays State University in Hays, Kansas from which I received a Bachelor of Science Degree in Business in 1981 and a Masters Business Administration Degree in 1993. I have worked for Aquila and its predecessor companies since 1981 and have held various positions with Aquila in the areas of accounting, budgeting, planning, regulatory, business management, retails services and now financial management.

Q. Have you ever testified before any utility regulatory commission?

A. Yes. I have testified on two occasions before the Colorado Public Utilities Commission with respect to Integrated Resource Planning dockets related to WestPlains Energy, another operating division of Aquila. I also provided testimony in Missouri Public Service's electric filing of its new extension policy in case no. ET-99-126.

Q. What is the purpose of your testimony?

A. My testimony will cover two matters in this rate case filing. First, I will review the rationale, financial support and analysis for Aquila's proposed **Gas Facilities**

Extension Policy for its Missouri operating divisions, MPS and SJLP. Second, I will describe the rate case impact that were made as related to the MPS "**Eastern System Impairment and Pro Forma Adjustments**".

Section 1. Gas Facilities Extension Policy

Q. What is a facility extension?

A. This term refers to the expansion of Aquila's plant from a service main to the customer's premise. The additions to plant can range from extension of a single residential line to piping of subdivisions, to extensive additions to serve large commercial or industrial users. This portion of my testimony will address a proposed model that will standardize what portion of the costs of these extensions should be borne by Aquila and the new customer.

Q. Is the proposed extension policy tariff the same for MPS and SJLP.

A. Yes. As Aquila witness Robert Amdor references in his testimony, in this rate case filing Aquila is proposing to integrate the full set of rules and regulations for the two gas divisions, including the extension policy.

Q. Please identify any supporting schedules that you sponsor.

A. I am sponsoring the following Schedules, which were prepared by me or under my direct supervision:

JMB-1 "Aquila, Extension of Gas Facilities Tariff"
[MPS & SJLP operating divisions]

JMB-2 "MPS Electric, Extension of Electric Facilities Tariff"
[Approved by MPSC, July 29, 1999 in case ET-99-126]

JMB-3 "Aquila, Gas Facilities Extension Agreement"

JMB-4 "Aquila Capital Feasibility Model"

Q. How have you outlined your testimony with respect to the proposed gas facilities extension policy?

A. First, I will cover the background for the changes to the tariff and the relationship to the MPS electric tariff. Second, I will describe the new tariff. Next, I will review the approach and financial methodology and modeling incorporated in the proposed policy.

Background for Changing the Tariff

Q. What is the underlying concept of Aquila's proposed extension policy?

A. The principal objective of this tariff is to match new cost causers with new cost payers in order to avoid any cross subsidization from existing ratepayers to new customers. The approach proposed is intended to set out the parameters under which Aquila will extend new facilities to connect new customers or update facilities for existing customers. One significant feature is a free basic service extension. The policy delineates the two types of construction charges, non-refundable and potentially refundable, which are sometimes also referred to as contributions and advances, respectively. The methodology for the calculation of the charges is outlined. An underlying component of the proposed policy is the application of a feasibility model, a standard justification premise for capital investment. This model will be reviewed in greater detail later in my testimony, but basically refers to an economic feasibility test of matching projected incoming revenues from customers in relationship to the costs of owning, operating and maintaining gas distribution assets and servicing customers.

Q. Why is Aquila requesting this change to modify its policy on "extension of gas facilities"?

A. There are three primary reasons why Aquila is proposing to change its policy. First, some of the current tariff provisions are outdated and need an update to reflect the future economic factors of the gas divisions. Second, Aquila would like to standardize the tariff with respect to facilities extensions, between MPS and SJLP. Third, there is an interest in adopting the principles and format

embodied in the "extension of electric facilities" for its MPS Electric division as approved by the Missouri Public Service Commission (MPSC) on July 29, 1999 in case ET-99-126 (reference Schedule JMB-2). The feasibility model incorporated in this proposed extension policy was also recently accepted for use by Aquila's Minnesota gas operations by the Minnesota Public Utilities Commission in Docket No. G-007,011/GR-00-951 on June 5, 2003.

Q. What are the current provisions in the tariff that are either out-dated or omitted?

A. There are four issues in the existing tariffs that need to be addressed.

First, in both the current MPS & SJLP tariffs, there is a separate provision for service and main extensions for residential and commercial customers. This additional detail requires additional tariff language and application of two footage/dollar cost tests and two potential charges leading to potential customer confusion and misapplication. The margin rates of Aquila are not separated into recovery of distinct mains and service extension costs.

