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Missouri Public Service Commission

February 17, 2003

Mr. Dale Hardy Roberts, Secretary, Chief Regulatory Law Judge Missouri Public Service Commission 200 Madison Street Jefferson City, MO 65101

Dear Mr. Roberts:

Enclosed are an original and two copies of PSC MO. No. 5, 26th Revised Sheet No. 43, 29th Revised Sheet No. 44, and 19th Revised Sheet No. 44.1 reflecting changes in the Purchased Gas Adjustment of the Missouri Public Service Purchased Gas Adjustment Clause.

This Unscheduled PGA change will assist MPS more accurately reflect market conditions and prevent unnecessary under recoveries from occurring.

Enclosures 1, 2 and 3 reflect the Purchased Gas Adjustment calculations for the Southern System, Northern System and Eastern System. Each PGA has been developed using NYMEX pricing weighted for the months of April 2003 through October 2003, and the "Inside FERC's Gas Market Report" posted price for February 2003. March gas cost has been developed using the portfolio as filed in the winter filing with any incremental purchases priced at the March Nymex adjusted for basis. The tariff rate changes for the Southern System are based on the Williams Gas Pipelines Central, Inc. filings of their Federal Energy Regulatory Commission (FERC) Gas Tariffs, Twelfth Revised Sheet No. 6, Twenty Second Revised Sheet No. 6A and Fifth Revised Sheet No. 6B. The tariff rate changes for the Northern System and Eastern System are based on the Panhandle Eastern Pipe Line Company filings of their FERC Gas Tariffs, Sixty-Eighth Revised Sheet No. 5, Seventy-First Revised Sheet No. 7, Thirteenth Revised Sheet No. 9, Fifteenth Revised Sheet No. 11 and Twenty-Seventh Revised Sheet No. 19.

Enclosure 4 reflects the Weighted Average Cost of Gas (WACOG) for the last three years, March through October.

Enclosures 5, 6 and 7 reflect the estimated Deferred Carrying Cost Balance through August 2003 for the Southern, Northern, and Eastern Systems.

The seasonal revenue impact or comparison to the same period last year, for the gas cost recovery portion of the rates is a decrease in the amount of \$202,987 or .63% for the Southern System, an increase in the amount of \$657,411 or 37.89% for the Northern System and an increase in the amount of \$97,810 or 7.22% for the Eastern System as determined on Enclosure 8, 9 and 10 respectively.

Aquila Networks respectfully requests that the rates proposed in this unscheduled filing become effective with volumes taken on and after March 04, 2003.

Sincerely,

Amy Winkler

Regulatory Analyst

Enclosures

cc: Office of the Public Counsel (2)

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STATE OF MISSOURI, PUBLIC SERVICE COMMISSION P.S.C. MO. No. _____5___ 26th (Original) SHEET NO. _____43 (Revised) 25th (Original) Cancelling P.S.C. MO. No. 5 SHEET NO. 43 (Revised) Aquila Networks - MISSOURI PUBLIC SERVICE FOR: Southern System KANSAS CITY, MO 64138 PURCHASED GAS ADJUSTMENT CLAUSE (CONTINUED)

Adjustment Statement (Southern System)

As provided in this Purchased Gas Adjustment Clause, the following adjustment(s) will be made to the applicable rate schedules:

	Rate Schedule <u>GNG</u>	Rate Schedule <u>LVF</u>	Rate Schedule <u>LVI</u>
Regular PGA	\$.59757	\$.59757	\$.5555
Actual Cost Adjustment	\$.02458	\$.02458	\$(.00777)
Refunds	\$ -0-	\$ -0-	\$ -0-
TOP Factor	\$ -0-	\$ -0-	\$ -0-
TC Factor	\$0-	\$ <u>-</u> 0-	\$ - <u>0</u> -
Total PGA Per Ccf	\$.62215	\$.62215	\$.54773

The TOP and TC Factors, as provided in Sheets 39 through 40, shall also apply to all Ccf delivered to transportation customers on Missouri Public Service's Southern System except as provided for on Sheet No. 20.

DATE OF ISSUE: February 17, 2003 ISSUED BY: Steven M. Jurek, Regulatory Services

P.S.C. MO. No. 5 29th (Original) SHEET NO. 44 (Revised) Cancelling P.S.C. MO. No. 5 28th (Original) SHEET NO. 44 (Revised) Aquila Networks - MISSOURI PUBLIC SERVICE FOR: Northern System KANSAS CITY, MO 64138

Adjustment Statement (Northern System)

(CONTINUED)

As provided in this Purchased Gas Adjustment Clause, the following adjustment(s) will be made to the applicable rate schedules:

	Rate	Rate	Rate		
	Schedule	Schedule	Schedule		
	<u>GNG</u>	<u>LVF</u>	<u>LVI</u>		
Regular PGA	\$.66027	\$.66027	\$.54714		
Actual Cost Adjustment	\$ (.00378)	\$ (.00378)	\$ -0-		
Refunds	\$.00084	\$.00084	\$ -0-		
TOP Factor	\$ -0-	\$ -0-	\$ -0-		
TC Factor	<u>\$ -0-</u>	<u>\$ -0-</u>	<u>\$ -0-</u>		
Total PGA Per Ccf	\$.65733	\$.65733	\$.54714		

The TOP and TC Factors, as provided in Sheets 39 through 40, shall also apply to all Ccf delivered to transportation customers on Missouri Public Service's Northern System except as provided for on Sheet No. 20.

DATE OF ISSUE: February 17, 2003 DATE EFFECTIVE: March 04, 2003

ISSUED BY: Steven M. Jurek, Regulatory Services

P.S.C. MO. No. 5 19th (Original) SHEET NO. 44.1 (Revised) Cancelling P.S.C. MO. No. 5 18th (Original) SHEET NO. 44.1 (Revised) Aquila Networks - MISSOURI PUBLIC SERVICE FOR: Eastern System KANSAS CITY, MO 64138

١	PURCHASED GAS ADJUSTMENT CLAUSE
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	(CONTINUED)
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Adjustment Statement (Eastern System)

As provided in this Purchased Gas Adjustment Clause, the following adjustment(s) will be made to the applicable rate schedules:

	Rate	Rate	Rate		
	Schedule	Schedule	Schedule		
	<u>GNG</u>	<u>LVF</u>	LVI		
Regular PGA Actual Cost Adjustment Refunds TOP Factor TC Factor Total PGA Per Ccf	\$.977	\$.977	\$.81652		
	\$ (.00134)	\$ (.00134)	\$ -0-		
	\$ -0-	\$ -0-	\$ -0-		
	\$ -0-	\$ -0-	\$ -0-		
	\$.97566	\$.97566	\$.81652		

The TOP and TC Factors, as provided in Sheets 39 through 40, shall also apply to all Ccf delivered to transportation customers on Missouri Public Service's Eastern System except as provided for on Sheet No. 20.

DATE OF ISSUE: February 17, 2003

DATE EFFECTIVE: March 04, 2003

ISSUED BY: Steven M. Jurek, Regulatory Services

MISSOURI PUBLIC SERVICE Southern System Annualized Gas Cost Calculation To Reflect Current WNG & Spot Market Rates

Enclosure 1

Page 1 of 4

		Monthly			
	Annual	Capacity	No. of Mth	Tariff	Annual
FIRM	<u>Volume</u>	Reserved	Reserved	<u>Rate</u>	<u>Cost</u>
Williams Natural Gas					
TSS					
No-Notice Fee		39,618	12	\$0.0154	\$7,321
Reservation - FSS Deliverability		25,412	12	\$0.5001	\$152,502
Reservation - FTS-Production		13,841	12	\$5.6118	\$932,075
Reservation - FTS-Market		39,618	12	\$2.8014	\$1,331,830
GRI		39,618	12	\$0.0500	\$23,771
FTS		44.045	40	05.0440	\$707.004
Production - Reservation		11,845	12	\$5.6118	\$797,661
Production - Balancing		11,845	12	\$0.1604	\$22,799
Market - Reservation		10,491	12	\$2.8014	\$352,674
Market - Balancing		10,491	12	\$0.1604	\$20,193
Market - GRI		10,491	12	\$0.0500	\$6,295
GSR Costs					\$77,692
Spot Market Purchases	3,896,019			\$4.9079	\$19,121,199
Total Annual Cost				=	\$22,846,012
Sales Volume at Burnertip	3,823,123				
Cost per MCF at Burnertip				=	\$5.9757
Highest WACOG (Summer Period)	Mar 00 - Oct 00 \$3.6065	Mar 01 - Oct 01 \$4.0628	Mar 02 - Oct 02 A \$3,2058	verage WACOG \$3.6250	
Highest Avg WACOG-Summer Period (\$3.8439	
	Mai	rch 2003 Gas Co	mmodity Costs	\$5.3204	
INTERRUPTIBLE					
Williams Natural Gas					
ITS-P				<u>@150%</u>	
Commodity	126,771			\$0.2492	\$31,585
ITS-M	120,771			<u>@150%</u>	Ψ01,000
Commodity	125,491			\$0.1289	\$16,170
Commodity	120,401			ψ0.1209	\$10,170
Spot Market Price Per MCF	129,650			\$4.9079	\$636,305
Total Annual Cost				- -	\$684,060
Sales Volume at Burnertip	123,143				
Cost per MCF at Burnertip	•			<u>-</u>	\$5.5550

