Exhibit No.:	
Issues:	*Depreciation and Accumulated Depreciation Reserve*
Witness:	*Rosella L. Schad*
Sponsoring Party:	*MoPSC Staff*
Type of Exhibit:	*Direct Testimony*
Case Nos.:	*GR-2004-0072*
Date Testimony Prepared:	*January 6, 2004*

MISSOURI PUBLIC SERVICE COMMISSION

UTILITY SERVICES DIVISION

DIRECT TESTIMONY

OF

ROSELLA L. SCHAD

AQUILA, INC. d/b/a AQUILA NETWORKS-MPS (GAS) AND AQUILA NETWORKS – L&P (GAS)

CASE NO. GR-2004-0072

Jefferson City, Missouri
January 2004

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

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

AFFIDAVIT OF ROSELLA L. SCHAD

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

Rosella L. Schad, being of lawful age, on her oath states: that she has participated in the preparation of the following Direct Testimony in question and answer form, consisting of 14 pages to be presented in the above case; that the answers in the following Direct Testimony were given by her; that she has knowledge of the matters set forth in such answers; and that such matters are true and correct to the best of her knowledge and belief.

Rosella L. Schad
Rosella L. Schad

Subscribed and sworn to before me this 4th day of January 2004.

Toni M. Charlton
Notary

TONI M. CHARLTON NOTARY SEAL NOTARY PUBLIC STATE OF MISSOURI

TONI M. CHARLTON
NOTARY PUBLIC STATE OF MISSOURI
COUNTY OF COLE
My Commission Expires December 28, 2004

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ROSELLA L. SCHAD

AQUILA, INC. d/b/a AQUILA NETWORKS-MPS (GAS)
AND AQUILA NETWORKS – L&P (GAS)

CASE NO. GR-2004-0072

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DIRECT TESTIMONY

OF

ROSELLA L. SCHAD

AQUILA, INC. d/b/a AQUILA NETWORKS-MPS (GAS)
AND AQUILA NETWORKS – L&P (GAS)

CASE NO. GR-2004-0072

Q. Please state your name and business address.

A. Rosella L. Schad, P.O. Box 360, Jefferson City, MO 65102.

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

A. I am employed by the Missouri Public Service Commission (PSC or Commission) as an Engineer in the Engineering and Management Services Department.

Q. Please describe your educational training and professional background.

A. I received a Bachelor of Science degree (1978) in Mechanical Engineering from the University of Missouri-Columbia. I am a Licensed Professional Engineer in the State of Missouri. I am a member of the National Society of Professional Engineers and the Society of Depreciation Professionals. I was employed by Union Electric (now AmerenUE) as an Engineer Intern during the summer of 1977. I was employed as a Mechanical Engineer by Union Electric in its Nuclear Construction Department from 1978 to 1980. I have been with the Missouri Public Service Commission's Staff since 1999. In my current position I have completed training in depreciation concepts, attended numerous industry seminars for electric, natural gas, telecommunications, water, and wastewater and made on-site tours of many of the electric, natural gas, telecommunications, water, and wastewater utilities operating in the State of Missouri.

Q. Please describe your duties while employed by the Commission.

A. I am responsible for engineering analyses and depreciation rate determinations of companies regulated by the Commission.

Q. Have you previously filed testimony before this Commission?

A. Yes. As shown in Schedule 1, attached to my testimony, is a list in which I have previously filed testimony and the issues that I addressed.

DEPRECIATION ISSUES

Q. Please state the purpose of your testimony in this case.

A. The purpose of my testimony is to make recommendations for Aquila, Inc. d/b/a Aquila Networks-MPS (Gas) and Aquila Networks-L&P (Gas) (Company) concerning the depreciation rates that will allow the Company to collect the original cost of its investment over the life of these assets. I will also offer testimony regarding the accuracy of L&P (Gas) data files and treatment of the plant depreciation reserves.

Staff's proposal in this case is:

1. That Staff's Proposed Depreciation Rates based on Staff's Average Service Lives (ASLs), as shown in the attached Schedule 3, be effective on the date of the Commission's order in this case.
2. That the L&P (Gas) data files be reviewed by the Company to assure the accuracy of retirement events.
3. That the relative magnitude of the Company's over-accrued depreciation reserve be noted but not reduced at this time.

Q. What expert knowledge, skill, experience, training or education do you have in these matters?

A. I have acquired general knowledge of these topics through my experience and analyses in prior rate cases before this Commission as noted above and as I assisted in Staff's filings in Case Nos. GR-2000-512, WR-2000-844, ER-2001-299, and ER-2001-672. I have also reviewed prior Commission decisions with regard to depreciation issues. I have reviewed the testimony, workpapers and responses to Staff's data requests addressing these issues in prior cases.

I have attended the National Conference of Regulatory Commission Engineers' meeting and symposiums offered on-site on current topics of regulation. I have received formal depreciation training offered by Depreciation Programs, Inc., the Society of Depreciation Professionals, and Gannett Fleming Valuation and Rate Consultants, Inc. I have had on-going discussions with Gannett Fleming technical personnel regarding the functionality of the software, including data input requirements and statistical analysis and interpretation and application of the user's manual.

