

Exhibit No.:

Issues: Weather
Normalization

Witness: Shawn E. Lange

Sponsoring Party: MO PSC Staff

Type of Exhibit: Rebuttal Testimony

Case No.: ER-2005-0436

Date Testimony Prepared: November 18, 2005

MISSOURI PUBLIC SERVICE COMMISSION

UTILITY OPERATIONS DIVISION

REBUTTAL TESTIMONY

OF

SHAWN E. LANGE

AQUILA, INC.

D/B/A AQUILA NETWORKS – MPS

AND AQUILA NETWORKS – L&P

CASE NO. ER-2005-0436

**Jefferson City, Missouri
October 2005**

FILED

FEB 24 2006

**Missouri Public
Service Commission**

Exhibit No. 52
Case No(s). ER-2005-0436
Date 1-09-06 Rptr XF

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI**

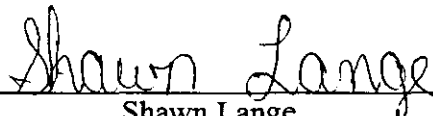
In the Matter of Aquila, Inc. d/b/a Aquila)
Networks-MPS and Aquila Networks-)
L&P, for Authority to File Increasing)
Electric Rates For the Service Provided to)
Customers in the Aquila Networks-MPS)
and Aquila Networks-L&P Area.)

Case No. ER-2005-0436

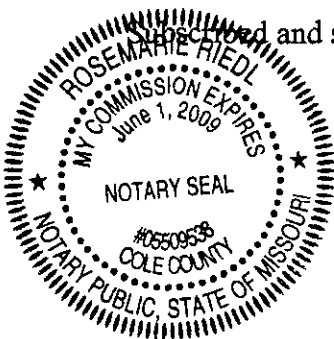
AFFIDAVIT OF SHAWN LANGE

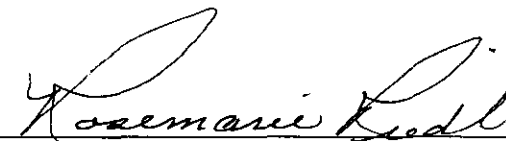
STATE OF MISSOURI)
) ss
COUNTY OF COLE)

Shawn Lange, of lawful age, on his oath states: that he has participated in the preparation of the following Rebuttal Testimony in question and answer form, consisting of 3 pages of Rebuttal Testimony to be presented in the above case, that the answers in the following Rebuttal Testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true to the best of his knowledge and belief.


Shawn Lange

Subscribed and sworn to before me this 17th day of November, 2005.




Notary Public

My commission expires

June 1, 2009

Rebuttal Testimony of
Shawn E. Lange

1 A. This update did not change the methodology. The methodology is still as
2 described in my direct testimony on page 8.

3 Q. What needed to be recalculated because of the error in the normal weather
4 spreadsheet?

5 A. The normal weather calculated in this spreadsheet is used in the weather
6 normalization of class sales and net system loads. It also impacts the calculation of the
7 days adjustment and the leap day adjustment. Therefore, I recalculated the adjustment to
8 sales due to weather, the days adjustment, and the leap day adjustment and the weather
9 normalized net system loads.

10 Q. Which staff witness did you give your new class loads to?

11 A. I gave the new class loads to Staff witness Amanda McMellen to calculate
12 customer growth and Staff witness Janice Pyatte to calculate the revenue impact. I gave
13 new normalized system loads to Staff witness David Elliott.

14 Q. What is your recommendation to the Commission?

15 A. The purpose of my testimony is to recommend that the Commission adopt
16 the Staff's updated weather adjustments and days adjustments to class usage for the
17 weather sensitive rate classes of Aquila Networks - MPS (MPS) and Aquila Networks -
18 L&P (L&P). These adjustments are presented by rate class in Schedule 1. Staff witness
19 Janice Pyatte calculated the corresponding adjustments to class revenues based on these
20 adjustments to class usage. These adjustments to class usage were also included in my
21 calculation of hourly generation requirements.

22 I also recommend that the Commission adopt the updated hourly net
23 system loads that I calculated. Staff witness David W. Elliott used these hourly loads in

Rebuttal Testimony of
Shawn E. Lange

1 his fuel model to normalized fuel and purchased power expenses for the test year. A
2 monthly summary of the updated normalized net system load for L&P is shown on
3 Schedule 2 and for MPS on Schedule 3.

4 Q. Does this conclude your direct testimony?

5 A. Yes, it does.

Aquila Networks L&P
Actual and Weather Normalized Sales (kWh)
Jan-Dec 2004
Residential General Use (MO910)