Second, the test formula for MPS commercial customers in the current tariff uses a factor multiplied times revenue to calculate the revenue test or construction allowance. The current tariff formula factor is: 18% x Revenue to Derive Net Revenue. The original intention of this calculation appears to try to capture the margin contribution from the customer. We now recognize that by using annual revenue, one includes the variably priced commodity cost of gas. This factor is unpredictable and unstable to both the customer and the company for purposes of calculating construction charges. SJLP currently relies on a two year revenue test for excess length of services. Both jurisdictional divisions would benefit from the introduction of a standard feasibility model, as Aquila proposes in its new policy.

Third, an omission or potential interpretation gap exists, because the treatment of the meter and regulator cost is not addressed in the current SJLP line extension tariff.

Fourth, in both the MPS and SJLP tariffs, there is a lack of certain commitment on the part of the customer for length of service and/or end-use equipment using natural gas. For example, a customer applying for service to a natural gas fireplace is presently accorded the same standing as a customer applying for service for natural gas space heating. The standard service connection from the company's main to the customer's house is approximately $700. A typical residential customer using natural gas for its full space heating and water heating requirements would provide approximately $304 annually in margins to Aquila under current MPS rates. On the other hand, a MPS residential customer using natural gas only for a fireplace would generate approximately $114, assuming twelve months of customer charges are paid. Clearly, the capital justification for the two residential homes is vastly different. Absent specific recognition of this difference, existing customers will subsidize the capital investment to serve limited use customers like fireplaces.

Q. What are the principles from the MPS Electric division's "extension of electric facilities" that Aquila is interested in applying to its "extension of gas facilities"?

A. In its filing with the MPSC in case no. ET-99-126, Aquila outlined five characteristics of a sound extension policy as listed below. Aquila believes these characteristics should apply whether considering gas or electric facilities. Those characteristics are:

1. **Choice**. Basic service is provided free of charge. Those applicants choosing service above and beyond the plain vanilla service may pay more;

2. **Administration**. A simple and consistent basis for administration by Aquila personnel and ease of understanding and fair interaction with customers;
3. **Standards.** To the extent feasible, avoids non-productive paperwork and reduces potential for discrimination, a consistent application;
4. **Subsidization**. Communication of up-front price signals via construction charges to applicants will benefit stakeholders by mitigating subsidization between customer groups and by preventing subsidization of expansion by other ratepayers;
5. **Balance**. Provides a fair and reasonable sharing of costs between new customers, the existing customer base, and Aquila.

Description of New Tariff

Q. Please describe the new tariff for "extension of gas facilities" proposed by Aquila.

A. The proposed tariff is attached as Schedule JMB-1. The new tariff is intended to provide solutions to the four short-comings in the current tariff referenced in the previous section of my testimony. The tariff is also very similar in format and structure to the currently effective MPS electric tariff. The proposed tariff generally provides greater detail, explanation, and additional coverage of items like Extension Upgrades, Relocation Request, Conversion Request, and Excess Facilities Request than the existing tariff.

Q. Please proceed to describe the provisions in the proposed tariff.

A. There are 10 subsections in the tariff. I will provide a brief overview of the subsections and how each subsection may be related to others.

7.01 Purpose and Availability
This section outlines the applicability for extension requirements for facilities to serve new customers as well as facilities to be modified to serve existing customers. The commencement date of Aquila's revised policy is tied to the effective date to be determined in this rate case docket.

7.02 Definition of Terms
This section provides a clear set of descriptions of common utility terms used throughout the tariff and the specifics of the Aquila feasibility model. The

feasibility model and the application of construction charges and construction allowance is discussed in greater detail in the next section of my testimony.

7.03 General Provisions
This section is a simple reiteration of the practices of Aquila and its general application of its extension policy regardless of customer class of service.

7.04 Application for Extension of Gas Facilities – Permanent Service
This section, as linked to the definition of terms, supplements the next section, i.e. a customer is classified by Aquila as either permanent or temporary service. This section sets out the minimum provisions required to be classified as permanent. Residential customers must commit to one year of service with natural gas as its basic heating requirement. Fireplaces will not qualify. Dual fueled heat pumps using electricity for supplemental space heating and natural gas for base space heating would meet this minimum qualification. Small Commercial customers requesting eligibility for a basic extension service (free of charge) must commit to one year of service for a minimum of five-hundred (500) therms on an annual basis. Larger Commercial and Industrial customers relying upon greater than five thousand (5000) therms annually to justify their construction allowance must commit to a minimum of three (3) years of service to meet the minimum qualifications. An example of the "Facilities Extension Agreement" is provided as Schedule JMB-3.

7.05 Application for Extension of Gas Facilities – Temporary or Limited Service
As referenced in the section just above, this is the classification for those customers either not willing to commit to the specified length of service or have minimal limited usage, i.e. fireplaces. These customers will not produce sufficient revenue to Aquila to justify the extension of facilities and as such are required to pay the full installed and removal construction cost, as estimated by Aquila, as a non-refundable construction charge.