Enclosure 1

MISSOURI PUBLIC SERVICE - SOUTHERN SYSTEM Gas Cost Inputs

Page 2 of 4

MPS Line Loss Annual Burnertip Sales	1.871% 3,946,266
WNG Rates	
Firm Rates	
TSS	
No-Notice Fee	\$0.0154
Reservation - FSS Deliverability	\$0.5001
Reservation - FSS Capacity	\$0.0285
Reservation - FTS-P Reservation - FTS-M	\$5.6118
GRI	\$2.8014 \$0.0500
FTS	\$0.0500
Production - Reservation	\$5.6118
Production - Balancing	\$0.1604
Market - Reservation	\$2.8014
Market - Balancing	\$0.1604
Market - GRI	\$0.0500
Production	
Commodity - FTS-P	\$0.0124
GRI Funding Unit - Commodity - Others	\$0.0040
FERC Annual Charge Adjustment	<u>\$0.0021</u>
Production Field Zone	\$0.0185
Commodity - FTS-M	\$0.0061
GRI Funding Unit - Commodity - Others	\$0.0040
FERC Annual Charge Adjustment	\$0.0021
Market Zone	\$0.0122
Injection/Withdrawal - FSS	\$0.0122
Interruptible Rates	
ITS-P	
Commodity-Summer	\$0.1600
ITS-M	40.0700
Commodity-Summer	\$0.0798
GRI Funding Unit - Commodity - Others FERC Annual Charge Adjustment	\$0.0040 \$0.0021
WNG Production Area Loss	\$0.002 f 2.22%
WNG Market Area Loss	1.01%
WNG Storage Loss	5.91%
3.4	0.0170

Note: From FERC Gas Tariff: Twelfth Revised Sheet No. 6 Effective 11/1/01, Twenty Second Revised Sheet No. 6A Effective 01/1/03, and Fifth Revised Sheet No. 6B Effective 1/1/03.

Calculated Inputs			Total		Total
	<u>Firm</u>	Storage	<u>Firm</u>	<u>Interruptible</u>	<u>System</u>
Annual Throughput at Burnertip Per GR-93-172	2,796,691	1,026,432	3,823,123	123,143	3,946,266
Annual Throughput at Citygate	2,850,016	1,046,003	3,896,019	125,491	4,021,508
Annual Throughput at Production Area	2,824,064	1,111,705	3,935,769	126,771	4,062,540
Annual Throughput at Wellhead	2,888,181	1,136,945	4,025,126	129,650	4,154,776

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\$ 4.9079

Missouri Public Service Division of Aquila Networks Southern System

Current Gas Cost Calculation

SUMMARY OF COMMODITY COSTS		<u>Mar-03</u>	<u>Арг-03</u>		<u>May-03</u>	<u>Jun-03</u>	<u>Jul-03</u>	<u>Aug-03</u>		<u>Sep-03</u>	Oct-03	<u>Totals</u>
Sales Requirements		470,390	316,635		142,113	100.014	80,993	71,775		83,345	131,647	1,396,912
WNG Market Area Loss		1.01%	1.01%		1.01%	1.01%	1.01%	1.01%		1.01%	1.01%	1,000,01.
WNG Production Area Loss		2.22%	2.22%		2.22%	2.22%	2.22%	2.22%		2.22%	2.22%	
Total Supply - Fuel Loss		485,978	327,128		146,822	103,328	83,677	74,154		86,107	136,010	
Storage Injection		0	173,016		178,787	173,001	105,159	97,276		55,096	56,260	838,595
Storage Injection Loss		<u>5.91%</u>	<u>5.91%</u>		<u>5.91%</u>	<u>5.91%</u>	<u>5.91%</u>	<u>5.91%</u>		<u>5.91%</u>	<u>5.91%</u>	
Total Storage - Fuel Loss			 183,884		190,017	183,867	111,764	103,386		58,556	59,794	
(Storage injection is noted on spreadsheet but not in because MPS does not pay for storage until it is we				ЭΠ								
Purchase Requirements		485,978	327,128		146,822	103,328	83,677	74,154		86,107	136,010	1,146,933
Contracted Fixed Price Supply		176,119	0		0	0	0	0		0	0	176,119
Contracted Price	\$	3.6627	\$ -	\$		\$	\$ -	\$ 	\$		\$ 	-
Total Cost	\$	645,070	\$ -	\$	-	\$ -	\$ -	\$ -	\$	•	\$ -	645,070
(Contracted Fixed Price Supply only applies in the	winte	r months.)										
Total Supply		225,558	327,128		146,822	103,328	83,677	74,154		86,107	136,010	886,513
Forecasted Price (NYMEX-WNG Basis)*	\$	5.636	\$ 5.429	\$	5.224	\$ 5.129	\$ 5.109	\$ 5.069	\$	5.029	\$ 5.044	•
Total Cost	\$	1,271,246	\$ 1,775,978	\$	766,998	\$ 529,969	\$ 427,506	\$ 375,887	\$	433,032	\$ 686,034	\$ 4,771,697
Storage Withdrawal		84,301	0		0	0	0	0		0	0	84,301
Storage WACOG	\$	3.2371	\$ <u> </u>	\$		\$ 	\$ -	\$ 	\$_		\$ 	
Total Cost	\$	272,891	\$ -	\$	-	\$ -	\$ -	\$ -	\$	-	\$ -	\$ 272,891
Forecasted Gas Commodity Cost	:	2,189,207	1,775,978		766,998	529,969	427,506	375,887		433,032	686,034	5,689,658
Forecasted Sales Gas Quantity		485,978	327,128		146,822	103,328	83,677	74,154		86,107	136,010	1,146,933
Gas Cost (Commodity) Dth											•	\$4.9608
CHIMMADY OF HIGHTIERS COOTS												
SUMMARY OF UPSTREAM COSTS Williams Natural Gas Pipeline - Firm												
FT Commodity (Production Area)		485,978	327,128		146,822	103,328	83,677	74,154		86,107	136,010	
FT Commodity (Market Area)		475,189	319.866		143,563	101,034	81,819	72,507		84,195	132,990	
Total Units		961,167	646,994		290,385	204,362	165,496	146,661		170,302	269,000	2,268,404
Cost/Dth - Production Area		\$0.0185	\$0.0185		\$0.0185	\$0.0185	\$0.0185	\$0.0185		\$0.0185	\$0.0185	
Cost/Dth - Market Area		\$0.0122	\$0.0122		\$0.0122	\$0.0122	\$0.0122	\$0.0122		\$0.0122	\$0.0122	
Total WNG Commodity Costs		\$14,788	\$9,954		\$4,468	\$3,144	\$2,546	\$2,256		\$2,620	\$4,139	\$34,900
Forecasted Northern Upstream Costs		14,788	9,954		4,468	3,144	2,546	2,256		2,620	4,139	34,900
Forecasted Firm Sales Quantity		485,978	327,128		146,822	103,328	83,677	74,154		86,107	136,010	1,146,933
Upstream Cost/Dth												\$0.0304
Put/Call 99/00 & 00/01 Settlement Adj.												 (\$95,561.00) (\$0.0833)

Missouri Public Service

Enclosure 1

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Division of Aquila Networks Southern System Gas Commodity Cost Calculation

INSIDE FERC FEB 2003	\$ 5.12
WNG Market Area Loss	1.01%
WNG Production Area Loss	<u>2.22%</u>
WNG Index Adjusted for Fuel	\$ 5.2897
WNG Cost/Dth Field Zone	\$0.0185
WNG Cost/Dth - Market Zone	\$0.0122
	\$5.3204
Total Gas Commodity Costs	\$5.3204

MISSOURI PUBLIC SERVICE

Northern System Annualized Gas Cost Calculation To Reflect Current PEPL & Spot Market Rates