Billing Month	Actual	Weather Norm	Weather Adj	% Weather Adj	Days Adjustment	Normalized (365 Days)	Leap Year Adjustment
Jan-04	26,483,691	27,758,411	1,274,720	4.81%	(3,084,794)	24,673,817	(67,414)
Feb-04	24,551,405	24,480,061	(71,344)	-0.29%	(1,415,283)	23,064,778	(63,019)
Mar-04	21,563,028	21,860,306	297,278	1.38%	(481,655)	21,378,651	(58,412)
Apr-04	18,114,504	18,502,983	388,479	2.14%	(1,726,305)	16,774,678	(45,832)
May-04	19,537,118	18,011,491	(1,525,627)	-7.81%	2,249,968	20,261,459	(55,359)
Jun-04	26,537,527	26,204,208	(333,319)	-1.26%	5,776,108	31,980,316	(87,378)
Jul-04	32,468,097	38,847,760	6,379,663	19.65%	4,590,039	43,437,799	(118,683)
Aug-04	32,918,495	40,152,947	7,234,452	21.98%	2,842	40,155,789	(109,715)
Sep-04	30,334,222	35,356,633	5,022,411	16.56%	(7,626,482)	27,730,151	(75,765)
Oct-04	23,192,507	23,192,849	342	0.00%	(3,080,487)	20,112,362	(54,952)
Nov-04	18,172,618	18,883,239	710,621	3.91%	1,634,603	20,517,842	(56,060)
Dec-04	23,780,927	24,768,054	977,127	4.11%	2,551,200	27,309,254	(74,615)
Total	297,654,139	318,008,942	20,354,803	6.84%	(612,246)	317,396,696	(867,204)
Summer	122,258,341	140,561,548	18,303,207	14.97%	2,742,507	143,304,056	(391,541)
Other	175,395,798	177,447,394	2,051,596	1.17%	(3,354,753)	174,092,641	(475,663)

Aquila Networks L&P
Actual and Weather Normalized Sales (kWh)
Jan-Dec 2004
Residential General Use (MO911)

Billing Month	Actual	Weather Norm	Weather Adj	% Weather Adj	Days Adjustment	Normalized (365 Days)	Leap Year Adjustment
Jan-04	209,446	221,019	11,573	5.53%	(29,398)	191,621	(524)
Feb-04	190,207	188,603	(1,604)	-0.84%	(5,137)	183,466	(501)
Mar-04	172,999	177,871	4,872	2.87%	(578)	177,393	(485)
Apr-04	139,974	141,879	1,905	1.36%	(4,908)	136,971	(374)
May-04	178,073	157,513	(20,560)	-11.55%	17,695	175,208	(479)
Jun-04	244,306	257,106	12,800	5.24%	12,032	269,138	(735)
Jul-04	278,266	332,767	54,501	19.59%	13,885	346,752	(947)
Aug-04	231,520	289,052	57,532	24.85%	41,024	330,076	(902)
Sep-04	266,330	297,735	31,405	11.79%	(64,693)	233,042	(637)
Oct-04	180,662	180,445	(217)	-0.12%	(11,219)	169,226	(462)
Nov-04	147,587	153,980	6,393	4.33%	7,199	161,179	(440)
Dec-04	188,857	196,400	7,543	3.99%	3,310	199,710	(548)
Total	2,428,227	2,594,470	166,243	6.85%	(20,688)	2,573,782	(7,032)
Summer	1,020,422	1,176,660	156,238	15.31%	2,348	1,179,008	(3,221)
Other	1,407,805	1,417,810	10,005	0.71%	(23,036)	1,394,774	(3,811)

Aquila Networks L&P
Actual and Weather Normalized Sales (kWh)
Jan-Dec 2004
Residential Water Heat (MO913)

Billing Month	Actual	Weather Norm	Weather Adj	% Weather Adj	Days Adjustment	Normalized (365 Days)	Leap Year Adjustment
Jan-04	8,557,922	8,892,197	334,275	3.91%	(848,311)	8,043,886	(21,978)
Feb-04	6,062,235	6,041,717	(20,518)	-0.34%	(428,479)	7,613,238	(20,801)
Mar-04	7,102,031	7,202,010	99,979	1.41%	(343,431)	6,858,679	(18,739)
Apr-04	5,866,808	6,033,449	166,641	2.84%	(400,545)	5,632,904	(15,390)
May-04	5,840,875	5,643,841	(196,934)	-3.37%	177,335	5,821,276	(15,905)
Jun-04	6,769,884	6,783,305	13,424	0.20%	753,878	7,537,186	(20,593)
Jul-04	7,798,981	8,946,641	1,147,660	14.72%	848,764	9,796,426	(26,763)
Aug-04	7,822,915	9,087,792	1,274,877	16.30%	43,993	9,141,785	(24,978)
Sep-04	7,252,665	8,167,116	914,450	12.61%	(1,303,795)	6,863,320	(18,752)
Oct-04	6,186,002	6,311,952	125,950	2.04%	(318,315)	5,993,637	(16,376)
Nov-04	5,550,409	5,777,385	226,976	4.09%	707,685	5,485,070	(17,719)
Dec-04	7,403,758	7,760,396	356,637	4.82%	880,582	6,540,978	(23,609)
Total	84,234,486	88,657,903	4,423,417	5.25%	(230,619)	88,427,264	(241,605)
Summer	29,644,445	32,994,856	3,350,411	11.30%	342,860	33,337,716	(91,067)
Other	54,590,041	55,663,047	1,073,006	1.97%	(573,479)	55,089,568	(150,518)

Aquila Networks L&P
Actual and Weather Normalized Sales (kWh)
Jan-Dec 2004
Residential Water Heat (MO914)

Billing Month	Actual	Weather Norm	Weather Adj	% Weather Adj	Days Adjustment	Normalized (365 Days)	Leap Year Adjustment
Jan-04	5,275	5,483	208	3.94%	(145)	5,338	(15)
Feb-04	5,352	5,343	(9)	-0.17%	(149)	5,194	(14)
Mar-04	5,103	5,138	35	0.69%	(866)	4,272	(12)
Apr-04	3,698	3,806	108	2.92%	(384)	3,422	(9)
May-04	3,534	3,453	(81)	-2.29%	1,171	4,624	(13)
Jun-04	6,366	6,363	(3)	-0.05%	976	7,338	(20)
Jul-04	7,415	8,477	1,062	14.32%	726	9,203	(25)
Aug-04	7,521	8,742	1,221	16.23%	(181)	8,561	(23)
Sep-04	6,712	7,596	884	13.17%	(1,677)	5,919	(16)
Oct-04	4,682	4,758	76	1.62%	857	5,615	(15)
Nov-04	5,283	5,495	212	4.01%	(1,255)	4,240	(12)
Dec-04	4,182	4,398	216	5.16%	725	5,123	(14)
Total	65,123	69,052	3,929	6.03%	(202)	68,850	(188)
Summer	28,014	31,178	3,164	11.29%	(156)	31,022	(85)
Other	37,109	37,874	765	2.06%	(46)	37,828	(103)

