Exhibit No.:
Issues: Quality of Service
Reliability

Witness: Erin L. Maloney
Sponsoring Party: MO PSC Staff
Type of Exhibit: Direct Testimony
Case No.: ER-2005-0436
Date Testimony Prepared: October 14, 2005

MISSOURI PUBLIC SERVICE COMMISSION

UTILITY OPERATIONS DIVISION

DIRECT TESTIMONY

OF

ERIN L. MALONEY

AQUILA, INC.
D/B/A AQUILA NETWORKS-MPS
AND AQUILA NETWORKS-L&P

CASE NO. ER-2005-0436

Jefferson City, Missouri
October 2005

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 ERIN MALONEY

STATE OF MISSOURI)
) **ss**
COUNTY OF COLE)

Erin Maloney, 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 5 pages of Direct Testimony 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 to the best of her knowledge and belief.

Erin Maloney

Subscribed and sworn to before me this 12th day of October, 2005.

ROSEMARIE RIEDL
MY COMMISSION EXPIRES
June 1, 2009
NOTARY SEAL
#05509538
COLE COUNTY
NOTARY PUBLIC STATE OF MISSOURI

Notary Public

My commission expires June 1, 2009

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AQUILA, INC.
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AND AQUILA NETWORKS-L&P

CASE NO. ER-2005-0436

Q. Please state your name and business address.

A. Erin L. Maloney, P.O. Box 360, Jefferson City, Missouri, 65102.

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

A. I am employed by the Missouri Public Service Commission (Commission) as a Utility Engineering Specialist I in the Engineering Analysis section of the Energy Department in the Utility Operations Division.

Q. Please describe your educational and relevant work experience.

A. I received a Bachelor of Science degree in Mechanical Engineering in June 1992 from the University of Nevada, Las Vegas. From August 1995 through November 2002, I was employed by Electronic Data Systems of Kansas City, Missouri, as a System Engineer. In January 2005, I joined the Commission Staff (Staff) as a Utility Engineering Specialist I.

Q. To which of the Aquila, Inc. (Aquila) operations are you directing your testimony?

A. This testimony only addresses the electric operations of Aquila in Missouri.

Q. What is the purpose of this testimony?

A. The purpose of this testimony is to: (1) present to the Commission Aquila's performance in delivering electric service, as measured by three reliability indices that Aquila reports to the Staff on a monthly basis; and (2) recommend that the Commission direct Aquila to continue to submit these reliability indices along with other service quality indicators for its Missouri service areas to Staff, as agreed to in Case No. ER-2004-0034, until otherwise ordered by the Commission.

Q. Does Staff regularly review other service quality indicators?

A. Yes. In addition to reliability metrics, Staff receives a number of call center indicators and meter reading data from the Company. The Company's performance in these areas has improved since concerns identified by Staff in previous Company rate cases: Case No's. ER-2004-0034, HR-2004-0024, and GR-2004-0072.

Q. What are the three reliability indices reported by Aquila?

A. Aquila reports the three most common reliability indices used by the electric industry: System Average Interruption Frequency Index (SAIFI), System Average Interruption Duration Index (SAIDI) and Customer Average Interruption Duration Index (CAIDI).

Q. Please explain these indices and how they measure reliability.

A. SAIFI (number of occurrences per customer) reflects the average frequency of service interruptions in number of occurrences per customer and is defined as the total number of customer interruptions for the period covered, divided by the total number of customers served. It measures the number of service interruptions per customer. SAIDI (minutes per customer interrupted) reflects the average interruption in minutes per total customers served for the period covered and

is defined as the sum of all customer interruption durations divided by the total number of customers served. CAIDI (minutes per customer interrupted) is another measure of average interruption duration; it is defined as the sum of all customer interruption durations divided by the total number of customers interrupted.

These reliability indices reflect overall system performance and can help in assessing the performance of a utility in its delivery of electric service by providing quantitative measures of the quality of service.

Q. Do Aquila's indices show anything that the Commission should be concerned about?

A. Schedule 1 shows graphs of the unadjusted SAIFI, SAIDI and CAIDI data for Aquila for the 18 months beginning January 2004 and ending June 2005. While there are fluctuations in the monthly data during this period, because the data is not adjusted for abnormal weather, I did not identify any long-term trends in the data that I believe should be of concern to the Commission. In evaluating this data I also reviewed Aquila's monthly reliability data back through January 2002.