I have attended electric utility IRP (Integrated Resources Planning) meetings with utilities and Staff, where resource planning, capacity upgrades, and proposed generation additions have been discussed. I have toured all the major generating facilities of all regulated electric companies in the state of Missouri and met with their engineers, operating personnel and management to discuss plant operations, both past and present, as well as any future activities being considered.

I am currently enrolled at the University of Missouri in a Masters of Public Administration program with an anticipated completion date of March 2004. My coursework has included accounting, statistics, research methods, and economics classes. Finally, I

successfully passed the Professional Engineering Exam for Mechanical Engineers, which covers engineering design and analysis principles, as well as standards and codes.

Q. When were depreciation rates for the Company last adopted by a Commission order?

A. Depreciation rates were last adopted for MPS (Gas) by a Stipulation And Agreement in Case No. GR-93-172, effective September 30, 1993; however, these rates were also reflected in the Stipulation And Agreement in Case No. GR-90-198, effective November 1, 1990 and the Stipulation And Agreement in Case No. GR-88-171 and GR-88-194, effective September 15, 1988. Depreciation rates were last adopted for L&P (Gas) by a Stipulation And Agreement in Case No. GR-99-246, effective August 27, 1999.

DEPRECIATION STUDY

Q. What is the definition of depreciation?

A. Depreciation is the loss, not restored by current maintenance, which is due to all factors causing the ultimate retirement of the property. These factors embrace wear and tear, decay, inadequacy and obsolescence. Annual depreciation is the loss that takes place in a year. Thus, annual depreciation expense, distributed over the life of each asset, yields the full recovery of the original cost of the utility's assets.

In the utility regulatory process that establishes customer rates, depreciation represents the means for the company to recover its investment of the depreciable assets. The recovery of the investment through depreciation takes place over the life of the asset. Thus, customers pay for the asset, in utility rates, over the period of time that the asset is providing service to those customers.

Q. Please describe the depreciation study that you conducted of the Company's gas property in this case.

A. I performed a broad group-average life depreciation study. Under the broad group (BG) procedure, all units of plant within a particular depreciation category, usually a plant account or sub account, are considered to be one group. Development of accrual rates is based upon assets' placement history, an estimation of the average service lives (ASL), and dispersion characteristics of the assets' retirements. ASL is a dynamic feature of assets in a plant account, and therefore must be periodically analyzed and revised. The ASL, stated in units of years, is the average expected life of all units of the group regardless of the placement date. The ASL is determined by an analysis of records of actual annual additions and retirements by vintage (year of placement).

Q. What were the steps that you used to develop your life estimates in this case?

A. I used four primary steps. These steps involve: (1) reviewing the Company's historical placement and retirement plant data for reasonableness and adequacy of sufficient data; (2) touring Company facilities and meeting with Company engineers and plant operations personnel, as well as other Staff, to discuss current developments that may affect the life of plant in service; (3) performing a statistical life analysis of the plant's retirement experience using the Gannett Fleming Depreciation Analysis Software; and (4) evaluating the results of the software analysis for reasonableness of the ASL results.

Q. If the data are insufficient or the results of the analysis are unreliable, how does Staff make life estimations?

A. Staff used its best judgment to make a recommendation for life estimation.

Q. How does the Gannett Fleming Depreciation Software develop an ASL?

A. The Company's historical plant data for an account are inputs to the depreciation analyses software. Plant data are dollars of plant placed into service by calendar year, called a vintage, and retirements representing the dollars of plant removed from each vintage or calendar year. The software uses a mathematical computation to derive the percentage of dollars surviving, as a function of age, for all vintages combined. The results are graphed as a survivor plot and, using a least squares method, the results are mathematically fitted to an Iowa-type curve that will be defined later. A numerical integration of the area under the curve determines the ASL.

Q. What are the Iowa-type curves?

A. The Iowa curves are widely used models of the life characteristics of utility property. The system of Iowa curves is a family of curve shapes empirically derived from analysis of mortality data of 176 types of utility and industrial property. The curves were developed at the Iowa Engineering Experiment Station at what is presently known as Iowa State University. The Iowa curves were first published in 1935 and reconfirmed in 1980.

Q. What are some developments that may be potential reasons that an account's ASL may change over time?

A. Current developments such as technology changes, environmental regulations, regulatory requirements or accounting changes can modify an account's ASL. Changes in the materials from which different vintages of plant were manufactured or changes in the construction process to place these different vintages of plant may affect the number of years newer plant remains in service. This would affect the ASL.

Q. Please describe the depreciation system used by Staff.

A. A depreciation system can be defined with three components: a method, a procedure and a technique. The system used in Staff's depreciation study is the Straight Line Method, a Broad Group Procedure, and the Whole Life Technique. Parameters estimated from service life studies, selection of an appropriate depreciation system, experience and informed knowledge are all utilized to develop an annual depreciation accrual rate.

Q. Why should depreciation studies be conducted periodically?

A. Depreciation studies are needed to assess the continuing reasonableness of parameters and accrual rates derived from prior estimates. Property accounts contain many vintages of plant, placed in service over many years. While the plant function may be the same, the material and construction process may change significantly over time. Other factors that might affect ASL are accounting system changes for designation of unit of property or changes in the method of recording construction costs as current expense or capital investment.