Aquila Networks L&P
Actual and Weather Normalized Sales (kWh)
Jan-Dec 2004
Residential General Use (MO915)

Billing Month	Actual	Weather Norm	Weather Adj	% Weather Adj	Days Adjustment	Normalized (365 Days)	Leap Year Adjustment
Jan-04	603,783	633,806	30,023	4.97%	(120,853)	612,953	(1,402)
Feb-04	508,803	507,782	(1,021)	-0.20%	(72,711)	435,071	(1,189)
Mar-04	371,265	375,068	3,803	1.02%	(60,097)	314,971	(861)
Apr-04	249,907	255,601	5,694	2.28%	(32,221)	223,380	(810)
May-04	240,826	226,356	(14,470)	-6.01%	(15,320)	211,036	(577)
Jun-04	244,618	234,037	(10,581)	-4.33%	55,681	289,718	(792)
Jul-04	289,584	346,741	57,157	19.75%	57,601	404,342	(1,105)
Aug-04	321,705	390,532	68,827	21.39%	212,205	602,737	(1,647)
Sep-04	478,650	577,137	98,487	20.58%	(63,239)	513,898	(1,404)
Oct-04	561,939	561,300	(639)	-0.11%	123,513	684,813	(1,871)
Nov-04	553,090	677,002	223,912	3.66%	(87,954)	609,048	(1,664)
Dec-04	554,894	692,569	237,675	4.16%	60,353	752,922	(2,057)
Total	5,189,344	5,477,931	288,587	5.57%	76,958	5,554,889	(15,177)
Summer	1,334,537	1,548,447	213,910	16.03%	262,248	1,610,695	(4,947)
Other	3,854,807	3,929,484	74,677	1.95%	(185,290)	3,744,194	(10,230)

Aquila Networks L&P
Actual and Weather Normalized Sales (kWh)
Jan-Dec 2004
Residential Space Heat (MO920)

Billing Month	Actual	Weather Norm	Weather Adj	% Weather Adj	Days Adjustment	Normalized (365 Days)	Leap Year Adjustment
Jan-04	40,134,416	44,292,217	4,157,801	10.36%	(1,833,554)	42,458,663	(116,007)
Feb-04	44,337,060	43,767,552	(569,508)	-1.28%	(4,933,661)	38,833,891	(106,104)
Mar-04	33,071,091	34,344,730	1,273,639	3.85%	(4,462,886)	29,861,844	(81,990)
Apr-04	21,021,566	23,000,968	1,979,392	9.42%	(4,278,352)	18,722,606	(51,155)
May-04	17,056,475	16,757,572	(298,903)	-1.75%	(1,024,189)	15,733,403	(42,987)
Jun-04	17,423,373	17,562,034	138,661	0.74%	963,522	18,546,056	(50,672)
Jul-04	19,349,063	21,547,073	2,198,010	11.36%	1,186,091	22,733,164	(62,112)
Aug-04	18,476,895	20,788,586	2,321,691	12.57%	583,156	21,361,742	(58,420)
Sep-04	18,261,937	19,966,620	1,704,683	9.50%	(2,723,079)	17,273,541	(47,195)
Oct-04	15,684,142	16,855,914	1,171,772	7.47%	836,644	17,692,558	(48,340)
Nov-04	17,023,756	18,935,256	1,911,500	11.23%	7,514,501	25,449,757	(72,267)
Dec-04	32,126,171	35,521,063	3,394,892	10.57%	7,449,420	42,970,483	(117,406)
Total	293,965,945	313,370,075	19,404,130	6.50%	(712,367)	312,657,708	(654,256)
Summer	73,511,268	79,894,813	6,383,545	8.68%	39,690	79,934,503	(218,400)
Other	220,454,677	233,475,262	13,020,585	5.91%	(752,057)	232,723,205	(635,856)

Aquila Networks L&P
Actual and Weather Normalized Sales (kWh)
Jan-Dec 2004
Residential Space Heat (MO921)

Billing Month	Actual	Weather Norm	Weather Adj	% Weather Adj	Days Adjustment	Normalized (365 Days)	Leap Year Adjustment
Jan-04	754,872	835,485	80,613	10.66%	281,264	1,116,749	(3,051)
Feb-04	1,173,226	1,168,160	(5,066)	-0.43%	(243,211)	924,949	(2,527)
Mar-04	870,957	891,828	20,871	2.40%	(124,133)	767,595	(2,098)
Apr-04	553,002	608,452	55,450	10.03%	(131,091)	477,361	(1,304)
May-04	436,457	438,626	2,169	0.50%	(74,886)	363,740	(994)
Jun-04	392,555	385,702	(6,854)	-1.75%	28,222	413,924	(1,131)
Jul-04	415,062	461,262	46,200	11.13%	13,401	474,563	(1,297)
Aug-04	397,935	447,643	49,708	12.49%	25,213	472,856	(1,292)
Sep-04	393,198	435,625	42,429	10.79%	(60,747)	374,878	(1,024)
Oct-04	359,964	383,914	23,950	6.65%	48,819	432,733	(1,182)
Nov-04	406,977	450,514	43,537	10.70%	157,414	607,928	(1,861)
Dec-04	689,223	767,058	77,835	11.29%	221,523	989,581	(2,701)
Total	6,843,427	7,274,269	430,842	6.30%	141,788	7,416,057	(20,262)
Summer	1,598,749	1,730,232	131,483	8.22%	6,089	1,736,321	(4,744)
Other	5,244,678	5,544,037	299,359	5.71%	135,699	5,679,736	(15,518)