Page 1 of 4

FIRM Panhandle Eastern Pipe Line Contract 17005 EFT Reservation Rates Field Zone Reservation Market Zone Access Market Zone Mileage Field Zone Reservation Market Zone Access Market Zone Access Market Zone Mileage	Annual <u>Volume</u>	Monthly Capacity Reserved 18,000 18,000 10,000 10,000	No. Of Mth Reserved 5 5 7 7 7	Tariff/ Contracted Rate \$4.1683 \$2.9081 \$1.5862 \$4.1683 \$2.9081 \$1.5862	\$375,147 \$261,731 \$142,762 \$291,781 \$203,568 \$111,037 \$0 \$0
Contract 17004 FS Storage	800,000			\$0.4028	\$322,240 \$234,500 \$204,015
Spot Market Purchases	1,521,875			\$4.9617	\$7,551,101
Total Annual Cost				_	\$9,697,882
Sales Volume at Burnertip Cost per MCF at Burnertip	1,468,777			-	\$6.6027
Highest WACOG (Summer Period) Highest Avg WACOG-Summer Period (A		Mar 01 - Oct 01 \$4.9517 ons with the highe ach 2003 Gas Co	\$3.0651 est 3 averages)	Average WACOG \$3.9762 \$4.4640 \$5.2666	
INTERRUPTIBLE Panhandle Eastern Pipe Line IT Interruptible Rates Field Zone Market Zone Access Market Zone Mileage GRI Funding Unit ACA Unit Charge TOP Volumetric Surcharge Settlement Surcharges Canadian Resolution Surcharges Stranded Transportation Cost Surcharge Miscellaneous Stranded Costs Surcharge				@150% \$0.2625 \$0.1386 \$0.0999 \$0.0060 \$0.0032 \$0.0000 (\$0.0005) \$0.0000 \$0.0000 \$0.0000	\$0.2625 \$0.1386 \$0.0999 \$0.0060 \$0.0032 \$0.0000 (\$0.0005) \$0.0000 \$0.0000 (\$0.0000)
Spot Market Price Per MCF					
	\$4.9617				\$4.9617
Total Annual Cost	\$4.9617			-	\$4.9617 \$5.4714

Enclosure 2

MISSOURI PUBLIC SERVICE - NORTHERN SYSTEM Gas Cost Inputs

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MPS Line Loss	3.489%			
Annual Burnertip Sales	1,468,777			
·		Contract		
PEPL Rates	Tariff	17005		
PEPL EFT Reservation Rates	<u>Rate</u>	Discount Rate		
Field Zone Reservation	\$4.7300	\$4.1683		
Market Zone Access	\$3.3000	\$2.9081		
Market Zone Mileage 201-300 Block	\$1.8000	\$1.5862		
GR1 Funding Unit	\$0.0500			
Settlement Surcharges	(\$0.0100)			
Canadian Resolution Surcharges	\$0.0000			
GSR Surcharge	\$0.0000			
Stranded Transportation Cost Surcharge	\$0.0000			
Miscellaneous Stranded Costs Surcharge	\$0.0000			
PEPL EFT Commodity Rates				
Field Zone Commodity	\$0.0195			
Market Zone Access	\$0.0006			
Market Zone Mileage 201-300 Block	\$0.0075			
GR1 Funding Unit	\$0.0040			
ACA Unit Charge	\$0.0021			
TOP Volumetric Surcharge	\$0.0000			
Settlement Surcharges	(\$0.0003)			
Total Market Zone Commodity	\$0.0139			
PEPL IT Interruptible Rates	,		Seasonal Sales	/olume @ Burnertip
Field Zone	\$0,1750		Jan	288,860
Market Zone Access	\$0.0924		Feb	265,604
Market Zone Mileage 201-300 Block	\$0.0666		Mar	194,613
GRI Funding Unit	\$0.0040		Apr	117,502
ACA Unit Charge	\$0.0021		May	64,871
TOP Volumetric Surcharge	\$0.0000		Jun	44,063
Settlement Surcharges	(\$0.0003)		Jul	34,272
Canadian Resolution Surcharges	\$0.0000		Aug	33,047
Stranded Transportation Cost Surcharge	\$0.0000		Sep	36,719
Miscellaneous Stranded Costs Surcharge	\$0.0000		Oct	51,407
PEPL Storage Rates	******		Nov	118,726
Deliverability Charge Field Area	\$3.3500		Dec	219,093
Capacity Charge Field Area	\$0,4028			1,468,777
Supusky Sharger Isla / IISa	\$0.7025			1,100,111
PEPL Gathering Loss	0.70%			
PEPL Field Zone Loss	1.22%			
PEPL Market Zone Loss	1.23%			
PEPL Storage Injection Loss (Field Area)	1.56%			
PEPL Storage Withdrawal Loss (Field Area)	0.53%			
. — —	2.5076			

Note: From FERC Gas Tariff: PEPL Sixth-Eighth Revised Sheet No. 5 Effective 01/1/03, Seventy-First Revised Sheet No. 7 Effective 01/1/03, Fifteenth Revised Sheet No. 11 Effective 11/01/02 and Twenty-Seventh Revised Sheet No. 19 Effective 10/01/01.

Calculated Inputs			Total		
	<u>Firm</u>	<u>Storage</u>	<u>Firm</u>	<u>Interruptible</u>	<u>Total</u>
Annual Throughput at Burnertip Per GR-93-172	890,213	578,564	1,468,777	0	1,468,777
Annual Throughput at Citygate	922,396	599,479	1,521,875	0	1,521,875
Annual Throughput at Havenpool	933,882	610,179	1,544,061	0	1,544,061
Annual Throughput at Wellhead	945,416	627,504	1,572,920	0	1,572,920

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Division of Aquila Networks Northern System Current Gas Cost Calculation

Missouri Public Service

n of Aquila Networks	Page 3 of 4
orthern System	

		<u>Mar-03</u>		Apr-03	<u>May-03</u>	<u>Jun-03</u>	<u>Jul-03</u>	Aug-03	Sep-03	Oct-03		<u>Totals</u>
SUMMARY OF COMMODITY COSTS												
Sales Requirements		165,656		117,502	64,871	44,063	34,272	33,047	36,719	51,407		547,537
PEPL Market Zone Fuel Loss		1.23%		1.23%	1.23%	1.23%	1.23%	1.23%	1.23%	1.23%		
PEPL Field Zone Fuel Loss		1.22%		1.22%	1.22%	1.22%	1.22%	1.22%	1.22%	1.22%		
Gathering Fuel Loss		0.70%		0.70%	0.70%	0.70%	0.70%	0.70%	0.70%	0.70%		
Total Supply - Fuel Loss		170,987		121,284	66,959	45,481	35,375	34,111	37,901	53,061		
Storage Injection		0		84,000	124,000	120,000	124,000	124,000	120,000	86,800		782,800
Storage Injection Loss		1.56%		1.56%	1.56%	1.56%	-	1.56%	1.56%	1.56%		102,000
Total Storage - Fuel Loss		<u>1.50%</u>		85,331	125,965	121,902	125,965	125,965	121,902	88 176		
(Storage injection is noted on spreadsheet but not included in commodity cost calculation because MPS does not pay for storage until it is withdrawn in the winter months.)												
(Storage injection is noted on spreadsheet out not included in commodify cost calculation decades with dides not pay for storage until it is withdrawn in the wither motitins.)												
Purchase Requirements		170,987		121,284	66,959	45,481	35,375	34,111	37,901	53,061		565,159
Total Supply		80,987		121,284	66,959	45,481	35,375	34,111	37,901	53,061		475,159
Forecasted Price (NYMEX-PEPL Basis)	\$	5.5910	\$	5.3840	\$ 5.1790	\$ 5.0840	\$ 5.0640	\$ 5.024	\$ 4.984	\$ 4.999		
Total Cost	\$	452,798	\$	652,993	\$ 346,781	\$ 231,225	\$ 179,139	\$171,374	\$188,899	\$265,252		2,488,461
		· · · · · ·	•	,	,,	•			•,	, ,		_,,
Storage Withdrawal (17007)		90,000		0	0	0	0	0	0	0		90,000
Storage WACOG (17007)	\$	3.3600	\$		\$ -	\$	\$	\$ -	\$ -	\$ -		
Total Cost	\$	302,400	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$	302,400
Forecasted Gas Commodity Cost		755,198		652,993	346,781	231,225	179,139	171,374	188,899	265,252		2,790,861
Forecasted Sales Gas Quantity		170,987		121,284	66,959	45,481	35,375	34,111	37,901	53,061		565,159
Torocasted Obies Gas Quantity		110,001		121,204	00,000	70,701	00,070	O-7,111	07,001	00,001		500,105
Gas Cost (Commodity) Dth												\$4.9382
CHARLETY OF HEOTER AND COOTS												
SUMMARY OF UPSTREAM COSTS												
Panhandle Eastern Pipeline - Firm		400 700		400 405	60.400	45 400	05 407	00.070	07.005	50.000		
FT Commodity (Field Zone)		169,790		120,435	66,490	45,163	35,127	33,872	37,635	52,690		
FT Commodity (Market Zone)		<u>167,719</u>		118,965	65,679	44,612	34,699	33,459	<u>37,176</u>	52,047		
Total Units		337,509		239,400	132,169	89,775	69,826	67,331	74,811	104,737		1,115,558
Cost/Dth - Field Zone		\$0.0195		\$0.0195	\$0.0195	\$0.0195	\$0.0195	¢ 0.0405	#0.010 E	£0.040E		
		•				•		\$0.0195	\$0.0195	\$0.0195		
Cost/Dth - Market Zone		\$0.0139		\$0.0139	\$0.0139	\$0.0139	\$0.0139	\$0.0139	\$0.0139	\$0.0139		40.040
Total Panhandle Commodity Costs		\$5,642		\$4,002	\$2,209	\$1,501	\$1,167	\$1,126	\$1,251	\$1,751		18,649
Forecasted Northern Upstream Costs		5,642		4,002	2,209	1,501	1,167	1,126	1,251	1,751		18,649
Forecasted Firm Sales Quantity		170,987		121,284	66,959	45,481	35,375	34,111	37,901	53,061		565,159
Upstream Cost/Dth												\$0.0330
Dut/Call 00/00 2 00/04 Sattlement Adi										/F 004		
Put/Call 99/00 & 00/01 Settlement Adj.												(5,364)
												(0.0095)