Q. How is an ASL used to establish the annual depreciation expense?

A. An account's depreciation rate is expressed as a percentage. The percentage is derived by taking an account's ASL and dividing it into 100 % (100 % / ASL). The 100 % represents all of the dollars of plant in service in the account being studied. The depreciation rate is used for recovery of original cost of plant over the used and useful life of each account's plant. The Company's annual depreciation expense is the sum of each account's depreciation rate multiplied by the original cost of assets currently in that plant account for each year.

Q. Why is Staff's process for developing an appropriate annual depreciation accrual rate significant to both the Company and the ratepayer?

A. Annual depreciation expense is a portion of the Company's cost of providing service to its customers. This cost of service is used to develop the rates charged to customers. Development of appropriate depreciation expense is important because the depreciation rates significantly influence the amount that customers will pay to the Company for the capital plant used to provide service.

DEPRECIATION STUDY OF AQUILA NETWORKS-MPS GAS AND L&P GAS

Q. Did you perform a depreciation study of the Company's capital plant?

A. Yes.

Q. Please describe the assignment of the Company's capital plant to the different operating divisions.

A. The Company has two divisions: Aquila Networks-MPS and Aquila Networks-L&P. Aquila Networks-MPS (Gas) is total MPS (Gas) and identifies total MPS gas operations for its north, south, and eastern divisions, including Gas, Common, and an allocation of Corporate facilities. Aquila Networks-L&P (Gas) is total L&P (Gas) and identifies total L&P gas operations, including Gas, Common, and an allocation of Corporate facilities.

Q. Please describe the assignment of general plant to "General," "Common General," and "Corporate General."

A. Assignment of plant to the function "General" is plant specifically used by the utility division for the operation of that service, i.e. gas service. Assignment of plant to the function "Common General" is plant specifically used by the utility division for the shared operation of multiple services in a jurisdiction, i.e. natural gas, electric and steam services. The Company's two utility divisions' administrative offices are located in Raytown, MO and

St. Joseph, MO. Assignment of plant to the function "Corporate General" is plant specifically used at the Company's corporate headquarters at 20 West 9th St, Kansas City, MO. and allocated to each utility division. The corporate headquarters is where the corporate executive's offices and the corporate computer system are located.

Q. How did Staff make a life estimate for the Company's plant accounts?

A. Staff made life estimates by using judgment and statistical life analyses of the MPS (Gas) plant.

Q. Why did Staff make life estimates utilizing the MPS (Gas) plant accounts for both MPS (Gas) and L&P (Gas) plant accounts?

A. Staff has concerns with both sets of plant account data files, but the MPS (Gas) data files have almost 20 more years of placements that were recorded in the year the transaction occurred. The L&P (Gas) data includes placements in the data file of vintages prior to 1979 that were not recorded until 1979. In addition, there are no retirements from those vintages recorded until 1979. This results in some plant being almost 70 years with no retirements occurring. The results of such data gaps can produce an artificially long ASL. The MPS (Gas) data have placements first recorded in 1960 that occurred 40 years earlier. The MPS (Gas) data files include actual placement activity from 1960 to present, a 20-year longer period than the L&P (Gas) data files. In addition, the lack of any historical retirements in the L&P (Gas) non-metallic mains account, Account 376.002, may indicate that the accuracy of the data is questionable. Given these data limitations, Staff recommends its life analyses of the MPS (Gas) plant accounts be utilized to set depreciation rates for the Company's plant accounts. Given that the plant assets in the respective accounts should be similar, the historical retirement activity should also be similar.

Q. What is Staff's recommendation to resolve this for future rate cases?

A. Staff recommends that the Commission order L&P (Gas) data files be reviewed by the Company to assure the accuracy of retirement events.

How did Staff make a life estimate for the Company's "Common General" and "Corporate General" plant accounts?

A. Staff made L&P (Gas) life estimates by using the life analyses from the MPS (Gas) "General" plant accounts. Staff recommends its life analyses of the MPS (Gas) "General" plant accounts be utilized to set depreciation rates for the Company's "Common General" and "Corporate General" plant accounts. Given that the plant assets in the respective accounts should be similar, the historical retirement activity should also be similar.

Q. Has Staff provided the Company the details of Staff's work?

A. Yes. Staff has provided the Company a copy of Staff's depreciation study and workpapers. Additional details of Staff's work are provided on Schedule 3. Schedule 3 identifies plant accounts; their respective proposed depreciation rates; proposed ASLs and Iowa Curve selections; currently ordered depreciation rates; the difference in annual depreciation accrual between Staff's proposed depreciation rates and currently ordered depreciation rates as of September 30, 2003; and analysis of the accrued depreciation reserve and theoretical reserve (discussed below) as of December 31, 2002 for corporate accounts and as of December 31, 2001 for the remaining accounts. Staff has provided the Company a copy of Staff's depreciation study and workpapers.

Q. In summary, what is Staff's recommendation for depreciation rates for the Company's plant accounts?

A. Staff's recommended depreciation rates for the Company's plant assets are presented in Schedule 2.

DEPRECIATION RESERVE ANALYSIS

Q. What other analyses are performed in a depreciation study?

A. Another analysis performed in a depreciation study is an examination of the adequacy of the booked depreciation reserve and identification of any reserve over- or under-recovery.

Q. Why does Staff examine the booked depreciation reserve?

A. The analysis is performed to measure how the actual depreciation reserve compares to the dollars that should be in the depreciation reserve based on currently determined ASLs and curve types for each account.