7.06 – 7.09 Four subsections with self-explanatory language in each section, Extension Upgrade, Relocation or Conversion Request, Excess Facilities Request and Applicability Limitation. The latter section sets out two provisions related to the proposed policy; 1) the timely execution of a proposed construction cost estimate by Aquila; and 2) the intention to use estimated construction costs unless specifically agreed upon between customer and Aquila.

7.10 Summary of Policy Administration
This section summarizes and integrates the previous nine sections into the more specific application of charges by customer type. Specifically, the provision for "Free of Charge – Basic Extension Request" is outlined as the first 150 feet of

service line and/or feet of main, one meter of less than 399 cfh (cubic feet hour) at ½ inch differential and one standard regulator and meter bar assembly. "Excess Charges", those costs above the free facilities, are separately identified for "proven" projects and "unproven" or "indeterminate" residential projects, with respect to subdivision developers. The application of calculating the non-refundable construction charge is the same for both, while the "unproven/indeterminate" project class will have a "potentially refundable construction charge" to mitigate the earnings risk that Aquila may otherwise incur. The determination by Aquila of whether to charge a construction advance will be based upon the Applicant's history of building out subdivisions as previously committed to and a requirement of at least $10,000.00 or more as a minimum threshold for the calculated advance. This latter provision, by default, will generally require about 15 or more lots to be piped, which is a infrequent occurrence in Aquila's service territory. Aquila will use one primary factor in reviewing the developer's track record: for the past five (5) years in Aquila's service territory, developer must have successfully built out at least ninety percent (90%) of the specified dwellings at the specified end-use within five (5) years. Commercial and industrial projects will be analyzed using the Aquila feasibility model.

Q. Please explain in more detail the requirement of a construction advance for "unproven or indeterminate" subdivision type projects referenced in the previous paragraph?

A. The construction advance charge, per our extension policy, is classified as "potentially refundable". For example for a subdivision project, if the Applicant builds houses as committed to in the extension facilities agreement, within five (5) years, the complete construction charge would be refunded to the Applicant. The construction advance acts to serve as an assurance that Aquila will be made whole with respect to its capital investment. Typically, Aquila would be required to make about 50% of its investment upfront, before houses are built and service lines extended, to lay the mains before roads and other subdivision infrastructure is laid over. Developers that have a good track record with Aquila will not be required to provide the cash contribution upfront, but will be monitored for non-performance and will be subject to back billing for not meeting the commitments executed in the Facilities Extension Agreement. Developers

with a poor record, no record, or classified as unproven or indeterminate, will be required to provide the cost of the project before the extension is constructed.

Aquila Approach and Financial Methodology

Q. Please describe Aquila's approach in determining the proposed gas facilities extension policy.

A. We started by considering what is required to justify basic service for a typical residential or commercial customer applicant and what facilities should be provided by Aquila free of charge. Those facilities are outlined in section X.10.A of Schedule JMB-2: one hundred and fifty (150) feet of service line and/or feet of main, one meter of less than 399 cfh at ½ inch differential and one standard regulator and meter bar assembly. The cost of these basic facilities equals a base construction allowance derived from the Aquila feasibility model, estimated at $900, based upon 500 therms of annual usage. We then tested the feasibility model, Aquila's capital justification formula, to ensure that other more advanced projects would yield accurate results. We are confident that simple to complex projects can be reviewed with the same model to ensure consistent application of the line extension parameters across customer classes**.**

In each test of our feasibility model, we reviewed whether the model matched new costs with the new cost causers. In other words, we tested our model to assure that each new applicant wishing to become a customer of Aquila would pay his or her fair share of the new cost necessary to serve them.

Q. What are these "new costs"?

A. The new costs reflect the incremental service requirements necessary to serve new customers and are broken down into the following four broad components:

1) the capital for the direct or local project construction cost required by Aquila to serve the applicant's facilities, which reflects the requisite rate of return, depreciation, property tax and insurance;

2) improvements to the larger network or backbone system that supports the local system, including the rate of return, depreciation, property tax and insurance as well as on-going operations and maintenance expense;
3) customer care expenses, (for example twenty-four hour availability for service inquiries) and metering, billing, and collecting;
4) enterprise and infrastructure support such as for accounting, information technology, customer information systems and other utility management requirements.

Q. Please explain the derivation of the "new cost" components outlined above.

A. The "new costs" driven by item one are readily determined for each project type based on the applicant's service requirements. "New costs" for the latter three items are based on engineering and financial analysis of a fair and reasonable allocation. This latter set of costs is the derivation for the "O&M factor" discussed in the next response.