Wellhead Cost of Gas

\$ 4.9617

Missouri Public Service

Division of Aquila Networks

Northern System Gas Commodity Cost Calculation

INSIDE FERC FEBRUARY 03 PEPL Market Zone Fuel Loss PEPL Field Zone Fuel Loss Gathering Fuel Loss	\$5.07 1.23% 1.22% <u>0.70%</u>
PEPL Index Adjusted for Fuel	\$ 5.2332
PEPL Cost/Dth Field Zone PEPL Cost/Dth - Market Zone	\$0.0195 \$0.0139 \$5.2666
Total Gas Commodity Costs	\$5.2666

Enclosure 2

Page 4 of 4

Eastern System Annualized Gas Cost Calculation To Reflect Current PEPL & Spot Market Rates

FIRM Panhandle Eastern Pipe Line Winter (Nov-Mar)	Annual/ Seasonal <u>Volume</u>	Monthly Capacity Reserved	No. of Mths Reserved	Tariff <u>Rate</u>	Annual <u>Cost</u>
FT Reservation (Field Zone) FT Reservation (Market Zone)		5,200 5,200	1 1	\$4.7300 \$5.7500 _	\$24,596 \$29,900 \$54,496
Winter Sales Volume at Burnertip Winter Cost per MCF at Burnertip	53,242				\$1.0236
Summer (Apr-Oct) Volumetric Rate 100% LF of Max Rate (Fld-4 Blks)	105,766				\$0.3445
Summer Cost per MCF at Burnertip				Ε	\$0.5719
Missouri Pipeline Company Rolla					
FT Reservation Salem		2,939	12	\$4.3181	\$152,291
FT Reservation Owensville		2,500	12	\$1.5000	\$45,000
FT Reservation Missouri Gas Company Rolla		1,900	12	\$4.3181	\$98,453
FT Reservation Salem		2,939	12	\$8.0000	\$282,144
FT Reservation Owensville		2,500	12	\$13.1700	\$395,100
FT Reservation Total Eastern System MoPipe & MoGas Costs		1,900	12	\$13.1766 <u> </u>	\$300,426 \$1,273,414
Spot Market Purchases	380,336			\$5.3691	\$2,042,053
Total Eastern System Costs				- -	\$3,315,467
Sales Volume at Burnertip Cost per MCF at Burnertip	379,066			[\$8.7464
Summer PGA Total Cost per Mcf at Burnertip				-	\$9.7700
Highest WACOG (Summer Period)	,	Mar 00 - Oct 00 Mar 01 - Oct 01 \$3.4296 \$4.1170	Mar 02 - Oct 02 A \$3.0833	verage WACOG \$3.5433	
Highest Avg WACOG-Sumi	mer Period (Avg of	winter seasons with the highes March 2003 Gas Co	t of 3 averages)	\$3.8302 \$5.9138	
INTERRUPTIBLE					
Panhandle Eastern Pipe Line IT (Field Zone) IT (Market Zone)	\$0.1750 \$0.1870		@ 150% @ 150%		\$0.2625 \$0.2805
Missouri Pipeline Company Commodity	\$0.3898				\$0.3898
Missouri Gas Company Commodity Spot Market Price Per MCF	\$1.8633 \$5.3691				\$1.8633 \$5.3691
Cost per MCF at Burnertip	ψ0.5001			=	\$8.1652

Enclosure 3

MISSOURI PUBLIC SERVICE - EASTERN SYSTEM Gas Cost Inputs

Page 2 of 4

MPS Line Loss	0.334%		
MoGas/MoPipe Line Loss	0.43%		
PEPL RATES			
PEPL EFT Reservation Rates		PEPL EFT Commodity Rates	
Field Zone Reservation	\$4.73	Market Zone Access	\$0.0006
Market Zone Access	\$3.30	Market Zone Mileage 301-400	\$0.0100
Market Zone Mileage 301-400 Block	\$2.40	GRI Funding Unit	\$0.0040
GRI Funding Unit	\$0.0500	ACA Unit Charge	\$0.0021
Settlement Surcharges	\$0.0000	ТОР	\$0.0000
Canadian Resolution Surcharges	\$0.0000	Settlement Charges	(\$0.0003)
GSR Surcharge	\$0.0000	• • •	(45.000)
Stranded Transportation Cost Surcharge	\$0.0000	EFT Commodity Rates	\$0.0164
Miscellaneous Stranded Costs Surcharge	\$0.0000		40.0.07
PEPL Interruptible Rates		Field Zone Commodity	\$0.0195
Field Zone	\$0.1750		40.0.00
Market Zone Access	\$0.0924	Total EFT Commodity Rates	\$0.0359
Market Zone Mileage	\$0.0888	y	V 3.0000
GRI Funding Unit	\$0.0040		
ACA Unit Charge	\$0.0021		
TOP Volumetric Surcharge	\$0.0000		
Settlement Surcharges	(\$0.0003)		
Canadian Resolution Surcharges	\$0.0000		
Stranded Transportation Cost Surcharge	\$0.0000		
Miscellaneous Stranded Costs Surcharge	\$0.0000		
PEPL Gathering Loss	0.70%		
PEPL Field Zone Loss	1.22%		
PEPL Market Zone Loss	1.23%		

Note: From FERC Gas Tariff: PEPL Sixty-Eighth Revised Sheet No. 5 Effective 01/01/03 , Seventy-First Revised Sheet No. 7 Effective 01/01/03, and Twenty-Seventh Revised Sheet No. 19 Effective 10/01/01.

Annual Throughput at Burnertip	379,066
Annual Throughput at Citygate	380,336
MOGAS & MPC	381,979
Annual Throughput at Wellhead	391,512

Seasonal Sales Volume @ Burnertip

- annough	
Jan	73,216
Feb	65,424
Mar	53,242
Apr	37,244
May	20,814
Jun	10,209
Jul	7,438
Aug	7,242
Sep	8,048
Oct	14,772
Nov	29,297
Dec	52,121
TOTAL	379,066