Q. There is a large spike in the SAIDI and CAIDI data shown in Schedule 1 for January 2005. What caused this spike?

A. The large spike in the January 2005 data is due to the ice storm that caused over 24,000 customer outages in the Blue Springs and Henrietta areas. This is shown in Aquila's indices because Aquila chooses to not adjust its data for abnormal weather.

Q. There are some smaller spikes in the data occurring in May and June 2004. What caused these spikes?

A. These smaller spikes are due to thunderstorms that caused a number of outages around the Liberty/St. Joseph area in June 2004 and in the Clinton and Sedalia areas in July 2004. Again, this is shown in Aquila's indices because Aquila chooses to not adjust its data for abnormal weather.

Q. What benefit would be gained by removing major storms from the unadjusted data?

A. When major events, such as the ice storm of January 2005, cause extended outages for a utility, the day-to-day normal operations of the electric system are obscured by the extended electric outages resulting from these events. Damage to electric facilities because of major storms and the subsequent outage that customers experience is important, but the adjusted number will better reflect the operation of the system under normal conditions.

Storms do not routinely affect the entire service area of the utility. Removing the outages that are the result of major storms or catastrophic events provides a common basis to determine a company-wide index under normal conditions. Adjustment for major storms in this manner is an accepted industry practice for reliability indices.

Q. Why does the Staff want Aquila to continue to provide these reliability indices?

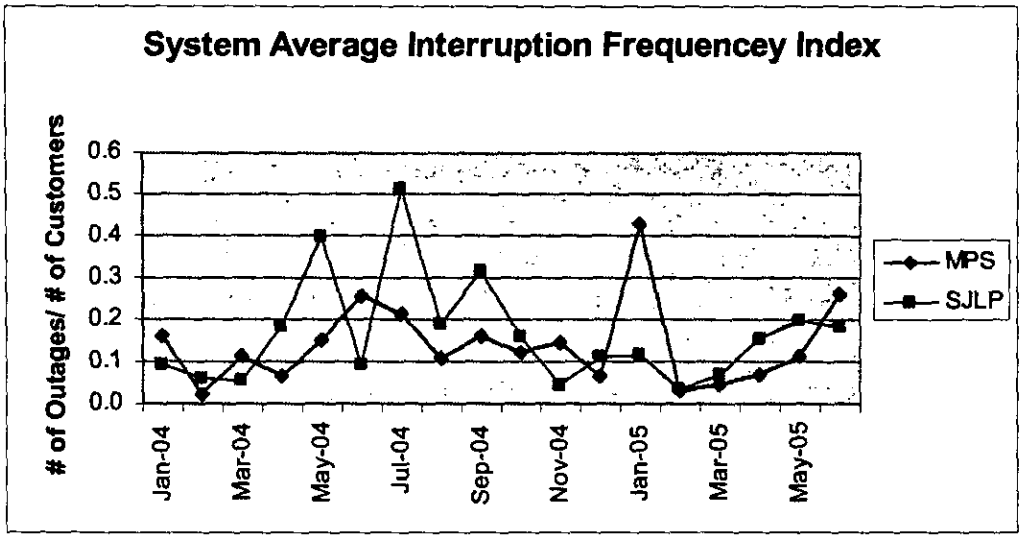
A. Reporting of the reliability indices provides the Staff with another method of more closely monitoring the quality of service provided to Aquila's customers in addition to the complaints and inquiries received directly from Aquila's customers.