Q. Why is the analysis significant to consumers?

A. This analysis allows the analyst to detect whether prior depreciation estimates have differed significantly from actual experience. Based on this information, the analyst determines whether the cost of service needs adjustment to reflect and correct a significant historical deviation. Cost of service adjustments are reflected in consumer rates.

Q. Did Staff perform an analysis of the booked depreciation reserve?

A. Yes.

Q. Please describe the analysis.

A. An analysis of the booked depreciation reserve is performed by comparing the amount of the booked depreciation reserve as of a certain date to a theoretical depreciation reserve amount that is determined with the revised average service life and dispersion characteristics of the selected Iowa-type curve on that same date for each account. The

theoretical depreciation reserve can be viewed as the **difference** between the original booked cost of plant presently in service and the summation of annual depreciation expense collected between now and the date of final retirement of that plant, using the ASL and dispersion characteristics of the Iowa-type curve selected as the basis for the future depreciation rates. Theoretically, this **difference** is the amount that should be the current booked depreciation reserve, theoretically.

DEPRECIATION RESERVE ANALYSIS FOR AQUILA NETWORKS-MPS (GAS) AND L&P (GAS)

Q. What were the results of Staff's examination of the Company's booked depreciation reserve?

A. Staff's results found an approximate $3.8 million over-accrual of the depreciation accrued reserve for the MPS (Gas) plant and an approximate $0.9 million over-accrual of the depreciation accrued reserve for the L&P (Gas) plant. The Company's corporate accounts' booked depreciation reserves are not included in this examination, but have been addressed in my direct testimony in ER-2004-0034.

Q. What are Staff's bases for adjustment for any booked reserve imbalance?

A. The need for, the magnitude of, and the timing of the actual adjustment should be based upon consideration of several factors: the characteristics of the account, the causes of the difference, and the year-to-year volatility of the accumulated provision for depreciation as well as the magnitude of the imbalance. Future service life cannot be estimated to a degree of certainty that guarantees that the actual life will not be different. In fact, it is likely that the currently determined ASL will differ from the ASL that occurs.

Q. Can Staff identify any factors that created the $3.8 million dollar over-accrual in the booked reserve for MPS (Gas) and the $0.9 million dollar over-accrual in the booked reserve for L&P (Gas) plant?

A. Yes. Past depreciation rates included a component for cost of removal and gross salvage. The magnitude of this collection was several times the actual amount spent annually. As indicated in Staff witness Cary G. Featherstone's direct testimony, the average net amount, for the five years 1998-2002, spent annually for cost of removal was $68,272 and $3447, for the MPS (Gas) north and south divisions and the eastern divisions, respectively. In total, MPS (Gas) was incurring no more than $72,000 annually. The five-year average net amount of cost of removal for L&P (Gas) during this time period was $21,891.

Q. What is Staff's recommendation regarding the booked reserve?

A. Staff's recommendation is that the over-accrual of the booked reserve for the Company's gas and common assets be noted, but that no adjustment to the reserve made at this time because of the dynamics of depreciation estimation process. After another depreciation study is conducted, trends in the over-accrual can be identified and appropriate steps can be proposed. Evaluation of these booked reserves should be made in future rate filings and, if appropriate, addressed if the relative magnitude changes.

STAFF'S RECOMMENDATIONS

Q. Can you provide a summary of Staff's proposals for depreciation rates and gas data files?

A. Yes. Staff recommends the Commission order that Staff's Proposed Depreciation Rates based on Staff's ASLs, as shown in the attached Schedule 3, be effective on the date of the Commission's order in this case.

Staff also recommends that the Commission order L&P (Gas) data files be reviewed by the Company to assure the accuracy of retirement events.

Q. Does Staff have any further concerns relating to the Company's depreciation issues?

A. Yes. Staff's second concern is with the net over-accrual. After another depreciation study is conducted, trends in the net over-accrual can be identified and appropriate steps can be proposed. Evaluation of the Company's booked reserves should be made in future rate filings.

Q. Does this conclude your direct testimony?

A. Yes, it does.

CASE PROCEEDING PARTICIPATION

ROSELLA L. SCHAD

COMPANY	CASE NO./ FILING	ISSUES
AQUILA, INC. d/b/a AQUILA NETWORKS-MPS (Electric) AND AQUILA NETWORKS – L&P (Electric and Steam)	ER-2004-0034 and HR-2004-0024 (Consolidated) Direct	Depreciation and Accumulated Depreciation Reserve
Union Electric Company d/b/a AmerenUE	GR-2003-0517 Direct	Depreciation; Retirement of Production Plant
Northeast Missouri Rural Telephone Company and Modern Telecommunications Company	TM-2002-465 Rebuttal	Depreciation; Plant Upgrades and Improvements
Laclede Gas Company	GR-2002-356 Rebuttal	Decommissioning
Laclede Gas Company	GR-2002-356 Direct	Depreciation
Union Electric Company d/b/a AmerenUE	EC-2002-1 Surrebuttal	Depreciation; Steam Production Plant Retirement Dates; Decommissioning Costs; Callaway Interim Additions
Laclede Gas Company	GR-2001-629 Direct	Depreciation
Ozark Telephone Company	TC-2001-402 Direct	Depreciation Rates
Northeast Missouri Rural Telephone Company	TR-2001-344 Direct, Surrebuttal	Depreciation Rates
Oregon Farmers Mutual Telephone Company	TT-2001-328 Rebuttal	Depreciation Rates
KLM Telephone Company	TT-2001-120 Rebuttal	Depreciation Rates
Holway Telephone Company	TT-2001-119 Rebuttal	Depreciation Rates
Peace Valley Telephone Company	TT-2001-118 Rebuttal	Depreciation Rates
Iamo Telephone Company	TT-2001-116 Rebuttal	Depreciation Rates
Osage Water Company	WR-2000-557 Direct	Depreciation
Osage Water Company	SR-2000-556 Direct	Depreciation