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\$5.3691

Division of Aquila Networks Eastern System Current Gas Cost Calculation

Missouri Public Service

Current Gas Cost Calculation											
	Mar-03	<u>Ар</u> г-03	May-03	Ju <u>n-03</u>	Jul-03	Aug-03	Sep-03	Oct-03	Totals		
SUMMARY OF COMMODITY COSTS Sales Requirements	50,427	37,244	20,814	10,209	7,438	7,242	8,048	14,772	156,193		
MoGas/MoPipe Fuel Loss	0.43%	0.43%	0.43%	0.43%		0.43%	0.43%	0.43%	,		
PEPL Market Zone Fuel Loss	1.23%	1.23%	1.23%	1.23%	0.43% 1.23%	1.23%	1.23%	1.23%			
PEPL Field Zone Fuel Loss	1.23%	1.23%	1.23%	1.23%	1.23%	1.23%	1.23%	1.23%			
Gathering Fuel Loss	0.70%	0.70%	0.70%	0.70%	0.70%		0.70%	0.70%			
Total Supply - Fuel Loss	52,275	38,608	21,576	10,583	7,710	7,507	8,343	15,313	161,915		
,	***J=: *	,	,	, = ,	.,	.,	7,5 .5	,5,5.5	,0,,0.0		
Purchase Requirements	52,275	38,608	21,576	10,583	7,710	7,507	8,343	15,313			
Total Supply	0	38,608	21,576	10,583	7,710	7,507	8,343	15,313	109,640		
Forecasted Price (NYMEX-PEPL Basis)*	<u>\$ 5.5910</u>	\$ 5.3840	\$ 5.1790	\$ 5.0840	\$ 5.0640	<u>\$ 5.024</u>	<u>\$ 4.984</u>	<u>\$ 4.999</u>			
Total Cost	\$ -	\$ 207,865	\$ 111,742	\$ 53,804	\$ 39,043	\$ 37,715	\$ 41,582	\$ 76,550	\$ 568,301		
Contracted Fixed Price Supply	56,265	0	0	0	0	0	0	0			
Contracted Price Supply Contracted Price	\$ 3.7625	\$ -	<u>\$</u>	<u> </u>	\$ <u>-</u>	\$ -	\$	\$			
Total Cost	\$ 211,697		<u>\$</u> -	<u>*</u> -	\$ -	<u>s</u> -	<u>s</u> -	\$ -	\$ 211,697		
Total Cost	\$ 211,007	Ψ -	Ψ -	Ψ -		Ψ -	•	Φ -	\$ 211,097		
Forecasted Gas Commodity Cost	\$ 211,697	\$ 207,865	\$ 111,742	\$ 53,804	\$ 39,043	\$ 37,715	\$ 41,582	\$ 76,550	\$ 779,998		
Forecasted Sales Gas Quantity	52,275	38,608	21,576	10,583	7,710	7,507	8,343	15,313	161,915		
Gas Cost (Commodity) Dth									£4 0472		
Gas Cost (Commodity) But									\$4.8173		
SUMMARY OF UPSTREAM COSTS Panhandle Eastern Pipeline - Firm											
FT Commodity (Field Zone)	51,909	38,338	21,425	10,509	7,656	7,454	8,285	15,206			
FT Commodity (Market Zone)	51,275	37,870	21,164	10,381	7,563	7,363	8,184	15,021			
Total Units	103,184	76,208	42,589	20,890	15,219	14,817	16,469	30,227			
Cost/Dth Field Zone	\$0.0195	\$0.0195	\$0.0195	\$0.0195	\$0.0195	\$0.0195	\$0.0195	\$0,0195			
Cost/Dth - Market Zone	<u>\$0.0164</u>	\$0.0164	\$0,0164	<u>\$0.0164</u>	\$0.0164	<u>\$0.0164</u>	\$0.0164	\$0.0164			
Total Panhandle Commodity Costs	\$1,853	\$1,369	\$765	\$375	\$273	\$266	\$296	\$543	\$5,740		
Missouri Pipeline Company - Firm											
Rolla	25 422	00.000	44045	7.400	5.00.	5.005	5 000	40.004			
FT Commodity Salem	35,482	26,206	14,645	7,183	5,234	5,095	5,663	10,394			
FT Commodity	10,296	7,605	4,249	2,084	1,519	1,478	1,643	3,016			
Owensville	10,230	7,000	4,240	2,004	1,513	1,470	1,040	5,010			
FT Commodity	4,866	3,594	2,008	<u>985</u>	<u>717</u>	698	<u>776</u>	1,426			
Total Units	50,644	37,405	20,902	10,252	7,470	7,271	8,082	14,836	156,862		
Cost/Dth - Rolla	\$0.1699	\$0.1699	\$0.1699	\$0.1699	\$0.1699	\$0.1699	\$0.1699	\$0,1699			
Cost/Dth - Salem	\$0.0500	\$0.0500	\$0.0500	\$0.0500	\$0.0500	\$0.0500	\$0.0500	\$0.0500			
Cost/Dth - Owensville	\$0.1699	\$0.169 <u>9</u>	<u>\$0.1699</u>	\$0.1 <u>699</u>	<u>\$0.1699</u>		<u>\$0.1699</u>	<u>\$0,1699</u>			
Total MoPipe Commodity Costs	\$7,370	\$5,443	\$3,042	\$1,492	\$1,087	\$1,058	\$1,176	\$2,159	\$22,827		
Missouri Gas Company - Firm Rolla											
FT Commodity	35.329	26,093	14,582	7,152	5,211	5,073	5,639	10,349			
Salem	**,***	,	,	• • • • • •	- ,	-1	-,	,			
FT Commodity	10,252	7,572	4,231	2,075	1,512	1,472	1,636	3,003			
Owensville											
FT Commodity	<u>4,845</u>	<u>3,578</u>	<u>1,999</u>	<u>980</u>	714		772	<u>1,419</u>	455.45		
Total Units	50,426	37,243	20,812	10,207	7,437	7,240	8,047	14,771	156,186		
Cost/Dth - Rolla Cost/Dth - Salem	\$0.4000 \$0.5200	\$0.4000 \$0.5200	\$0.4000 \$0.5200	\$0.4000 \$0.5200	\$0.4000 \$0.5200		\$0.4000 \$0.5200	\$0,4000 \$0,5200			
Cost/Dth - Owensville	\$0.9433		\$0.5200 \$0.9433	\$0.5200 \$0.9 <u>433</u>	\$0.9433		\$0.5200 \$0.9433	\$0.9433			
Total MoGas Commodity Costs	\$24,033		\$9,919	\$4,865	\$3,545		\$3,835	\$7,040	\$74,438		
, and a second s	75.,,555	****	,	• .,	**,**	,	,	4.,	** //		
Total MoPipe & MoGas Costs	\$31,403	\$23,193	\$12,961	\$6,357	\$4,632	\$4,509	\$5,011	\$9,199	\$97,265		
Forecasted Eastern Upstream Costs	\$33,256	\$24,562	\$13,726	\$6,732	\$4,905	\$4,775	\$5,307	\$9,742	\$103,005		
Forecasted Firm Sales Quantity	52,275		21,576	10,583	•		8,343	15,313	161,915		
Upstream Cost/Dth	,	,	,	,	,. ,-	,	,	,	\$0.6362		
Put/Call 99/00 & 00/01 Settlement Adj.									(13,670) (\$0.0844)		

Enclosure 3

\$ 4.1066

\$ 5.9138

5.9138

1.1917

\$

9.61% \$ 0.6155

\$6.4049

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Missouri Public Service Division of UtiliCorp United Inc. Eastern System

Gas Commodity Cost Calculation

Owensville

Total Gas Commodity Costs

INSIDE FERC FEB 03 MoGas/MoPipe Fuel Loss PEPL Market Zone Fuel Loss PEPL Field Zone Fuel Loss Gathering Fuel Loss	0. 1. 1.	5.07 43% 23% 22% <u>70%</u>	
PEPL Index Adjusted for Fuel	\$ 5.2	558	
PEPL Cost/Dth Field Zone PEPL Cost/Dth - Market Zone Total PEPL Commodity Cost	\$0.0 <u>\$0.0</u> \$5.2	164	
PEPL Cost MoPipe Cost/Dth - Rolla MoGas Cost/Dth - Rolla	\$5.2 \$0.1 <u>\$0.4</u>	699	
Rolla	\$5.8	616	
PEPL Cost MoPipe Cost/Dth - Salem MoGas Cost/Dth - Salem Total Salem	\$5.2 \$0.0 <u>\$0.5</u> \$5.8	500	
PEPL Cost MoPipe Cost/Dth - Owensville MoGas Cost/Dth - Owensville Total Owensville	\$5.2 \$0.1 <u>\$0.9</u> \$6.4	699	
		Per	cent Split
Rolla	· · · · · · · · · · · · · · · · · · ·	616	70.06%
Salem	\$5.8	617	20.33%