Aquila Networks L&P
Actual and Weather Normalized Sales (kWh)
Jan-Dec 2004
Residential Space Heat (MO922)

Billing Month	Actual	Weather Norm	Weather Adj	% Weather Adj	Days Adjustment	Normalized (365 Days)	Leap Year Adjustment
Jan-04	74,482	82,278	7,796	10.47%	(4,637)	77,641	(212)
Feb-04	83,803	82,422	(1,381)	-1.65%	(10,639)	71,783	(196)
Mar-04	55,938	58,538	2,599	4.65%	(10,529)	48,009	(131)
Apr-04	30,140	32,932	2,792	9.26%	(7,852)	25,080	(69)
May-04	21,325	20,767	(558)	-2.62%	642	21,409	(58)
Jun-04	25,942	26,437	495	1.91%	3,415	29,852	(82)
Jul-04	34,921	38,892	3,971	11.37%	916	39,808	(109)
Aug-04	31,056	35,039	3,983	12.83%	1,934	36,973	(101)
Sep-04	31,385	34,182	2,797	8.91%	(7,250)	26,932	(74)
Oct-04	21,479	23,176	1,697	7.90%	648	23,824	(65)
Nov-04	23,103	25,735	2,632	11.39%	13,491	39,226	(107)
Dec-04	52,667	58,275	5,608	10.23%	12,841	71,116	(194)
Total	486,442	518,673	32,231	6.23%	(7,020)	511,653	(1,398)
Summer	123,304	134,950	11,246	9.12%	(985)	133,565	(365)
Other	363,138	384,123	20,985	5.78%	(6,035)	378,088	(1,033)

Aquila Networks L&P
Actual and Weather Normalized Sales (kWh)
Jan-Dec 2004
Small General Service (MO930)

Billing Month	Actual	Weather Norm	Weather Adj	% Weather Adj	Days Adjustment	Normalized (365 Days)	Leap Year Adjustment
Jan-04	2,330,597	2,437,125	106,528	4.57%	(207,993)	2,229,132	(6,091)
Feb-04	2,167,245	2,156,820	(10,425)	-0.48%	(134,314)	2,022,506	(5,528)
Mar-04	1,952,240	1,992,504	40,274	2.06%	(75,117)	1,917,387	(5,239)
Apr-04	1,578,083	1,618,029	39,946	2.53%	(119,587)	1,498,442	(4,094)
May-04	1,529,900	1,472,739	(57,161)	-3.74%	31,068	1,503,807	(4,109)
Jun-04	1,736,822	1,716,334	(20,488)	-1.18%	229,027	1,945,361	(5,315)
Jul-04	2,051,706	2,206,472	154,766	7.54%	(21,970)	2,184,502	(5,969)
Aug-04	1,858,019	2,023,094	165,075	8.88%	81,182	2,104,276	(5,749)
Sep-04	1,887,727	1,986,404	98,677	5.23%	(258,697)	1,727,707	(4,721)
Oct-04	1,566,266	1,563,456	(2,810)	-0.18%	96,930	1,660,386	(4,537)
Nov-04	1,645,751	1,713,146	67,395	4.10%	110,409	1,823,555	(4,982)
Dec-04	2,021,217	2,110,998	89,781	4.44%	194,454	2,305,452	(6,299)
Total	22,325,563	22,997,121	671,558	3.01%	(74,608)	22,922,513	(62,630)
Summer	7,534,274	7,932,304	398,030	5.26%	29,542	7,961,846	(21,754)
Other	14,791,289	15,064,817	273,528	1.85%	(104,150)	14,960,667	(40,876)

Aquila Networks L&P
Actual and Weather Normalized Sales (kWh)
Jan-Dec 2004
Small General Service (MO931)

Billing Month	Actual	Weather Norm	Weather Adj	% Weather Adj	Days Adjustment	Normalized (365 Days)	Leap Year Adjustment
Jan-04	4,034,708	4,225,438	190,730	4.73%	(393,514)	3,831,924	(10,470)
Feb-04	3,835,358	3,816,313	(19,045)	-0.50%	(155,972)	3,660,341	(10,001)
Mar-04	3,519,920	3,590,823	70,903	2.01%	(12,679)	3,578,144	(9,776)
Apr-04	3,102,795	3,180,420	77,624	2.50%	57,368	3,237,788	(8,846)
May-04	3,519,704	3,387,787	(131,917)	-3.75%	267,272	3,655,099	(9,887)
Jun-04	4,280,490	4,220,593	(59,897)	-1.40%	373,423	4,594,016	(12,552)
Jul-04	4,780,174	5,141,149	360,975	7.55%	136,506	5,277,655	(14,420)
Aug-04	4,561,632	4,964,735	403,103	8.84%	256,915	5,221,850	(14,267)
Sep-04	4,662,351	4,917,556	255,205	5.47%	(604,509)	4,313,047	(11,784)
Oct-04	3,840,401	3,827,285	(13,116)	-0.34%	(303,710)	3,523,575	(9,627)
Nov-04	3,296,783	3,430,681	133,898	4.06%	35,024	3,405,705	(9,469)
Dec-04	3,682,969	3,847,418	164,449	4.47%	(32,765)	3,814,653	(10,423)
Total	47,117,286	48,550,198	1,432,912	3.04%	(376,641)	48,173,557	(131,622)
Summer	18,284,647	19,244,033	959,386	5.25%	162,335	19,406,368	(51,023)
Other	26,832,639	29,306,165	473,526	1.64%	(538,976)	28,767,189	(71,599)