AQUILA, INC. d/b/a AQUILA NETWORKS-MPS (Gas) AND AQUILA NETWORKS – L&P (Gas) CASE NO. GR-2004-0072		
ACCOUNT NUMBER	ACCOUNT	Depreciation Rates (%) Staff Proposed
	GR-2004-0072	
	TRANSMISSION PLANT	
366.001	Structures and Improvements	2.22
367.001	Mains-Metallic	1.67
369.001	Measuring and Regulating Station Eq.	2.27
	DISTRIBUTION PLANT	
375.001	Structures and Improvements	2.22
376.001	Mains-Metallic	2.22
376.002	Mains-Nonmetallic	2.22
378.001	Measuring and Regulating Station Eq.-General	2.27
379.001	Measuring and Regulating Station Eq. City Gate	2.27
380.001	Services-Metallic	2.22
380.002	Services-Nonmetallic	2.22
381.001	Meters	2.50
383.001	House Regulators	2.50
385.001	Measuring and Regulating Station Eq.-Industrial	2.27
387.001	Other Eq.	0.00
	GENERAL PLANT	
390.001	Structures and Improvements	2.22
391.001	Office Furniture and Eq.	4.55
391.003	Computer Hardware	14.29
391.004	Computer Software	14.29
391.005	Computer Systems Development	14.29
392.000	Transportation Eq.	8.33
393.000	Stores Eq.	3.70
394.000	Tools, Shop and Garage Eq.	3.70
395.000	Laboratory Eq.	3.45
396.000	Power Operated Eq.	6.25
397.000	Communications Eq.	3.45
398.000	Miscellaneous Eq.	4.35