	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCTOBER				
SOUTHERN SYSTEM (00):												
Purchase Volumes	3,457	176,842	101,708	82,348	71,958	70,172	25,548	56,974	589,007			
Commodity Cost (Highest)	\$2.7109	\$2,7900	\$2.9567	\$4.1302	\$4.2167	\$3.7400	\$4.5500	\$5.2400				
Total Commodity Costs	\$9,372	\$493,389	\$300,720	\$340,114	\$303,425	\$262,443	\$116,243	\$298,544	\$2,124,250			
				V	Neighted Avg	. Commodity (Costs			\$3.6065		
SOUTHERN SYSTEM (01):	· ·											
Purchase Volumes	24,258	172,537	30,963	13,102	13,565	55,581	88,348	4,752	403,106			
Commodity Cost (Highest)	5.0968	\$5.2396	\$4.5996	\$3.7867	\$3.0147	\$2.8691	\$2.1988	\$4.9300				
Total Commodity Costs	\$123,638	\$904,025	\$142,417	\$49,613	\$40,894	\$159,467	\$194,260	\$23,427	\$1,637,741			
				'	Weighted Avg	. Commodity (Costs			\$4.0628		
SOUTHERN SYSTEM (02):							45.44					
Purchase Volumes	136,710	182,591	117,856	110,155	65,333	66,273	65,010	115,646	859,574			
Commodity Cost (Highest)	\$3.6519	\$3.2056	\$3.0367	\$2.8754	\$2.7316	\$2.6173	\$2.6298	\$4.0948	** 755 665			
Total Commodity Costs	\$499,251	\$585,314	\$357,893	\$316,740	\$178,464	\$173,456	\$170,963	\$4/3,54/	\$2,755,628			
				'	Weighted Avg	. Commodity (Costs			\$3.2058		
								Average o	of 3 Periods	\$3.6250		
		Highest	Avg WACOG	-Summer Per	riod (avg of s	summer seas	ons with the			\$3,4154		
Highest Avg WACOG-Summer Period (avg of summer seasons with the highest of 3 averages) April 2002 Gas Commodity Cost												
		APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCTOBER				
NORTHERN SYSTEM (00):												
Purchase Volumes	10,490	32,684	29,715	24,570	23,035	23,026	21,025	45,247	209,792			
Commodity Cost (Highest)	\$2.6216	\$2.7925	\$2.9400	\$4.2075	\$4.2000	\$3.7000	\$4.4900	\$5,1900				
Total Commodity Costs	\$27,500	\$91,270	\$87,362	\$103,378	\$96,747	\$85,196	\$94,402	\$234,832	\$820,687			
	Weighted Avg. Commodity Costs											
NORTHERN SYSTEM (01):												
Purchase Volumes	18,689	42,901	29,258	3,175	5,611	449	21,879	21,675	143,637			
Commodity Cost (Highest)	\$ 5.1246	\$5,3075	\$4.8100	\$4.6800	\$4.6800	\$4.6800	\$4.6800	\$4.6800				
Total Commodity Costs	\$95,774	\$227,697	\$140,731	\$14,859	\$26,259	\$2,101	\$102,394	\$101,439	\$711,254			
				,	Weighted Avo	g. Commodity	Costs			\$4.9517		
NORTHERN SYSTEM (02):												
Purchase Volumes	676	1,720	39,115	26,246	28,661	24,271	23,075	65,334	209,098			
Commodity Cost (Highest)	\$4.4550	\$3.2750	\$3.1400	\$2.9500	\$2.9475	\$2.6550	\$2.9250	\$3.3000				
Total Commodity Costs	\$3,012	\$5,633	\$122,821	\$77,426	\$84,478	\$64,440	\$67,494	\$215,602	\$640,906			
				,	Weighted Avo	. Commodity	Costs			\$3.0651		
								Average o	of 3 Periods	\$3.9762		
		Highes	t Avg WACOG	-Summer Pe	riod (avg of	summer seas	ons with th			\$3.9441		
		•	•		. •			02 Gas Comr		\$3.4277		
							-		•			
	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCTOBER				
EASTERN SYSTEM (00):												
Purchase Volumes	24,719	22,745	11,885	0	5,330	3,901	5,510	15,500	89,590			
Commodity Cost (Highest)	\$2.7032	\$2.7900	\$2.9400	\$0.0000	\$4.2000	\$3,7075	\$4.4900	\$5.1900				
Total Commodity Costs	\$66,820	\$63,459	\$34,942	\$0	\$22,386	\$14,463	\$24,740	\$80,445	\$307,255			
•	•	-	•	1	Weighted Av	g. Commodity		-	-	\$3.4296		
EASTERN SYSTEM (01):												
Purchase Volumes	57,000	24,750	8,587	12,240	8,586	6,355	6,018	21,375	144,911			
Commodity Cost (Highest)	\$5.0000	\$5.3075	\$4.8100	\$3.6150	\$3.0200	\$3.0425	\$2.2100	\$1.6900				
Total Commodity Costs	\$285,000	\$131,361	\$41,303	\$44,248	\$25,930	\$19,335	\$13,300	\$36,124	\$596,601			
				,	Weighted Av	g. Commodity	Costs			\$4.1170		
EASTERN SYSTEM (02):												
Purchase Volumes	4,500	15,100	14,650	7,310	6,630	6,200	6,844					
Commodity Cost (Highest)	\$2.4800	\$3.2725	\$3.1400	\$2.9500	\$2.9475	\$2.6550	\$2.9250	\$3,3000				
Total Commodity Costs	\$11,160	\$49,415	\$46,001	\$21,565	\$19,542	\$16,461	\$20,019	\$70,620	\$254,783			
					Weighted Av	g. Commodity	Costs			\$3.0833		
								Averane	of 3 Periods	\$3.5433		
		Highes	t Avg WACOG	Summer Pa	eriod (avo of	summer seas	ons with th	_		\$3.3433 \$3.3133		
		i ngilea		. Swimmer I C	(479 01	ocas		02 Gas Com		\$2.4849		
							p 20			40		

Missouri Public Service 2002-2003 ACA Year PGA Estimate (Based on Monthly Actuals and Estimate)

	Note: Prior months may change from previous spreadsheets due to prior period adjustments entered in appropriate month on this schedule.												
	990'6∠€	Firm Mcfs											Note: Shaded sreas indicate estimate.
	(843,33)	996'98	127,828	207,464	241,563	156,612	E78,28	(257,251)	(522,222)	(182,199)	(505,36)	(116,81)	Inception to Date PGA/ACA Over/(Under) Recovery
	(594,28)	050,72	118,811	7 5 2,861	749,265	\$14,414	956,67	(649,141)	(071,152)	(811,161)	(812,201)	(722,72)	2002-2003 PGA/ACA Yr to Date Overf(Under) Recovery
(65,465)	(\$13,Se)	(598,16)	(569,67)	(00f,4E)	28,232	130,459	215,604	128,68	(490'04)	(768, 88)	(166,77)	(722,72)	Total Monthly PGA/ADA Over/(Under) Recovery
(834,865)	(Eth,29)	(827,19)	(564,67)	(608,65)	28,752	040,87	216,494	860,88	(1ET,SA)	(155,227)	(102,910)	(114,64)	Monthly PGA Overi(Under) Recovery
£96,071	(101)	(104)	(143)	(181)	(629)	614,53	(069)	£84,1	229°Z	68,329	24,519	\$21,5S	Monthly ACA Over/(Under) Recovery
												716,B	Prior ACA Yr Over(Under) Recovery Balance
(188,881)	(92,514)	(298,19)	(369,67)	(34,100)	262,82	3 EE, 7.7	\$12' 60 4	123,68	(450,04)	(768,38)	(166,77)	(722,72)	Overf(Under) Recovery
7 77 ,842,£	741,881	384,781	964,681	245,730	184,086	£65,354	369,265	Z96,118	426,882	190'698	129'90Z	127,613	PGA Factor - Required
3,312,019	AE7,87	727,87	£₽6,501	126,115	502,875	513,433	697,383	004,863	131,486	203,835	117,201	202,87	PGA Factor in Effect
048,711	(101)	(104)	(641)	(162)	(520)	(407)	(068)	£8Þ,1	778,2	626,68	24,919	22,184	ACA Factor in Effect
3,442,329	741,881	167,485	964,681	245,730	320,451	666,364	395,265	402,244	426,882	190,635	\$02,621	519,721	Cost of Gas Purchased and Produced
361,112	743,T	187,7	9£3,01	169,12	E18,8E	25,552	786,88	810,88	908,54	068,72	₽£9,B	989'Z	Sales Volumes (in Mcf)
<u>Lete1</u> 760,844	2uA 8++,8	<u>भगः</u> 9/9/8	<u>ព្រះ</u> 606,11	<u>¥8M</u> 08S,₽S	<u>1q≜</u> 244,64	<u>Mar</u> 58,824	<u>Feb</u> 74,310	대한 라가,さ8	<u>реД</u> 070,0Ә	<u>von</u> 197,64	<u>190</u> 22,253	∠1ε'9 α•ς	Gas Supply Purchased (in Dth)
	(\$115.9\$)	(8742.9\$)	(69+9.5\$)	(\$0°3642)	L069°L\$	6 > 56. 2 \$	Z0 1/8 :6 \$	6098. 2\$	£ 6 27.1 \$	\$1.7229	\$2°9\$	(\$141.7 \$)	OveriUnder Recovery
	8788.878	pp06.91\$	\$15,4035	\$10,1208	990'8\$	Z10≯'Z\$	£696°+\$	8996'9\$	t-901.7\$	7661 '8\$	Z0Þ2'6\$	\$102.02\$	PGAACA Factor - Required
	0022'6\$	0022'6\$	0022'6\$	0022'6\$	0017.8\$	0022 6\$	\$6.6234	0908.8\$	16 97.8 \$	D7D7.7\$	₱968.11 \$	Sp71,01\$	PGA Factor in Effect
	(\$610.0 \$)	(\$C10.0\$)	(\$\$10.0\$)	(\$610.0\$)	(\$C10.0\$)	(\$0.0134)	(\$E10.0\$)	81.00.0\$	1190.0\$	\$5.5183	\$2,8862	1988.2\$	ACA Factor in Effect
361,112	743,T	187,7	669,01	169,12	518,85	299'29	786,38	870,88	908,64	27,530	9,634	989,7	Estimated Sales Volume
	\$12,5618	1162.218	0116.8\$	9075,4\$	924478	0408.1\$	0824.1\$	\$1.2380	9992'1\$	\$5.4233	9149.4\$	6098.31\$	Fixed Costs
	0901.78	SE70.7 \$	9267'9\$	\$6.7502	6829.3\$	77 6 8.3 \$	\$3.5412	84.727.8	86233388	\$977.9\$	9863.4\$	9098'E\$	Commodity
	₽uA	<u>inř</u>	սոր	YeM	ъ	JaM	Feb	<u>uer</u>	Dec	<u>vol</u>	<u>150</u>	des	