Aquila Networks L&P
Actual and Weather Normalized Sales (kWh)
Jan-Dec 2004
Small General Service (MO932)

Billing Month	Actual	Weather Norm	Weather Adj	% Weather Adj	Days Adjustment	Normalized (365 Days)	Leap Year Adjustment
Jan-04	520,578	544,739	24,161	4.64%	(46,460)	498,279	(1,361)
Feb-04	531,304	528,281	(3,023)	-0.57%	(31,459)	496,822	(1,357)
Mar-04	444,559	453,793	9,234	2.08%	(100,805)	352,988	(964)
Apr-04	230,740	236,355	5,615	2.43%	(2,091)	234,264	(640)
May-04	235,993	227,046	(8,947)	-3.79%	(9,222)	217,824	(595)
Jun-04	244,083	241,652	(2,431)	-1.00%	22,667	264,319	(722)
Jul-04	278,725	299,608	20,883	7.49%	7,511	307,119	(839)
Aug-04	272,188	296,748	24,560	9.02%	9,402	306,150	(836)
Sep-04	272,520	285,983	13,463	4.94%	(30,186)	265,797	(699)
Oct-04	233,069	232,846	(223)	-0.10%	(1,004)	231,842	(633)
Nov-04	226,796	236,134	9,338	4.12%	62,760	298,894	(817)
Dec-04	385,703	402,489	16,786	4.35%	111,158	513,647	(1,403)
Total	3,876,258	3,985,674	109,416	2.82%	(7,729)	3,977,945	(10,669)
Summer	1,067,516	1,123,991	56,475	5.29%	9,394	1,133,385	(3,097)
Other	2,808,742	2,861,683	52,941	1.88%	(17,123)	2,844,560	(7,772)

Aquila Networks L&P
Actual and Weather Normalized Sales (kWh)
Jan-Dec 2004
Small General Service (MO933)

Billing Month	Actual	Weather Norm	Weather Adj	% Weather Adj	Days Adjustment	Normalized (365 Days)	Leap Year Adjustment
Jan-04	2,379,778	2,494,025	114,247	4.80%	(106,508)	2,387,517	(3,523)
Feb-04	2,504,839	2,491,694	(13,145)	-0.52%	(174,738)	2,316,956	(3,330)
Mar-04	2,123,297	2,166,423	43,126	2.03%	(117,147)	2,049,276	(3,599)
Apr-04	1,641,441	1,683,745	42,304	2.58%	(214,559)	1,469,186	(4,014)
May-04	1,484,401	1,427,603	(56,798)	-3.83%	(2,852)	1,424,951	(3,833)
Jun-04	1,687,226	1,676,359	(10,867)	-0.70%	119,997	1,795,356	(4,905)
Jul-04	1,779,088	1,912,983	133,895	7.53%	3,432	1,916,415	(5,236)
Aug-04	1,632,849	1,779,234	146,385	8.97%	93,441	1,872,675	(5,117)
Sep-04	1,645,116	1,732,411	87,295	5.31%	(148,281)	1,584,130	(4,328)
Oct-04	1,471,419	1,466,754	(4,665)	-0.32%	(36,677)	1,430,077	(3,907)
Nov-04	1,381,364	1,437,921	56,557	4.09%	277,101	1,715,022	(4,686)
Dec-04	2,129,890	2,223,775	93,885	4.41%	335,539	2,559,315	(5,993)
Total	21,860,708	22,491,928	631,220	2.89%	28,948	22,520,876	(61,532)
Summer	6,744,279	7,099,987	355,708	5.27%	66,589	7,166,576	(15,566)
Other	15,116,429	15,391,941	275,512	1.82%	(39,641)	15,352,300	(41,946)

Aquila Networks L&P
Actual and Weather Normalized Sales (kWh)
Jan-Dec 2004
Small General Service (MO834)

Billing Month	Actual	Weather Norm	Weather Adj	% Weather Adj	Days Adjustment	Normalized (365 Days)	Leap Year Adjustment
Jan-04	415,042	435,615	19,574	4.70%	(39,640)	395,976	(1,062)
Feb-04	392,523	391,217	(1,306)	-0.33%	(14,653)	376,564	(1,029)
Mar-04	369,098	374,968	5,860	1.59%	(13,781)	361,177	(987)
Apr-04	302,893	311,832	8,939	2.95%	(51,558)	260,274	(711)
May-04	267,308	258,127	(9,181)	-3.43%	40,279	298,406	(815)
Jun-04	356,961	349,406	(7,555)	-2.12%	52,608	402,014	(1,098)
Jul-04	432,341	464,988	32,647	7.55%	58,099	523,087	(1,429)
Aug-04	473,122	513,608	40,486	8.56%	(7,819)	505,789	(1,382)
Sep-04	436,410	463,209	26,799	6.14%	(62,921)	400,288	(1,094)
Oct-04	360,598	358,238	(2,360)	-0.65%	(61,778)	296,460	(810)
Nov-04	265,623	276,408	10,785	4.06%	31,878	308,286	(842)
Dec-04	349,791	365,639	15,848	4.53%	47,481	413,120	(1,129)
Total	4,422,710	4,563,246	140,536	3.16%	(21,805)	4,541,441	(12,408)
Summer	1,698,834	1,791,211	92,377	5.44%	39,967	1,831,178	(6,003)
Other	2,723,876	2,772,035	48,159	1.77%	(61,772)	2,710,263	(7,405)