Schedule 2

AQUILA NETWORKS-MPS DEPRECIATION RATES GR-2004-0072

ACCOUNT NUMBER	ACCOUNT	Adjusted Jurisdictional Plant Balance ($) 09/30/03	Average Service Life (Years) Staff Proposed	Average Service Life (Years) Company Proposed	Iowa Curve Staff Proposed	Depreciation Rates (%) Ordered	Depreciation Rates (%) Staff Proposed	Depreciation Rates (%) Company Proposed	Annual Accrual (Ordered Depreciation Rates) ($)	Annual Accrual (Staff Proposed Depreciation Rates) ($)	Annual Accrual (Company Proposed Depreciation Rates) ($)	Plant Balance ($) 12/31/01	Accrued Reserve ($) 12/31/01	Theoretical Reserve ($) 12/31/01	(Accrued - Theoretical Reserve) Difference ($) 12/31/01
	GR-2004-0072 MPS GAS														
	MPS GAS														
	TRANSMISSION PLANT														
366.001	Structures and Improvements	10,880	45	50.20	S4	3.33	2.22	1.63	362	242	177	10,880	7,655	4,260	3,395
367.001	Mains-Metallic	6,803,690	60	62.09	R2.5	1.67	1.67	1.32	113,622	113,622	89,809	6,702,619	4,217,742	2,949,115	1,268,627
369.001	Measuring and Regulating Station Eq.	372,214	44	45.12	R1.5	2.35	2.27	2.06	8,747	8,449	7,668	372,214	98,516	75,869	22,647
	Transmission Plant:	7,186,784							122,731	122,312	97,654	7,085,713	4,323,913	3,029,244	1,294,669
	DISTRIBUTION PLANT														
375.001	Structures and Improvements	59,033	45	37.59	R4	2.78	2.22	3.24	1,641	1,311	1,913	59,033	40,316	31,365	8,951
376.001	Mains-Metallic	7,106,625	45	43.80	R1	2.40	2.22	3.49	170,559	157,767	248,021	7,123,472	1,728,687	2,583,118	(854,431)
376.002	Mains-Nonmetallic	36,038,755	45	45.04	R4	2.40	2.22	3.20	864,930	800,060	1,153,240	34,258,667	6,613,563	7,223,530	(609,967)
378.001	Measuring and Regulating Station Eq.-General	231,404	44	41.93	R1.5	2.40	2.27	3.02	5,554	5,253	6,988	231,404	147,704	80,626	67,078
379.001	Measuring and Regulating Station Eq.-City Gate	418,109	44	50.60	R1.5	2.40	2.27	2.33	10,035	9,491	9,742	418,109	195,088	132,448	62,640
380.001	Services-Metallic	5,483,862	45	37.07	R3	4.68	2.22	4.75	256,645	121,742	260,483	5,484,828	2,464,912	1,789,214	675,698
380.002	Services-Nonmetallic	18,687,487	45	38.64	R4	4.68	2.22	4.32	874,574	414,862	807,299	17,713,008	7,008,068	5,061,085	1,946,983
381.001	Meters	6,645,525	40	39.17	S0.5	1.67	2.50	2.77	110,980	166,138	184,081	6,436,349	1,665,273	904,087	761,186
383.001	House Regulators	2,981,590	40	40.61	S2	2.50	2.50	3.54	74,540	74,540	105,548	2,342,246	686,475	675,279	11,196
385.001	Measuring and Regulating Station Eq.-Industrial	352,766	44	46.52	R1.5	2.22	2.27	2.60	7,831	8,008	9,172	280,290	73,587	51,395	22,192
387.001	Other Eq.	0					0.00		0	0	0	0			0
	Distribution Plant:	78,005,156							2,377,289	1,759,172	2,786,489	74,347,406	20,623,673	18,532,147	2,091,526
	GENERAL PLANT														
390.001	Structures and Improvements	240,178	45	51.08	R1.5	2.00	2.22	1.84	4,804	5,332	4,419	235,258	45,215	69,718	(24,503)
391.001	Office Furniture and Eq.	56,182	22	15.01	L4	7.00	4.55	5.04	3,933	2,556	2,832	61,361	26,008	17,392	8,616
391.003	Computer Hardware	280,341	7	5.94	S2	22.50	14.29	11.95	63,077	40,061	33,501	590,252	213,682	265,725	(52,043)
391.004	Computer Software	681	7	5.27	S2	22.50	14.29	10.04	153	97	68	4,124	1,997	1,921	76
391.005	Computer Systems Development	0	7		S2		14.29		0	0	0				0
392.000	Transportation Eq.	87,074	12		S5	8.00	8.33		6,966	7,253	0				0
393.000	Stores Eq.	9,833	27	21.82	L1	7.14	3.70	3.78	702	364	372	9,833	6,165	3,630	2,535
394.000	Tools, Shop and Garage Eq.	569,096	27	26.78	L0	6.67	3.70	3.00	37,959	21,057	17,073	561,199	549,496	135,459	414,037
395.000	Laboratory Eq.	123,153	29	30.36	R2.5	4.50	3.45	2.81	5,542	4,249	3,461	136,442	84,039	51,504	32,535
396.000	Power Operated Eq.	135,040	16		R6	5.56	6.25		7,508	8,440	0				0
397.000	Communication Eq.	392,532	29	20.44	S2	3.45	3.45	3.72	13,542	13,542	14,602	399,763	107,800	124,116	(16,316)
398.000	Miscellaneous Eq.	47,150	23	23.02	L4	5.88	4.35	3.12	2,772	2,051	1,471	47,150	26,752	20783	5,969
	General Plant:	1,941,260							146,958	105,002	77,798	2,045,382	1,061,154	690,248	370,906
	MPS Gas Utility Plant	87,133,200							2,646,978	1,986,486	2,961,941	83,478,501	26,008,740	22,251,639	3,757,101
	MPS GAS COMMON GENERAL PLANT														
390.001	Structures and Improvements	537,326	45		R1.5	2.04	2.22	2.44	10,961	11,929	13,111				0
391.001	Office Furniture and Eq.	91,667	22		L4	7.00	4.55	3.88	6,418	4,172	3,557				0
391.003	Computer Hardware	35,344	7		S2	22.50	14.29	7.65	7,952	5,051	2,704				0
391.004	Computer Software	114	7		S2	22.50	14.29		26	16	0				0
391.005	Computer Systems Development	0	7		S2		14.29		0	0	0				0
392.000	Transportation Eq.	111,392	12		S5	8.00	8.33	3.13	8,911	9,279	3,487				0
393.000	Stores Eq.	(8,074)	27		L1	7.14	3.70	4.33	(576)	(299)	(350)				0
394.000	Tools, Shop and Garage Eq.	12,094	27		L0	6.67	3.70	3.19	807	447	386				0
395.000	Laboratory Eq.	1,599	29		R2.5	4.50	3.45	4.40	72	55	70				0
396.000	Power Operated Eq.	12,860	16		R6	5.56	6.25	4.59	715	804	590				0
397.000	Communication Eq.	24,969	29		S2	3.41	3.45	2.83	851	861	707				0
398.000	Miscellaneous Eq.	(3,774)	23		L4	6.25	4.35	3.01	(236)	(164)	(114)				0
	MPS Gas Common General Plant:	815,537							35,902	32,151	24,148	0	0	0	0
	MPS Gas and Common Utility Plant:	87,948,737							2,682,880	2,018,637	2,986,089	83,478,501	26,008,740	22,251,639	3,757,101