Missouri Public Service Northern System 2002-2003 ACA Year PGA Analysis (Based on Monthly Actuals & Estimates)

	<u> Sep</u>	<u>Oct</u>	Nov	Dec	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	May	<u>Jun</u>	<u>Jul</u>	Aug	
Commodity	\$0.9078	\$3.5690	\$3.9577	\$3.7614	\$4.0928	\$3.3926	\$5.2550	\$5.1600	\$4.9200	\$4.8000	\$4.7500	\$4.7200	
Fixed Costs	\$5.4287	\$1,1954	\$0.8382	\$0.6833	\$0.4817	\$0.7101	\$0.6244	\$0.8803	\$1.5946	\$2.3476	\$3.0183	\$3,1301	
Estimated Sales Volume	28,483	20,235	101,276	160,338	219,251	150,371	170,987	121,284	66,959	45,481	35,375	34,111	-
ACA Factor in Effect PGA Factor in Effect PGA/ACA Factor - Required	\$0.5273 \$4.2391 \$6.3365	\$0.5273 \$4.2388 \$4.7644	\$0.3650 \$4.4750 \$4,7959	\$0.0076 \$5.0289 \$4.4447	(\$0.0378) \$5.0592 \$4.5745	(\$0.0378) \$5,0302 \$4,1027	(\$0.0378) \$6.6027 \$5.8794	(\$0.0378) \$6.6027 \$6.0403	(\$0.0378) \$6.6027 \$6.5146	(\$0.0378) \$6.6027 \$7.1476	(\$0.0378) \$6.6027 \$7.7683	(\$0.0378) \$6.6027 \$7.8501	
Over/Under Recovery	(\$1.5701)	\$0.0017	\$0.0440	\$0.5918	\$0.4469	\$0.8897	\$0.6855	\$0.5246	\$0.0503	(\$0.5827)	(\$1,2034)	(\$1.2852)	
Gas Supply Purchased (in Dth)	<u>Şep</u> 18,089	<u>Oct</u> 82,147	<u>Nov</u> 151,653	<u>Dec</u> 189,810	<u>Jan</u> 269,250	<u>Feb</u> 182,654	<u>Mar</u> 207,696	<u>Apr</u> 147,322	<u>May</u> 81,334	<u>Jun</u> 55,245	<u>Jul</u> 42,970	<u>Aug</u> 41,434	<u>Total</u> 1,469,603
Sales Volumes (in Mcf)	28,483	20,235	101,276	160,338	219,251	150,371	170,987	121,284	66,959	45,481	35,375	34,111	1,154,152
Cost of Gas Purchased and Produced	114,621	391,382	727,316	843,651	1,101,980	749,371	1,221,134	889,876	529,858	394,871	333,799	325,263	7,623,123
ACA Factor in Effect	15,020	10,671	36,964	1,215	(8,296)	(5,684)	(6,463)	(4,585)	(2,531)	(1,719)	(1,337)	(1,289)	31,965
PGA Factor in Effect	120,743	85,773	453,207	806,324	1,109,241	756,396	1,128,976	800,802	442,110	300,297	233,571	225,225	6,462,665
PGA Factor - Required	114,621	391,382	727,316	843,651	1,231,674	749,371	1,221,134	889,876	529,858	394,871	333,799	325,263	7,752,817
Over/(Under) Recovery	21,142	(294,939)	(237,144)	(36,112)	(130,729)	1,341	(98,622)	(93,658)	(90,279)	(96,292)	(101,566)	(101,328)	(1,258,187)
Prior ACA Yr Over/(Under) Recovery Balance-Firm	55,532												
Monthly ACA Over/(Under) Recovery	15,020	10,671	36,964	1,215	(8,296)	(5,684)	(6,399)	(4,585)	(2,531)	(1,719)	(1,337)	(1,289)	32,029
Monthly PGA Over/(Under) Recovery	6,121	(305,610)	(274,109)	(37,327)	(122,433)	7,025	(92,158)	(89,074)	(87,748)	(94,573)	(100,229)	(100,039)	(1,290,152)
Total Monthly PGA/ACA Over/(Under) Recovery	21,142	(294,939)	(237,144)	(36,112)	(130,729)	1,341	(98,558)	(93,658)	(90,279)	(96,292)	(101,566)	(101,328)	(1,258,123)
2002-2003 PGA/ACA Yr to Date Over/(Under) Recovery	21,142	(273,797)	(510,942)	(547,054)	(677,783)	(676,441)	(774,999)	(868,657)	(958,936)	(1,055,229)	(1,156,795)	(1,258,123)	
inception to Date PGA/ACA Over/(Under) Recovery	76,674	(218,265)	(455,410)	(491,522)	(622,250)	(620,909)	(719,467)	(813,125)	(903,404)	(999,697)	(1,101,262)	(1,202,590)	

Note: Shaded areas are estimated amounts. Light gray shaded area is estimated based on information obtained from accountants.

Note: Prior months may change from previous spreadsheets due to prior period adjustments entered in appropriate month on this schedule.

Firm Mcfs 1,468,777

Forecasted ACA 11/02 0.8188

Missouri Public Service Southern System 2002-2003 ACA Year PGA Estimate (Based on Monthly Actuals and Estimates)