Q. What is the resulting cost for the latter three components?

A. Aquila proposes to use an O&M factor of thirty-three percent (33%) of the customer's expected margin from their annual billing. In other words, this calculation works as a deduction from the annual margins billed, deriving a net margin, of which this remainder is used as the portion of margins used to provide the economic justification for the direct or local project construction costs.

Q. Why was this thirty-three percent (33%) O&M factor chosen by Aquila?

A. This amount was chosen as a reasonable estimate, balancing the short-term and long-term impacts of new customers on the Aquila network. A significant portion of the balancing of cost rationale is represented by fixed costs or costs that will not be variable to an increase in new customers. Investment in information technology systems or upgrading a backbone main from 2" to 4" or

hiring the next customer service associate at the call center are made on a step scale, i.e. a single or even a few customers will not by themselves require the upgrade in capital or human resource expenditures. However, with an accumulation of several of these individual or smaller projects, system improvements and/or additions may be required. Aquila believes it is fair that new cost causers contribute some of its margins towards this new cost it is ultimately causing.

Q. Please summarize Aquila's position on the allocation of margins?

A. In summary, the tariff rates for customers are designed to capture the total cost of service, which includes all of the costs identified in parts 1 through 4 above as well as the other basic costs of managing, operating and maintaining a natural gas utility. Aquila believes it is only fair that a portion of the new customer's margins assist the existing customers in covering this set of costs leaving a balance of the new customer's margins to justify the specific capital required for the new customer project extension which primarily only benefits the new customer.

Q. What is the impact if Aquila chose a higher or lower percent contribution?

A. If Aquila chose to use a higher allocation in its feasibility model, the resulting construction charges to new customers would be proportionally larger, potentially causing feasible projects to not be completed. Conversely, if Aquila chose a lower allocation in its feasibility model, the resulting construction charges to new customers would be proportionally lower, causing existing customers to subsidize new customers. It is Aquila's judgment that a thirty-three percent (33%) percent allocation is a fair and reasonable representation of the sharing of costs between existing customers and by Applicants wishing to become customers of Aquila.

Q. Has a factor similar to thirty-three percent (33%) been adopted in other extension policies in Missouri or other states?

A. Yes. First, MPS Electric, in Case No. ET-99-126, used a simple formula that calculated $315 in margins for a typical residential customer and allocated a fixed amount of $105, or thirty-three percent (33%), to O&M. Second, as previously discussed, Aquila uses a contribution factor of thirty-three percent (33%) in its feasibility model in Minnesota.

Q. How would you describe the proposed policy in terms of economic justification?

A. The proposed policy accurately provides for a fair and economic justification of new capital projects and will align incremental costs with the projects that cause costs to increase. As a result, we will send appropriate price signals, via construction charges, to applicants wishing to become customers of Aquila.

Q. Please explain.

A. The construction charges will be made visible to the cost causers, and those decision makers will make better economic decisions based on their service requirements, location and load types. Unless, the Applicant requests a plain vanilla extension, a review of the different cost options, i.e. trade-offs, will be communicated by Aquila to them, i.e. more end-use commitments for natural gas will generally lessen their cost burden. Without this proposed policy, a potential unfavorable alternative is for the construction charges to be subsidized by current customers in the long term and by Aquila in the short term.

Q. Please explain in more detail your latter point on short-term and long-term effects.

A. Aquila operates as a regulated utility in the state of Missouri under the guidance of what is commonly referred to as the “regulatory model”. This model is premised on the following parameters:

- Aquila is provided an opportunity to earn a fair and reasonable return based on a cost of service (return on capital and coverage of expenses) established at a specific point in time (effective date of rate case order) as determined over an annual calendar year (test period).
- The time between the change in rates resulting from a rate case order to the next rate case order is called "regulatory lag". In relation to my point above, I will refer to this as the short-term company effect.
- The costs incurred between rate case orders are incurred solely at the expense of Aquila. If revenues do not adequately cover costs, Aquila is disadvantaged in the short term between rate cases.

Q. How does the problem move from a short-term company issue to a long-term customer effect?

A. For each day of regulatory lag, Aquila accumulates this cost over time until the next rate case order, which translates into the long-term customer effect. At the time of the next rate case order, Aquila is made whole with respect to the level of its earnings in relation to all of its costs. The new revenue requirement is set at a reasonable and fair return commensurate with the new level of cost of service, which includes those capital projects for which customers had not paid their fair share, generating a revenue shortage. In the cost of service phase of a rate case, this shortage is allocated across the entire customer base, and if approved by the MPSC, the subsidies become embedded in the new rates to the aggregate customer base. As a result if subsidization occurs, existing or established customers pay more on their utility gas bills then they otherwise would.

Q. Can this amount be clearly identified in rates?

A. No. Often there are many issues in a rate case with varying plus and minus effects. The negative results from an extension policy are masked by the inherent complexity of utility regulation.