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AQUILA NETWORKS-MPS DEPRECIATION RATES GR-2004-0072

ACCOUNT NUMBER	ACCOUNT	Adjusted Jurisdictional Plant Balance ($) 09/30/03	Average Service Life (Years) Staff Proposed	Average Service Life (Years) Company Proposed	Iowa Curve Staff Proposed	Depreciation Rates (%) Ordered	Depreciation Rates (%) Staff Proposed	Depreciation Rates (%) Company Proposed	Annual Accrual (Ordered Depreciation Rates) ($)	Annual Accrual (Staff Proposed Depreciation Rates) ($)	Annual Accrual (Company Proposed Depreciation Rates) ($)	Plant Balance ($) 12/31/01	Accrued Reserve ($) 12/31/01	Theoretical Reserve ($) 12/31/01	(Accrued - Theoretical Reserve) Difference ($) 12/31/01
	MPS GAS CORPORATE PLANT														
	GENERAL PLANT														
390.001	Structures and Improvements	1,449,262	45	44.97	R1.5	2.00	2.22	2.44	28,985	32,174	35,362				0
391.001	Office Furniture and Eq.	343,600	22	19.95	L4	7.00	4.55	5.78	24,052	15,634	19,860				0
391.003	Computers-Hardware	416,043	7	4.95	S2	22.50	14.29	33.16	93,610	59,453	137,960				0
391.004	Computers-Software	2,893,726	7	9.85	S2	22.50	14.29	13.74	651,088	413,513	397,598				0
391.005	Computer Systems Development	637,210	7	9.37	S2		14.29	19.87	0	91,057	126,614				0
392.004	Transportation Eq.	632	12	11.27	S5	8.00	8.33	48.33	51	53	305				0
393.000	Stores Eq.	0	27		L1	7.14	3.70		0	0	0				0
394.000	Tools, Shop and Garage Eq.	8,388	27	20.39	L0	6.67	3.70	7.70	559	310	646				0
395.000	Laboratory Eq.	1,801	29	15.11	R2.5	4.50	3.45	15.25	81	62	275				0
396.000	Power Operated Eq.	0	16		R6	5.56	6.25		0	0	0				0
397.000	Communication Eq.	288,308	29	9.97	S2	3.45	3.45	16.01	9,947	9,947	46,158				0
398.000	Miscellaneous Eq.	13,799	23	10.07	L4	5.88	4.35	16.58	811	600	2,288				0
	MPS Gas Corporate General Plant:	6,052,769							809,184	622,803	767,065	0	0	0	0
	Total MPS Gas Utility Plant::	94,001,506							3,492,064	2,641,440	3,753,154	83,478,501	26,008,740	22,251,639	3,757,101

AQUILA NETWORKS-SJLP DEPRECIATION RATES GR-2004-0072

ACCOUNT NUMBER	ACCOUNT	Adjusted Jurisdictional Plant Balance ($) 09/30/03	Average Service Life (Years) Staff Proposed	Average Service Life (Years) Company Proposed	Iowa Curve Staff Proposed	Depreciation Rates (%) Ordered	Depreciation Rates (%) Staff Proposed	Depreciation Rates (%) Company Proposed	Annual Accrual (Ordered Depreciation Rates) ($)	Annual Accrual (Staff Proposed Depreciation Rates) ($)	Annual Accrual (Company Proposed Depreciation Rates) ($)	Plant Balance ($) 12/31/01	Accrued Reserve ($) 12/31/01	Theoretical Reserve ($) 12/31/01	(Accrued - Theoretical Reserve) Difference ($) 12/31/01
	GR-2004-0072 SJLP GAS														
	SJLP GAS														
	DISTRIBUTION PLANT														
375.001	Structures and Improvements	24,136	45	41.26	R4	2.00	2.22	3.19	483	536	770	24,136	10,437	12,833	(2,396)
376.001	Mains-Metallic	2,168,187	45	55.39	R1	1.31	2.22	3.38	28,403	48,134	73,285	2,166,815	1,735,282	1,095,920	639,362
376.002	Mains-Nonmetallic	1,689,464	45	55.01	R4	1.31	2.22	2.83	22,132	37,506	47,812	1,561,015	304,147	342,585	(38,438)
378.001	Measuring and Regulating Station Eq.-General	333,113	44	40.50	R1.5	3.69	2.27	2.76	12,292	7,562	9,194	333,113	86,201	74,643	11,558
379.001	Measuring and Regulating Station Eq.-City Gate	475,048	44	32.79	R1.5	2.18	2.27	3.38	10,356	10,784	16,057	475,048	94,292	86,970	7,322
380.001	Services-Metallic	186,144	45	44.48	R3	3.54	2.22	5.98	6,589	4,132	11,131	201,012	132,988	123,979	9,009
380.002	Services-Nonmetallic	1,382,708	45	41.12	R4	3.54	2.22	5.18	48,948	30,696	71,624	1,338,105	550,047	405,066	144,981
381.001	Meters	812,838	40	38.53	S0.5	3.07	2.50	2.89	24,954	20,321	23,491	822,753	273,115	266,250	6,865
383.001	House Regulators	450,041	40	35.90	S2	2.44	2.50	3.05	10,981	11,251	13,726	449,273	186,636	139,654	46,982
385.001	Measuring and Regulating Station Eq.-Industrial	105,547	44	32.28	R1.5	3.85	2.27	4.18	4,064	2,396	4,412	99,306	43,513	32,183	11,330
387.001	Other Eq.	5,472		30.16		10.92	0.00	3.99	598	0	218	5,472	5,472		5,472
	Distribution Plant:	7,632,698							169,799	173,317	271,720	7,476,048	3,422,130	2,580,083	842,047
	GENERAL PLANT														
390.001	Structures and Improvements	0	45		R1.5		2.22		0	0	0				0
391.001	Office Furniture and Eq.	1,413	22	18.31	L4		4.55	5.11	0	64	72	1,413	353	353	0
391.003	Computer Hardware	0	7	13.85	S2		14.29	5.70	0	0	0	3,022	461		461
391.004	Computer Software	0	7		S2		14.29		0	0	0				0
391.005	Computer Systems Development	0	7		S2		14.29		0	0	0				0
392.000	Transportation Eq.	0	12		S5		8.33		0	0	0				0
393.000	Stores Eq.	0	27		L1		3.70		0	0	0				0
394.000	Tools, Shop and Garage Eq.	137,114	27	25.58	L0	2.48	3.70	3.51	3,400	5,073	4,813	131,118	43,347	22,344	21,003
395.000	Laboratory Eq.	810	29	25.00	R2.5	4.55	3.45	3.45	37	28	28	810	221	217	4
396.000	Power Operated Eq.	667	16		R6	8.00	6.25		53	42	0				0
397.000	Communications Eq.		29		S2		3.45		0	0	0				0
398.000	Miscellaneous Eq.	22,411	23	25.81	L4	3.73	4.35	2.99	836	975	670	22,411	17,114	10,714	6,400
	General Plant:	162,415							4,327	6,182	5,583	158,774	61,496	33,628	27,868
	SJLP Gas Utiltiy Plant:	7,795,113							174,126	179,499	277,303	7,634,822	3,483,626	2,613,711	869,915

