

FILED³

MAY 19 2006

**Missouri Public
Service Commission**

Exhibit No.:

**Issues: Reliability
Safety**

Witness: Alan J. Bax

Sponsoring Party: MO PSC Staff

Type of Exhibit: Rebuttal Testimony

Case No.: HA-2006-0294

Date Testimony Prepared: April 13, 2006

MISSOURI PUBLIC SERVICE COMMISSION

UTILITY OPERATIONS DIVISION

REBUTTAL TESTIMONY

OF

ALAN J. BAX

TRIGEN-KANSAS CITY ENERGY CORPORATION

CASE NO. HA-2006-0294

Jefferson City, Missouri

April 2006

Exhibit No. 5
Case No(s). HA-2006-0294
Date 5-15-06 Rptr ff

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the matter of the application of Trigen-)
Kansas City Energy Corporation for a)
Certificate of Public Convenience and)
Necessity authorizing it to construct,)
install, own, operate, control, manage and)
maintain a steam heat distribution system)
to provide steam heat service in Kansas)
City, Missouri, as an expansion of its)
existing certified area.)

Case No. HA-2006-0294

AFFIDAVIT OF ALAN J. BAX

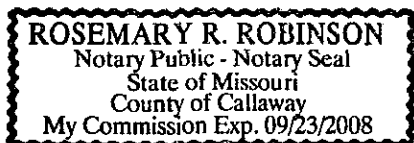
STATE OF MISSOURI)
) ss
COUNTY OF COLE)

Alan J. Bax, 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 6 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.

Alan J. Bax

Alan J. Bax

Subscribed and sworn to before me this 12th day of April, 2006.



Rosemary R. Robinson
Notary Public

My commission expires 9-23-2008

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REBUTTAL TESTIMONY

OF

ALAN J. BAX

TRIGEN-KANSAS CITY ENERGY CORPORATION

CASE NO. HA-2006-0294

Q. Please state your name and business address?

A. Alan J. Bax, 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 III in the Energy Department of the Utility Operations Division.

Q. Please describe your educational and work background.

A. I graduated from the University of Missouri - Columbia with a Bachelor of Science degree in Electrical Engineering in December 1995. Concurrent with my studies, I was employed as an Engineering Assistant in the Energy Management Department of the University of Missouri - Columbia from the Fall of 1992 through the Fall of 1995. Prior to this, I completed a tour of duty in the United States Navy, completing a course of study at the Navy Nuclear Power School and a Navy Nuclear Propulsion Plant. Following my graduation from the University of Missouri - Columbia, I was employed by The Empire District Electric Company as a Staff Engineer until August 1999, at which time I began my employment with the Staff of the Missouri Public Service Commission (Staff).

Q. Are you a member of any professional organizations?

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1 A. Yes, I am a member of the Institute of Electrical and Electronic Engineers
2 (IEEE).

3 Q. Have you previously filed testimony before the Missouri Public Service
4 Commission (Commission)?

5 A. Yes. Schedule 1, attached to my Rebuttal Testimony, identifies the cases
6 in which I have filed testimony before the Commission.

7 Q. What is the purpose of your testimony?

8 A. The purpose of this testimony is to address the proposed Application filed
9 by Trigen-Kansas City Energy Corporation (Trigen), the Direct Testimony filed by
10 Trigen, and the concerns raised by Missouri Gas Energy (MGE) in its Motion of
11 Intervention. Trigen is requesting to receive a Certificate of Public Convenience and
12 Necessity (CCN) authorizing it to construct, install, own, operate, control, manage and
13 maintain a steam heat distribution system to provide steam heat service in Kansas City,
14 Missouri. This would be an expansion of Trigen's existing certificated area; an area in
15 downtown Kansas City commonly referred to as the "downtown loop". A map
16 illustrating both Trigen's existing certificated area and the proposed expansion area is
17 attached to the Application as Appendix A. A detailed boundary description of the
18 proposed expansion area is attached to the Application as Appendix B.

19 Q. Does Trigen currently provide regulated utility service in Kansas City,
20 Missouri?

21 A. Yes. Trigen currently provides regulated steam service to approximately
22 67 customers in an area in downtown Kansas City commonly referred to as the
23 "downtown loop". In addition, Trigen has a special contract customer that takes steam

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1 service by connecting directly to Trigen's Grand Avenue generating facility. This
2 customer is located north of downtown Kansas City and supplies its own steam pipeline
3 running across the Missouri River under the Heart of America Bridge.