Aquila Networks L&P
Actual and Weather Normalized Sales (kWh)
Jan-Dec 2004
Large General Service (MO940)

Billing Month	Actual	Weather Norm	Weather Adj	% Weather Adj	Days Adjustment	Normalized (365 Days)	Leap Year Adjustment
Jan-04	31,684,474	32,554,221	869,747	2.75%	(1,405,805)	31,148,416	(85,105)
Feb-04	31,683,610	31,602,489	(81,121)	-0.26%	(1,305,238)	30,297,251	(82,779)
Mar-04	30,874,599	31,379,910	505,311	1.64%	(1,061,864)	32,441,774	(88,639)
Apr-04	27,858,618	28,340,784	482,166	1.73%	(235,061)	28,105,723	(76,792)
May-04	29,859,571	29,275,955	(583,616)	-1.95%	940,118	30,216,073	(82,558)
Jun-04	32,914,294	32,653,742	(260,552)	-0.79%	1,018,599	33,672,341	(92,001)
Jul-04	34,869,823	36,414,388	1,544,565	4.43%	(331,002)	36,083,385	(98,588)
Aug-04	32,928,800	34,659,510	1,730,710	5.26%	(1,524,580)	36,184,090	(98,864)
Sep-04	33,728,143	34,716,375	988,232	2.93%	(1,728,887)	32,987,688	(90,130)
Oct-04	30,642,853	30,253,291	(389,562)	-1.27%	(1,114,873)	29,138,618	(79,814)
Nov-04	27,094,587	27,465,236	370,649	1.37%	980,877	28,446,113	(77,722)
Dec-04	32,424,806	33,230,549	805,743	2.48%	815,171	34,045,720	(93,021)
Total	376,564,178	382,546,450	5,982,272	1.59%	220,743	382,767,193	(1,045,812)
Summer	134,441,060	138,444,015	4,002,955	2.96%	483,490	138,927,505	(379,583)
Other	242,123,118	244,102,435	1,979,317	0.82%	(262,747)	243,839,688	(666,229)

Aquila Networks L&P
Actual and Weather Normalized Sales (kWh)
Jan-Dec 2004
Small General Service (MO941)

Billing Month	Actual	Weather Norm	Weather Adj	% Weather Adj	Days Adjustment	Normalized (365 Days)	Leap Year Adjustment
Jan-04	364,242	403,368	39,126	4.98%	(1,694)	401,674	(1,097)
Feb-04	435,399	432,762	(2,637)	-0.61%	(47,400)	385,362	(1,053)
Mar-04	325,030	331,858	6,828	2.10%	(53,608)	278,250	(780)
Apr-04	197,150	202,305	5,155	2.61%	(35,372)	166,933	(456)
May-04	156,213	150,746	(5,467)	-3.48%	(6,236)	144,548	(395)
Jun-04	157,710	154,746	(2,964)	-1.88%	3,019	157,765	(431)
Jul-04	156,298	168,127	11,829	7.57%	9,213	176,340	(482)
Aug-04	152,324	165,794	13,470	8.84%	12,227	178,021	(485)
Sep-04	160,153	169,427	9,274	5.79%	(18,357)	151,070	(413)
Oct-04	146,051	145,479	(572)	-0.39%	5,413	150,892	(412)
Nov-04	162,811	169,437	6,626	4.07%	58,739	228,176	(623)
Dec-04	291,813	304,850	13,037	4.47%	48,890	353,740	(967)
Total	2,725,194	2,798,937	73,743	2.71%	(26,166)	2,772,771	(7,576)
Summer	626,485	658,094	31,609	5.05%	5,102	663,196	(1,812)
Other	2,098,709	2,140,843	42,134	2.01%	(31,268)	2,109,575	(5,764)

Aquila Networks MP3
Actual and Weather Normalized Sales (kWh)
Jan-Dec 2004
Small General Service (MO710 & MO711)

Billing Month	Actual	Weather Norm	Weather Adj	% Weather Adj	Days Adjustment	Normalized (365 Days)	Leap Year Adjustment
Jan-04	66,130,542	67,933,290	1,802,748	2.73%	(4,692,669)	63,240,621	(172,789)
Feb-04	63,029,591	62,759,656	(269,935)	-0.43%	(4,231,299)	58,528,357	(159,914)
Mar-04	60,448,103	61,000,502	552,399	0.91%	1,329,951	62,330,453	(170,302)
Apr-04	53,057,711	53,261,208	203,497	0.38%	(1,119,498)	52,141,710	(142,454)
May-04	55,874,030	53,780,343	(2,093,687)	-3.75%	3,317,355	57,097,698	(156,005)
Jun-04	65,256,529	64,973,409	(283,120)	-0.43%	4,740,875	69,714,284	(190,476)
Jul-04	72,738,811	78,336,913	5,598,102	7.70%	2,739,339	81,076,252	(221,520)
Aug-04	70,386,716	76,526,628	6,139,912	8.72%	2,096,129	78,622,757	(214,816)
Sep-04	69,297,508	72,555,171	3,257,663	4.70%	(9,280,389)	63,274,782	(172,882)
Oct-04	57,316,366	56,505,707	(812,659)	-1.42%	(1,548,042)	54,957,665	(150,158)
Nov-04	60,842,332	52,091,792	(8,750,540)	-14.26%	(777,192)	51,314,600	(140,204)
Dec-04	58,461,353	59,909,242	1,447,889	2.48%	4,977,320	64,888,562	(177,286)
Total	742,841,720	759,633,861	16,792,141	2.26%	(2,448,120)	757,185,741	(2,068,814)
Summer	277,679,662	292,392,121	14,712,459	5.30%	295,954	292,688,075	(799,694)
Other	465,162,058	467,241,740	2,079,682	0.45%	(2,744,074)	464,497,666	(1,269,119)