Q. Is there a significant difference with respect to the amount of expected investment capital required by Aquila between the current and proposed policies?

A. No. Aquila currently connects about 500 new customers per year to its natural gas networks in Missouri. Most of these are residential customers on the MPS system (73%) where they are currently provided a construction allowance of $1025, subject to footage limitations, service and main extensions combined. Under the new policy, dependent on the customer's end-use commitment, on average it is expected that the per customer construction allowance will not change. Customers choosing full natural gas heating and water heating could pay slightly less, projected at $75 in reduced construction charges, while a customer choosing only basic space heating from natural gas may pay $125 more. The two referenced examples would reflect the delta change in construction allowances, but the actual construction charge is dependent on the total project cost for extending mains and services. Projects that are within the basic extension services request are provided free of charge. Residential customers wanting only fireplace "heating" from natural gas would now pay the full cost of the extension. (This customer group is probably only ten new connects annually, or about $10,000 favorable impact, i.e. less capital investment paid by Aquila.) New connections for commercial customers occur only about 110 times per year and on average will not see any significant change. The nominal number of new industrial customer connections each year are already subject to an economic justification test and will not see any significant changes in construction charges.

Q. Please describe the assumptions used in the financial feasibility model incorporated in Aquila's proposed extension policy.

A. Aquila has used the following assumptions and formulas in the development of its financial feasibility model (Reference Schedule JMB-4):

- **Project's first five years average activity**. Aquila proposes to use an average of the first five years of project activity as an appropriate balance between the short-term company effect and the long-term customer effect as described above.
- **Project revenues**. Annual revenues, often referred to as margin, for the applicant's incremental project will be determined by applying the Commission-approved margin rates in this rate case against the applicant's projected load profiles for each year, plus the applicable billed customer charges. [Gas commodity and pipeline charges are excluded].
- **Project cost allocation**. Costs have been determined based on engineering and financial analysis for network distribution, customer care, and other infrastructure requirements. (In my earlier testimony, I provided the detail behind this justification, i.e. thirty-three percent (33%).)
- **Project net benefit**. Subtract the "project cost allocation" from the "project revenues" and then subtract the income tax cost per the rate consistent with the determination in this rate case.
- **Project carrying costs**. Costs for return on equity, cost of debt, depreciation expense, and property tax will be consistent with the results from this rate case.
- **Project construction allowance**. The construction allowance is equal to the "project net benefit" divided by the "project carrying costs" as measured during the "project's first five years average activity."
- **Project capital cost**. Cost of construction estimates for each project are prepared by Aquila design experts.
- **Project construction charges**. The applicant is responsible to pay the difference between the "project capital cost" and the "project construction allowance" plus an adder of twenty percent (25%) to account for federal and

state income taxes. Aquila will not bill Applicants for construction charges less than one-hundred dollars ($100.00).

Q. Please explain in greater detail the average five-year determination period.

A. First, please note that this planning assumption should not be confused with a five-year pay back. In other words, an applicant is not required to generate a benefit to Aquila that would pay back all of the capital and associated operations and maintenance costs incurred by Aquila in the first five years. The planning premise is built on the assumption that Aquila will at least be given an opportunity to earn at its authorized rate of return on its investment as based on a simple average of the first five years. This basis includes using Commission approved depreciation rates, which generally are based on an asset life of about thirty years.

Q. What standard usage volumes are proposed for use in Aquila's gas facilities extension policy?

A. For residential customers, Aquila based on previous integrated end-uses studies for both electricity and natural gas from its electric facilities extension policy filing, has determined that four standard types are appropriate for a natural gas utility. These can also be found on "Exhibit A-Residential" of Schedule JMB-3.

Type I: Natural gas furnace, no water heating.

Type II: Natural gas furnace with water heating.

Type III: Dual fueled heat pump; no water heating.

Type IV: Dual fueled heat pump with water heating.

Q. Does the use of standard residential end-use types lead to standard construction allowances?

A. Yes. Once we have the final disposition of model assumptions from this rate case filing, Aquila will run the standard end-use types through its feasibility model to calculate standard construction allowances. The table below outlines the calculated construction allowances under current rates:

Summary of Standards under Proposed Policy		
Type	Therms	Const. Allowance
I	72	$1,000.00
II	88	1,100.00
III	56	900.00
IV	72	1,000.00

Q. How does Aquila's proposed tariff compare to other tariffs of other jurisdictional gas utilities in the state of Missouri?