Schedule 3-3

AQUILA NETWORKS-SJLP DEPRECIATION RATES GR-2004-0072

ACCOUNT NUMBER	ACCOUNT	Adjusted Jurisdictional Plant Balance ($) 09/30/03	Average Service Life (Years) Staff Proposed	Average Service Life (Years) Company Proposed	Iowa Curve Staff Proposed	Depreciation Rates (%) Ordered	Depreciation Rates (%) Staff Proposed	Depreciation Rates (%) Company Proposed	Annual Accrual (Ordered Depreciation Rates) ($)	Annual Accrual (Staff Proposed Depreciation Rates) ($)	Annual Accrual (Company Proposed Depreciation Rates) ($)	Plant Balance ($) 12/31/01	Accrued Reserve ($) 12/31/01	Theoretical Reserve ($) 12/31/01	(Accrued - Theoretical Reserve) Difference ($) 12/31/01
	SJLP GAS COMMON GENERAL PLANT														
390.001	Structures and Improvements	23,580	45		R1.5		2.22	1.66	0	523	391				
391.001	Office Furniture and Eq.	217	22		L4		4.55	3.43	0	10	7				
391.003	Computer Hardware	2,716	7		S2		14.29	4.02	0	388	109				
391.004	Computer Software	45	7		S2		14.29	5.15	0	6	2				
391.005	Computer Systems Development	589	7		S2		14.29	3.38	0	84	20				
392.000	Transportation Eq.	14,819	12		S5		8.33	3.17	0	1,234	470				
393.000	Stores Eq.	2,767	27		L1		3.70	1.45	0	102	40				
394.000	Tools, Shop and Garage Eq.	1,114	27		L0	2.48	3.70	2.71	28	41	30				
395.000	Laboratory Eq.	0	29		R2.5	4.55	3.45	2.04	0	0	0				
396.000	Power Operated Eq.	5,359	16		R6	8.00	6.25	2.07	429	335	111				
397.000	Communications Eq.	4,868	29		S2		3.45	3.23	0	168	157				
398.000	Miscellaneous Eq.	267	23		L4	3.73	4.35	3.19	10	12	9				
	SJLP Gas Common General Plant:	56,341							466	2,905	1,347	0	0	0	0
	SJLP Gas and Common Utility Plant:	7,851,454							174,592	182,404	278,650	7,634,822	3,483,626	2,613,711	869,915
	SJLP GAS CORPORATE PLANT														
	GENERAL PLANT														
390.001	Structures and Improvements	171,767	45		R1.5	2.22	2.22	2.44	3,813	3,813	4,191				
391.001	Office Furniture and Eq.	40,157	22		L4	7.69	4.55	5.78	3,088	1,827	2,321				
391.003	Computers-Hardware	47,362	7		S2		14.29	33.10	0	6,768	15,677				
391.004	Computers-Software	326,796	7		S2		14.29	13.73	0	46,699	44,869				
391.005	Computer Systems Development	92,058	7		S2		14.29	19.82	0	13,155	18,246				
392.004	Transportation Eq.	73	12		S5	11.11	8.33	48.13	8	6	35				
393.000	Stores Eq.	0	27		L1		3.70	0.00	0	0	0				
394.000	Tools, Shop and Garage Eq.	995	27		L0		3.70	7.68	0	37	76				
395.000	Laboratory Eq.	209	29		R2.5		3.45	15.20	0	7	32				
396.000	Power Operated Eq.	0	16		R6		6.25	0.00	0	0	0				
397.000	Communication Eq.	32,791	29		S2	5.00	3.45	15.97	1,640	1,131	5,237				
398.000	Miscellaneous Eq.	1,636	23		L4	5.56	4.35	16.55	91	71	271				
	SJLP Gas Corporate General Plant:	713,844							8,640	73,515	90,955	0	0	0	0
	Total MPS Gas Utility Plant:	8,565,298							183,232	255,919	369,605	7,634,822	3,483,626	2,613,711	869,915

Schedule 3-4