Aquila Networks MP3
Actual and Weather Normalized Sales (kWh)
Jan-Dec 2004
Large General Service (MO720)

Billing Month	Actual	Weather Norm	Weather Adj	% Weather Adj	Days Adjustment	Normalized (365 Days)	Leap Year Adjustment
Jan-04	65,628,433	67,126,632	1,498,199	2.28%	(3,366,286)	63,760,346	(174,209)
Feb-04	60,958,326	60,597,628	(360,698)	-0.59%	(4,328,440)	56,269,188	(153,741)
Mar-04	60,776,176	61,598,100	821,924	1.35%	3,909,600	65,507,700	(178,983)
Apr-04	55,265,864	55,679,962	414,098	0.75%	(79,405)	55,600,567	(151,914)
May-04	61,385,710	59,991,706	(1,394,004)	-2.27%	2,416,878	62,408,584	(170,515)
Jun-04	64,173,931	64,191,274	17,343	0.03%	2,335,568	66,526,842	(181,767)
Jul-04	74,095,046	77,541,748	3,446,702	4.65%	683,008	78,224,756	(213,729)
Aug-04	69,548,830	73,225,768	3,676,938	5.29%	3,429,401	76,555,169	(209,440)
Sep-04	73,205,264	74,979,954	1,774,690	2.42%	(4,714,717)	70,265,237	(191,882)
Oct-04	65,577,254	64,963,010	(614,244)	-0.94%	(948,483)	64,014,527	(174,903)
Nov-04	59,336,788	59,748,769	412,001	0.69%	(1,357,308)	58,391,461	(159,540)
Dec-04	62,612,745	64,075,738	1,462,993	2.34%	2,371,162	66,446,900	(181,549)
Total	772,564,347	783,720,289	11,155,942	1.44%	350,978	784,071,267	(2,142,271)
Summer	281,023,071	289,938,744	8,915,673	3.17%	1,733,260	291,672,004	(796,918)
Other	491,541,276	493,781,545	2,240,269	0.46%	(1,382,282)	492,399,263	(1,345,353)

Aquila Networks MP3
Actual and Weather Normalized Sales (kWh)
Jan-Dec 2004
Schools and Churches (MO740)

Billing Month	Actual	Weather Norm	Weather Adj	% Weather Adj	Days Adjustment	Normalized (365 Days)	Leap Year Adjustment
Jan-04	2,498,062	2,631,360	133,298	5.34%	(134,932)	2,496,428	(6,821)
Feb-04	2,546,554	2,531,092	(15,462)	-0.61%	(203,011)	2,328,081	(6,361)
Mar-04	2,299,877	2,349,748	49,871	2.17%	(43,362)	2,306,386	(6,302)
Apr-04	1,886,880	1,917,475	30,595	1.62%	(33,432)	1,884,043	(5,148)
May-04	1,978,422	1,865,884	(112,538)	-5.69%	145,894	2,011,778	(5,497)
Jun-04	2,375,046	2,393,260	18,214	0.77%	238,953	2,632,213	(7,192)
Jul-04	2,685,534	3,076,552	391,018	14.56%	352,814	3,429,366	(9,370)
Aug-04	2,812,256	3,261,385	449,130	15.97%	(12,692)	3,248,694	(8,676)
Sep-04	2,817,615	3,046,367	228,752	8.12%	(346,196)	2,700,171	(7,378)
Oct-04	2,420,044	2,378,335	(41,709)	-1.72%	(259,244)	2,119,091	(5,790)
Nov-04	1,846,116	1,908,491	62,375	3.38%	30,893	1,939,384	(5,299)
Dec-04	2,192,189	2,294,511	102,322	4.67%	123,541	2,418,052	(6,607)
Total	28,358,595	29,654,461	1,295,866	4.37%	(140,774)	29,513,687	(80,636)
Summer	10,690,451	11,777,565	1,087,114	10.17%	232,879	12,010,444	(32,615)
Other	17,668,144	17,876,896	208,752	1.18%	(373,653)	17,503,243	(47,623)

Aquila Networks MP3
Actual and Weather Normalized Sales (kWh)
Jan-Dec 2004
Residential General Use (MO850)