A. The following table is a simple comparison of the major components:

Summary of Major LDC Gas Tariffs in Missouri

	Customer Size	Service Extension	Main Extension	Notes
Missouri Gas	< 6000 ccf	<60 feet upto $450	< 75 feet free	
	> 6000 ccf	"analysis of revenue and return"		
Laclede Gas	< 6000 therms	< 75 feet free	< 175 feet free	< $1000 together
	> 6000 therms	"analysis of revenue and return"		
Union Electric	< 160 feet of main	<60 feet + $100	free	
	> 160 feet of main	"3 year net revenue test"		
Aquila Proposed	< 150 feet	service or main is free		
	> 150 feet	"feasbility model"		

Q. Please summarize the basic methodology for customers wishing to have natural gas service extended to their premise under Aquila's proposed policy.

A. The five basic steps are:

1. Applicant contacts Aquila regarding service location, end-use commitments, and date service needed. Examples of applications could be for a residential customer to request a relocation of a service line, a residential subdivision piping project, or a 1000 foot main extension to serve a new industrial plant. Each Applicant is processed according to the tariff and these five steps outlined here.
2. Aquila determines the necessary facilities and estimated cost required to connect the new customer to the existing Aquila distribution network.
3. Aquila determines if the Applicant's request meets the requirements of being a permanent service. If customer proposed service passes the simple tests referenced earlier in testimony, then go to step 4. If the proposed service is determined by Aquila to have a temporary or limited service, then go to step 5, and Applicant will be responsible for the non-refundable construction charge of installing and removing the facilities required to serve the Applicant.
4. For permanent service, Aquila will calculate the construction charges, if any, based on the following:
    i. If the length of service and main extension is less than 150 feet, the service is provided free of charge.
    ii. If the length of service is greater than 150 feet, next steps dependent on customer type:
        a) Residential Single Family: the standard construction allowance is subtracted from the total project cost to calculate the non-refundable construction charge.
        b) Non-Residential Single Family: for other projects the following inputs are needed for the Feasibility Model for the first five years, year by year: 1) the annual usage in therms and number of meters as committed to by Applicant; 2) the

applicable margin rate per therm plus customer charge; 3) the estimated construction costs by Aquila. The Feasibility Model automatically calculates the construction allowance, generates the carrying costs on the estimated construction costs, and as measured over the first five years of the project, outputs the non-refundable construction charge required from the Applicant.

5. Aquila prepares the Facilities Extension Agreement, including the Construction Charges as applicable from step 3 or 4. Upon execution of the agreement by signature of the Applicant and payment of the construction charges, Aquila builds the necessary facilities to connect and serve the customer.

Q. Does this conclude your testimony with respect to gas facilities extension policy?

A. Yes it does.

Section 2. Eastern System Impairment & Pro Forma Adjustment

Q. Please identify any supporting schedules which you sponsor.

A. I am sponsoring the following schedules which were reviewed and prepared under my direct supervision:

JMB-5	Allocation of Asset Impairment by Account
JMB-6	FASB 144, Test Value

Q. Please describe how you have outlined your testimony with respect to the Eastern System Impairment and Pro Forma Adjustment?

A. First, I will briefly cover historical background of the Eastern System. Next, I will review the justification by Aquila for the original entries to account for the Impairment under FASB 144. Last, I will provide the analysis of the proposed rate case impact of the pro forma adjustments to cost-of-service.

Background of Eastern System

Q. What is the Eastern System?

A. The "Eastern System" is a MPS tariff term that refers to the collective distribution systems serving three individual towns (Rolla, Salem and Owensville) that are supplied natural gas off the same interstate pipeline and two intrastate pipelines. These three towns are situated along Interstate 44, generally and remotely to the southeast of the other systems of MPS: Northern and Southern. Each of the three MPS systems has separate accounting for its purchased gas adjustment (PGA). However, the three systems otherwise have the same rates.

Q. How did the Eastern System originate?

A. For each of the towns of Rolla, Salem, and Owensville, MPS filed applications with the MPSC for certificates of convenience and necessity authorizing it to construct, install, own, operate, and manage a gas distribution system. These individual applications were approved by the MPSC in 1994, 1995, and 1997, respectively. Shortly after receiving approval of each application, MPS began its build-out of the distribution system to convert customers from propane primarily, and also to serve new homes and businesses in the area.

Q. How does the current financial performance of the Eastern System compare to the business cases reflected in the approved applications?

A. The financial performance of the Eastern System has not met expectations. Over the next three sections, I will cover the collective variances from expectations for the Eastern System.

Customer Count: The projection for the number of customers expected to convert or be added has fallen short by about thirty-five percent (35%), from 6,360 projected versus a year-end 2002 customer count of 4,154.

Margins: Along with a loss of margins from a reduced customer count, the volumes used by the converted customers have been less than anticipated. This volume shortfall generally has been due to a low success rate of converting water heaters and an over estimation of the volumes expected to be used by customers in southeast Missouri. The variance between weather normalized 2002 margins and the original business cases is a shortfall of $1.5 million or fifty-two percent (52%).