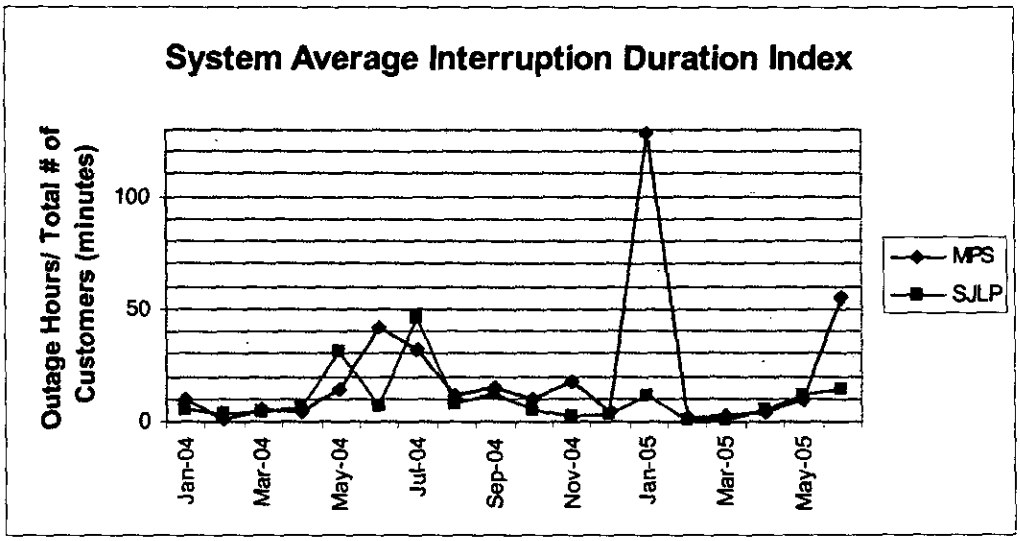
Q. What is your recommendation?

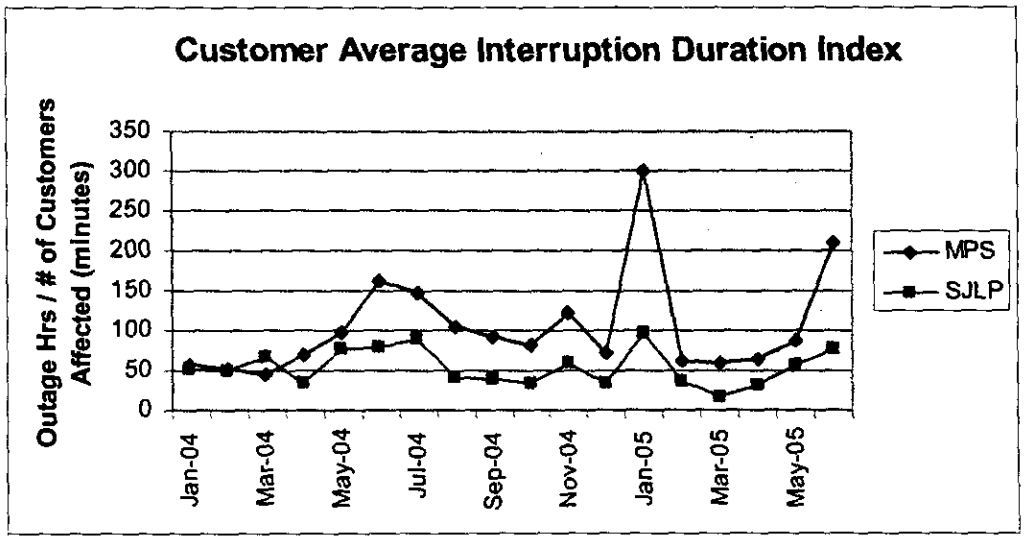
A. I recommend that the Commission order Aquila to submit monthly to the Staff, within twenty-one (21) days of the last day of the month being reported, data for SAIFI, SAIDI, and CAIDI in an electronic format, both (1) unadjusted and (2) adjusted to exclude major storm events, as well as, the other service quality indicators for its Missouri service areas, as agreed to in Case No. ER-2004-0034 so that Staff can continue to monitor these service quality indices.

Q. Does this conclude your Direct Testimony?

A. Yes, it does.


System Average Interruption Frequencey Index
# of Outages/ # of Customers
0.6
0.5
0.4
0.3
0.2
0.1
0.0
Jan-04
Mar-04
May-04
Jul-04
Sep-04
Nov-04
Jan-05
Mar-05
May-05
MPS
SJLP


System Average Interruption Duration Index
Outage Hours/ Total # of Customers (minutes)
100
50
0
Jan-04
Mar-04
May-04
Jul-04
Sep-04
Nov-04
Jan-05
Mar-05
May-05
MPS
SJLP


Customer Average Interruption Duration Index
Outage Hrs / # of Customers Affected (minutes)
350
300
250
200
150
100
50
0
Jan-04
Mar-04
May-04
Jul-04
Sep-04
Nov-04
Jan-05
Mar-05
May-05
MPS
SJLP

Schedule 1