	Sep	Oct	Nov	Dec	<u>Jan</u>	<u>Feb</u>	Mar	Apr	May	Jun	<u>lut</u>	Aug	
Commodity	\$2.3893	\$3.7763	\$ 4. 054 5	\$3.7935	\$3.9411	\$3.6655	\$5.3150	\$5.2100	\$4.9700	\$4.8500	\$4.8000	\$4.7700	
Fixed Costs	\$1.7535	\$1.3872	\$0.9194	\$0.6697	\$0.5128	\$0.6074	\$0.6624	\$0.9841	\$2.1927	\$3.1157	\$3.8474	\$4.3414	
Estimated Sales Volume	72,232	94,944	278,603	470,638	631,494	530,036	485,978	327,128	146,822	103,328	83,677	74,154	3,299,034
ACA Factor in Effect PGA Factor In Effect PGA/ACA Factor - Required	\$1.6038 \$4.5857 \$4.1428	\$1.6001 \$4.5994 \$5.1635	\$1.1952 \$4.6555 \$4.9739	\$0.3116 \$4.7779 \$4.4632	\$0.2474 \$4.7865 \$4.4538	\$0.2458 \$4.7867 \$4.2729	\$0.2458 \$5.9757 \$5.9774	\$5.9757	\$0.2458 \$5.9757 \$7.1627	\$0.2458 \$5.9757 \$7.9657	\$0.2458 \$5.9757 \$8.6474	\$0.2458 \$5.9757 \$9.1114	
Over/Under Recovery	\$2.0467	\$1.0360	\$0.8767	\$0.6264	\$0.5801	\$0.7596	\$0.2441	\$0.0274	-\$0.9412	-\$1.7442	-\$ 2.4259	-\$2.8899	
Gas Supply Purchased (in Dth)	<u>Sep</u> 65,142	<u>Oct</u> 229,494	<u>Nov</u> 414,831	<u>Dec</u> 571,307	<u>Jan</u> 746,193	<u>Feb</u> 629,933	<u>Mar</u> 577,571	<u>Apr</u> 388,783	<u>May</u> 174,494	<u>Jun</u> 122,802	<u>Jul</u> 99,448	<u>Aug</u> 88,130	<u>Total</u> 4,108,128
Sales Volumes (in Mcf) Cost of Gas Purchased and Produced	72,232 269,869	94,944 1,184,989	278,603 2,063,343	470,638 2,549,838	631,494 2,940,812	530,036 2,691,628	485,978 3,452,403	327,128 2,408,168	146,822 1,249,846	103,328 978,203	83,677 859,960	74,154 802,991	3,299,034 21,452,050
ACA Factor in Effect	115,843	151,920	332,979	146,672	156,212	130,283	119,453	80,408	36,089	25,398	20,568	18,227	1,334,052
PGA Factor in Effect PGA Factor - Required	331,235 269,869	436,681 1,184,989	1,297,034 2,063,343	2,248,666 2,549,838	3,022,677 3,323,423	2,537,123 2,691,628	2,904,059 3,452,403	1,954,819 2,408,168	877,364 1,249,846	617,457 978,203	500,029 859,960	443,122 802,991	17,170,266 21,834,661
Over/(Under) Recovery	177,209	(596,389)	(433,330)	(154,500)	(144,534)	(24,222)	(428,891)	(372,941)	(336,393)	(335,348)	(339,364)	(341,642)	(3,330,344)
Prior ACA Yr Over/(Under) Recovery Balance-Firm	(939,834)												
Monthly ACA Over/(Under) Recovery Monthly PGA Over/(Under) Recovery	115,843 61,366	151,920 (748,308)	332,979 (766,309)	146,672 (301,172)	156,212 (300,746)	130,283 (154,505)	119,453 (548,344)	80,408 (453,349)	36,089 (372,481)	25,398 (360,746)	20,568 (359,932)	18,227 (359,869)	1,334,052 _(4,664,395)
Total Monthly PGA/ACA Over/(Under) Recovery	177,209	(596,389)	(433,330)	(154,500)	(144,534)	(24,222)	(428,891)	(372,941)	(336,393)	(335,348)	(339,364)	(341,642)	(3,330,344)
2002-2003 PGA/ACA Yr to Date Over/(Under) Recovery	177,209	(419,179)	(852,509)	(1,007,009)	(1,151,543)	(1,175,765)	(1,604,656)	(1,977,598)	(2,313,990)	(2,649,338)	(2,988,702)	(3,330,344)	
Inception to Date PGA/ACA Over/(Under) Recovery	(762,625)	(1,359,013)	(1,792,343)	(1,946,843)	(2,091,377)	(2,115,599)	(2,544,490)	(2,917,431)	(3,253,824)	(3,589,172)	(3,928,536)	(4,270,178)	
											Firm Mcfs	3,823,123	

Note: Shaded areas indicate estimates.

Note: Prior months may change from previous spreadsheets due to prior period adjustments entered in appropriate month on this schedule.

Forecasted ACA 11/02 1.1169

Aquila Networks Southern System 2002-2003 Summer Season Revenue Impact

Original Calculation Filed

	PGA		PGA	PGA Change	Revenue Impact
Month	Factor	Month	Factor	(03/03)	(Summer Season)
Mar-02	6.5449	Mar-03	6.2215	(0.3234)	(163,823)
Apr-02	6.2609	Apr-03	6.2215	(0.0394)	(12,050)
May-02	6.2609	May-03	6.2215	(0.0394)	(6,653)
Jun-02	6.2609	Jun-03	6.2215	(0.0394)	(4,519)
Jul-02	6.2609	Jul-03	6.2215	(0.0394)	(3,515)
Aug-02	6.2609	Aug-03	6.2215	(0.0394)	(3,389)
Sep-02	6.2609	Sep-03	6.2215	(0.0394)	(3,766)
Oct-02	6.2609	Oct-03	6.2215	(0.0394)	(5,272)

Estimated Summer Season Change in Revenue

(202,987)

Percent Change Between PGA Factors

-0.63%

Firm Sales Volume @ Burnertip

3,823,123

	Estimated		Estimated
	Customer Usage	Estimated %	Company Sales
Month	Mcf/Mnth	Mcf/Yr	Mcf/Mnth
Jan	23.6	19.67%	751,881
Feb	21.7	18.08%	691,348
Mar	15.9	13.25%	506,564
Apr	9.6	8.00%	305,850
May	5.3	4.42%	168,855
Jun	3.6	3.00%	114,694
Jul	2.8	2.33%	89,206
Aug	2.7	2.25%	86,020
Sep	3	2.50%	95,578
Oct	4.2	3.50%	133,809
Nov	9.7	8.08%	309,036
Dec	<u>17.9</u>	<u>14.92%</u>	570,283
TOTAL	120	100%	3,823,123

Note: Estimated Customer Usage Obtained from Missouri Public Service Commission.

657,411

Aquila Networks Northern System 2002-2003 Summer Season Revenue Impact

Original Calculation Filed

1	PGA		PGA	PGA Change	Revenue Impact
Month	Factor	Month	Factor	(03/03)	(Summer Season)
Mar-02	6.7395	Mar-03	6.5733	(0.1662)	(32,345)
Apr-02	4.7671	Apr-03	6.5733	1.8062	212,232
May-02	4.7671	May-03	6.5733	1.8062	117,170
Jun-02	4.7671	Jun-03	6.5733	1.8062	79,587
Jul-02	4.7671	Jul-03	6.5733	1.8062	61,901
Aug-02	4.7671	Aug-03	6.5733	1.8062	59,690
Sep-02	4.7671	Sep-03	6.5733	1.8062	66,323
Oct-02	4.7671	Oct-03	6.5733	1.8062	92,852

Estimated Summer Season Change in Revenue

Percent Change Between PGA Factors 37.89%

Firm Sales Volume @ Burnertip

1,468,777

	Estimated		Estimated
	Customer Usage	Estimated %	Company Sales
Month	Mcf/Mnth	Mcf/Yr	Mcf/Mnth
Jan	23.6	19.67%	288,859
Feb	21.7	18.08%	265,604
Mar	15.9	13.25%	194,613
Apr	9.6	8.00%	117,502
May	5.3	4.42%	64,871
Jun	3.6	3.00%	44,063
Jul	2.8	2.33%	34,271
Aug	2.7	2.25%	33,047
Sep	3	2.50%	36,719
Oct	4.2	3.50%	51,407
Nov	9.7	8.08%	118,726
Dec	<u>17.9</u>	<u>14.92%</u>	219,093
TOTAL	120	100%	1,468,777

Note: Estimated Customer Usage Obtained from Missouri Public Service Commission.

Aquila Networks Eastern System 2002-2003 Summer Season Revenue Impact

Original Calculation Filed

	PGA		PGA	PGA Change	Revenue Impact
Month	Factor	Month	Factor	(03/02)	(Summer Season)
Mar-02	9.0992	Mar-03	9.7566	0.6574	33,019
Apr-02	9.0992	Apr-03	9.7566	0.6574	19,936
May-02	9.0992	May-03	9.7566	0.6574	11,006
Jun-02	9.0992	Jun-03	9.7566	0.6574	7,476
Jul-02	9.0992	Jul-03	9.7566	0.6574	5,815
Aug-02	9.0992	Aug-03	9.7566	0.6574	5,607
Sep-02	9.0992	Sep-03	9.7566	0.6574	6,230
Oct-02	9.0992	Oct-03	9.7566	0.6574	8,722

Estimated Summer Season Change in Revenue

97,810

Percent Change Between PGA Factors

7.22%

Firm Sales Volume @ Burnertip

379,066

	Estimated		Estimated
	Customer Usage	Estimated %	Company Sales
Month	Mcf/Mnth	Mcf/Yr	Mcf/Mnth
Jan	23.6	19.67%	74,550
Feb	21.7	18.08%	68,548
Mar	15.9	13.25%	50,226
Apr	9.6	8.00%	30,325
May	5.3	4.42%	16,742
Jun	3.6	3.00%	11,372
Jul	2.8	2.33%	8,845
Aug	2.7	2.25%	8,529
Sep	3	2.50%	9,477
Oct	4.2	3.50%	13,267
Nov	9.7	8.08%	30,641
Dec	<u>17.9</u>	<u>14.92%</u>	56,544
TOTAL	120	100%	379,066

Note: Estimated Customer Usage Obtained from Missouri Public Service Commission.