Plant Invested: The physical build-out of the Eastern System, with respect to the number of feet of mains and**,** was largely completed as planned. However, in total, the financial cost was higher than expected by about twenty-eight percent (28%), or $3.3 million.

Q. What is the primary reason for the failure to meet expectations on the Eastern System?

A. The anticipated economy of scale (plant invested divided by number of customers) was not attained. Specifically, the actual investment per customer was $3,659 versus the projected cost of $1,790. The primary reason for the shortfall in customer conversions was that competition with un-regulated propane dealers was more fierce than anticipated.

Impairment per FASB 144

Q. What does FASB stand for?

A. FASB is the industry acronym for the Financial Accounting Standards Board. The stated mission of FASB is "to establish and improve standards of financial accounting and reporting for the guidance and education of the public, including issuers, auditors, and users of financial information." From time to time, FASB issues new pronouncements to support its mission. FASB 144 is one such pronouncement.

Q. What are the requirements of FASB 144?

A. The key FASB 144 paragraphs regarding the methodology for determining if an asset is impaired are noted below, with specific quotes in parentheses:

- Impairment, paragraph 7. "For purposes of this statement, impairment is the condition that exists when the carrying amount of a long-lived asset (asset group) is not recoverable and exceeds its fair value. The carrying amount of a long-lived asset is not recoverable if it exceeds the sum of the undiscounted cash flows expected to result from the use and eventual disposition of the asset."
- Test Value, paragraph 16. "Estimates of the future cash flows used to test the recoverability of a long-lived asset shall include only the future cash flows that are directly associated with ….. those estimates shall exclude interest charges that will be recognized as an expense is incurred."
- Assumptions, paragraph 17. "… shall consider all available evidence. The assumptions used in developing those estimates shall be reasonable in relation to the assumptions used in developing other information used by the entity for comparable periods, such as internal budgets and projections. A probability-weighted approach may be useful in considering the likelihood of those possible outcomes."

- Fair Value, paragraph 22. "The fair value of asset is the amount at which the asset could be bought or sold (settled) in a current transaction between willing parties, that is, other than in a forced or liquidation sale. Quoted market prices in active markets are the best evidence of fair value … if not available … in those instances the estimate of fair value shall be based on the best information available … and the results of using other valuation techniques."

Q. When did Aquila recognize that an impairment existed for the Eastern System assets?

A. Aquila recorded the impairment on its books at year-end 2002. The entries on the corporate books are as follows:

Debit account 426.5, Misc Operating Income …….$8,980,000
Credit account 101, Plant in Service ..…… 8,980,000

In May of 2003, the above entries were reversed on the corporate books and the following entries were made on the books of the MPS Gas business unit as follows:

Debit account 426.5, Misc Operating Income …….$8,980,000
Credit account 108, Accum Deprec Reserve ……. 8,980,000

Q. What are the tax consequences of the impairment expense?

A. An expense for asset impairment reduces the book income of the reporting entity, MPS, thus reducing the corresponding book amount of income taxes. However, the recognition of the expense for tax purposes is not made until the asset is disposed of. This creates a book-to-tax timing difference, which drives the additional entries for deferred income tax expense and a deferred income tax asset for MPS. The effective federal and state income tax rate for MPS is 38.39%. This tax rate multiplied by the reduced income of $8,980,000 calculates an income tax impact of $3,447,422. The entries and accounts are as follows:

Credit account 410 Deferred Income Tax Expense $3,447,422

Debit account 282 Deferred Income Tax Liability* $3,447,422

*Account 282 is normally a liability account with a credit balance. The referenced entry, as a "tax asset", reduces the level of credit balance, hence increasing rate base.

Q. Why, in May 2003, was the credit entry made to the reserve account instead of to plant in service as it was at year-end?

A. The effect on net plant, which is plant in service less accumulated depreciation reserve, is the same regardless of which is account is credited. The decision to credit the reserve account was made after consulting with the accounting staff of the Federal Energy Regulatory Commission ("FERC").

Q. How will the impairment, via a reduction in accumulated reserve, affect future depreciation expense?

A. Given that the impairment is almost sixty percent (60%) of gross plant for the Eastern System, a recognition of the change in either depreciable plant or depreciation rates is significant and necessary. Aquila has determined that a manual adjustment to depreciable plant and the associated calculation of depreciation expense is the most effective means of recognizing this change. This results in no change to depreciation rates. Aquila has an accounting system that will continue to calculate pre-impairment depreciation expense on an automated basis as reflected by the pre-impairment depreciable plant in service. Referencing Schedule JMB-6, Aquila has allocated the $8.98 million impairment across the plant accounts in service on the Eastern System. Applying the MPSC approved depreciation rates, by plant account, against the allocated impaired plant accounts, will determine the depreciation expense attributable to the impairment. On a monthly basis, Aquila will credit depreciation expense related to the impairment on its income statement. On a

quarterly basis, Aquila will accumulate the depreciation expense credit for the three months, and credit accumulated depreciation reserve.