Billing Month	Actual	Weather Norm	Weather Adj	% Weather Adj	Days Adjustment	Normalized (366 Days)	Leap Year Adjustment
Jan-04	135,549,238	140,459,056	4,909,818	3.62%	(14,430,266)	126,028,790	(344,341)
Feb-04	124,359,788	123,792,079	(567,689)	-0.46%	(11,102,930)	112,689,149	(307,894)
Mar-04	104,451,798	104,978,462	526,664	0.50%	562,616	105,541,080	(288,364)
Apr-04	95,836,853	95,554,684	(281,969)	-0.29%	(6,300,533)	89,254,351	(243,864)
May-04	102,091,396	93,579,645	(8,511,751)	-8.34%	14,972,200	108,551,845	(296,590)
Jun-04	142,893,538	143,208,701	315,163	0.36%	28,085,568	171,295,269	(468,020)
Jul-04	174,850,974	208,500,828	33,649,854	19.24%	24,775,624	233,276,452	(637,367)
Aug-04	177,341,342	213,607,836	36,266,494	20.45%	2,796,961	216,404,797	(591,270)
Sep-04	161,226,563	185,895,101	24,668,538	15.30%	(45,570,476)	140,324,625	(383,401)
Oct-04	119,870,797	119,725,013	(145,784)	-0.12%	(15,415,199)	104,309,814	(284,899)
Nov-04	93,459,936	96,266,802	2,806,866	3.00%	6,375,530	102,642,332	(280,444)
Dec-04	117,457,418	121,416,505	3,959,087	3.37%	11,468,628	132,885,133	(363,074)
Total	1,549,189,621	1,646,984,912	97,795,291	6.31%	(3,781,276)	1,643,203,637	(4,489,627)
Summer	556,112,417	751,212,466	95,100,049	14.49%	10,088,677	761,301,143	(2,080,058)
Other	893,077,204	895,772,446	2,695,242	0.30%	(13,869,952)	881,902,494	(2,409,570)

Aquila Networks MP3
Actual and Weather Normalized Sales (kWh)
Jan-Dec 2004
Residential Space Heat (MO870)

Billing Month	Actual	Weather Norm	Weather Adj	% Weather Adj	Days Adjustment	Normalized (366 Days)	Leap Year Adjustment
Jan-04	97,964,741	106,747,598	8,782,857	8.97%	(4,685,235)	102,062,363	(278,859)
Feb-04	104,654,181	103,641,609	(1,012,572)	-0.97%	(13,360,514)	90,281,095	(246,670)
Mar-04	78,103,179	80,780,751	2,677,572	3.43%	(6,809,208)	73,971,543	(202,108)
Apr-04	56,379,997	60,930,837	4,550,840	8.07%	(11,311,809)	49,619,028	(135,571)
May-04	47,283,505	45,761,428	(1,522,077)	-3.22%	(205,767)	45,555,661	(124,469)
Jun-04	55,041,010	55,701,150	660,140	1.20%	7,837,054	63,538,204	(173,602)
Jul-04	64,139,083	72,597,655	8,458,572	13.19%	6,489,686	79,087,341	(216,086)
Aug-04	64,243,379	73,867,751	9,624,372	14.98%	1,609,695	75,477,446	(206,223)
Sep-04	61,166,374	67,861,974	6,695,600	10.95%	(11,744,727)	56,117,247	(153,326)
Oct-04	51,564,178	52,602,989	1,038,811	2.01%	(2,562,445)	50,040,544	(136,723)
Nov-04	46,012,181	49,847,597	3,835,416	8.34%	16,587,228	66,434,825	(181,516)
Dec-04	78,280,994	85,564,264	7,283,270	9.30%	(2,212,389)	83,351,875	(227,737)
Total	804,832,802	855,906,603	51,072,801	6.35%	(20,368,431)	835,537,172	(2,282,888)
Summer	244,589,846	270,028,530	25,438,684	10.40%	4,181,708	274,220,238	(749,236)
Other	560,242,956	585,877,073	25,634,117	4.58%	(24,560,139)	561,316,934	(1,533,653)

Aquila Networks - L&P
Net System Load
Normalized for 2004*
ER-2005-0436

Month	Monthly Usage (MWh)				Monthly Peaks (MW)				Load Factor	
	Actual	Normal	Adj	% Adj	Actual	Normal	Wthr Adj	% Adj	Actual	Normal
Jan-04	190,394	215,414	25,020	13.14%	357	373	16	4.60%	0.72	0.78
Feb-04	170,388	178,944	8,556	5.02%	333	356	23	6.83%	0.74	0.72
Mar-04	154,480	166,063	11,583	7.50%	268	298	30	11.25%	0.77	0.75
Apr-04	136,122	139,980	3,858	2.83%	242	250	8	3.38%	0.78	0.78
May-04	153,318	149,895	(3,423)	-2.23%	332	317	(15)	-4.60%	0.62	0.64
Jun-04	159,827	178,812	18,985	11.88%	337	357	20	6.06%	0.66	0.69
Jul-04	181,798	228,845	47,047	25.88%	398	438	40	10.17%	0.61	0.70
Aug-04	172,487	200,702	28,215	16.36%	399	399	0	0.06%	0.58	0.68
Sep-04	159,117	164,431	5,314	3.34%	341	343	2	0.47%	0.65	0.67
Oct-04	142,425	149,060	6,635	4.66%	240	245	5	2.09%	0.80	0.82
Nov-04	149,879	162,642	12,763	8.52%	284	292	8	2.80%	0.73	0.77
Dec-04	178,991	196,343	17,352	9.69%	329	351	22	6.80%	0.73	0.75
Annual	1,949,226	2,131,131	181,905	9.33%	399	438	39	9.89%	0.56	0.55

Summer	673,229	772,790	99,561	14.79%	399	438	39	9.89%	0.58	0.60
Other	1,275,997	1,358,341	82,344	6.45%	357	373	16	4.60%	0.61	0.62

* Normalized for weather, growth, and large customers

ER-2005-0436

* Normalized for weather, growth, and large customers