Q. What model and assumptions did Aquila use in developing the valuation analysis of the impairment?

A. First, remember that FASB 144 requires a test to determine if an impairment exists. If an impairment exists, a determination of fair value is required. I will first describe the test phase. Then, I will describe the fair value phase, which actually determined the impairment of $8.98 million referenced in the preceding question.

Test Value Phase:

In summary, the purpose of this phase is to determine or test what level of recoverable investment is supported by the projected level of future cash flows. The valuation model starts with a simple extrapolation of the 2003 budget. This model is attached per schedule JMB-6. The base budget for 2003 is carried forward for an additional twenty-nine (29) years subject to the assumptions below. In most instances, the 2003 Budget was not prepared at the specific level of detail for the Eastern System, so allocations and extrapolations were used as explained below. As prescribed by FASB 144, the cash flow is undiscounted and interest expense is excluded.

The beginning base level margins (2003 year) are derived from a known measurement of year-end 2002 customers multiplied by weather-normalized use per customer multiplied by current rates. In 2004, or year 2 of the model, a projected conservative increase of three percent (3%) in revenue, or approximately twelve percent (12%) in margins, from the 2003 rate case was included. The growth rate, net of customer additions and retirements, for the remaining twenty-eight (28) years was measured across the variability of incremental margins as measured across four levels, year over year change in

margins. Per Schedule JMB-6, these models were run as 1% increase per version A (page 2 of 5), .5% increase per version B (page 3 of 5), 0% increase per version C (page 4 of 5) and -.5% decrease per version D, (page 5 of 5). The current budget assumption for Missouri Gas is a growth rate of .5% per year. This variability was used in the weighted probability approach discussed later.

Expenses are either directly assigned or allocated. A distinct operating department is responsible for the Eastern System, and other costs such as property taxes and bad debts were directly assigned. Inter Business Unit (IBU) expenses were estimated to be 2/3 direct related and 1/3 allocated. Additional allocated costs included Enterprise Support Functions (ESF) and other Missouri management. All expenses were assumed to escalate by 2.25% per year. Depreciation expense was extrapolated to its current rates at about 3.4% per year.

Based upon the above analysis, a weighted probability outcome test value of $3.882 million was derived from the thirty (30) years of projected cash flow. Reference Schedule JMB-6, page 1, for the summarized results and the underlying weighting of the four varying margin increase scenarios (A,B,C,& D). With a present net investment base estimated at about $12.0 million, the impairment as tested is almost $8 million.

Fair Value Phase:

As prescribed by FASB 144, upon failure of the test valuation referenced above, i.e. impairment was evident and material, a fair valuation was necessary. The same assumptions from the valuation model used in Schedule JMB-6, with respect to the baseline operating income and changes in margins and expenses over thirty (30) years, and applying a discount rate of 7.56% was used to

estimate the fair value if Aquila continues to hold this asset under a regulatory framework. The weighted fair value, of continuing to hold or selling the system, was estimated at $3.02 million on the then estimated $12 million rate base. This results in an impaired value or required write-down of $8.89 million.

Pro Forma Adjustment to Cost of Service

Q. What are the Pro Forma Adjustments to Cost of Service that Aquila is proposing in relation to the asset Impairment of the Eastern System?

A. The following adjustments are proposed:

1. Accumulated Depreciation Reserve $8,980,000 credit
   Schedule 5, MPS Depreciation Reserve

2. Deferred Tax Liability $3,447,422 debit
   Testimony of Rich Petersen, RBO-30

3. Depreciation Expense $310,972 credit
   Testimony of Becky Tangeman, CS-97

Q. Please summarize the impacts of these adjustments on the customers of MPS?

A. First, I should remind everyone that the original entries for FASB 144 impairment were not included on the specific books of MPS Gas, but instead were included at the corporate level for summary accounting of Aquila, Inc. at year-end 2002. As such these proposed adjustments are necessary to reflect the impact on the pro forma books of MPS. The net result is to reduce rate base by $5,532,578. Per company witness, Dr. Donald A. Murry, the proposed rate of return is 9.74%. Applying this proposed rate of return to the rate base adjustment made necessary by the impairment reduces the overall revenue requirement by

$538,818. Adjusting for income taxes represents a further reduction of $335,887. Combining the rate of return effect with the decrease of $310,972 in depreciation expense related to the impairment results in a reduction of $1,185,677 in the revenue requirement requested by Aquila in this case.

Q. Does this conclude your testimony?

A. Yes it does.