4 Q. Are there plans to extend steam service to this proposed expansion area?

5 A. There have been discussions between Trigen and Truman Medical Center
6 (TMC or Truman) about the possibility of Truman receiving steam service via an
7 expansion of Trigen's existing service territory. There are other potential customers
8 within the proposed expansion area; however, at the present time, only an extension of
9 service to TMC is included in Trigen's feasibility study.

10 Q. Has Staff visited the proposed expansion area?

11 A. Yes. I, along with other members of the Staff, visited Trigen's Grand
12 Avenue facility, Trigen's existing certificated area, and the proposed expansion area,
13 including TMC, on March 30, 2006.

14 Q. Will Trigen be able to provide distributed steam service in the proposed
15 expansion area while maintaining reliable service to existing customers?

16 A. Yes, it is my belief that an extension of the existing facilities, as described
17 in Appendix C attached to the Application, can be installed in a safe and reliable manner.
18 TMC produces its own steam currently, and it is planned that Trigen will connect its new
19 facilities directly to TMC's existing infrastructure. It is likely that Trigen, should it elect
20 to extend its facilities into the proposed expansion area, will route a steam distribution
21 pipeline from its existing facilities located in the southern part of the "downtown loop"
22 from the east radial. In the spring of 2005, the Commission authorized Trigen to
23 disconnect part of the old distribution steam system to allow for the construction of a

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1 downtown sports area. This divided the previous downtown loop system essentially into
2 two sections, a "west" and an "east" radial. Should Trigen extend its system into the
3 proposed expansion area, this would potentially not only provide Trigen with a backup
4 production source but also may increase the level of reliability to existing customers
5 currently on the east radial.

6 Q. Does Trigen currently have sufficient steam generating capacity to serve
7 Truman?

8 A. Yes. Staff verified on its visit that Trigen has ample boiler capacity to
9 serve Truman in addition to maintaining service to its existing customer base.

10 Q. Is there any cause for concern relating to safety if the Application is
11 approved and Trigen extends its service in the proposed expansion area?

12 A. Facilities of various utilities, (electric, natural gas, steam, fiber, telephone,
13 water, etc) have been installed and have co-existed in this area of downtown Kansas City
14 for many years. While the potential exists, the Staff is unaware of any catastrophic
15 incidents that have occurred in this area due to steam leaks affecting the integrity of other
16 facilities. In its Response to Staff Data Request No. 15, MGE expressed concern about
17 steam heat distribution systems for the reason that heat can melt plastic lines causing gas
18 leaks. Thus, MGE is concerned that existing plastic pipe may have to be replaced with
19 steel pipe. In addition to higher material and installation costs associated with steel pipe,
20 MGE cites increased maintenance costs due to the need to install cathodic protection.
21 Staff would note that in its Response to Staff Data Request 14, attached hereto as
22 Schedule 2, MGE identifies an instance of a steam leak in the mid 1980's that damaged a
23 plastic gas pipe. However, this plastic gas pipe was admittedly installed by MGE, then

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1 called KPL Gas Service, in close proximity to the existing steam piping. Further, MGE
2 points to several repairs/replacement of its cast iron facilities in this area of Kansas City.
3 However, there is no indication that these repairs/replacements were as a direct result of
4 nearby steam leaks.

5 Q. Do you believe Trigen will take all relevant, necessary precautions if it
6 extends its facilities in the proposed expansion area?

7 A. Yes. As previously stated, in this area of Kansas City, facilities of various
8 utilities have coexisted for many years. Steam mains have been installed in close
9 proximity to gas mains and other utility equipment in this area, and vice versa,
10 periodically over time. The installation and/or maintenance of new/existing facilities
11 would involve excavation, controlling traffic, personnel safety requirements and other
12 factors for which there are industry standard protocols to follow/implement before,
13 during and after said installation/maintenance. Trigen has indicated that its facilities
14 overlap much of the other utilities' infrastructure. Utilities connect and relocate their
15 services on a routine basis frequently. Trigen is familiar with the necessity and methods
16 of identifying other utilities' services in order to protect the integrity of all infrastructure
17 while performing its actions safely and reliably. As outlined on Pages 13-20 of the Direct
18 Testimony of Brian P. Kirk, Trigen is well aware of various precautions to take in order
19 to limit the potential of an incident that might adversely affect existing facilities and/or
20 endanger the public.

21 Q. Do you believe that the Commission should approve Trigen's Application
22 granting a Certificate of Public Convenience and Necessity enabling Trigen to extend
23 distributed steam service to the propose expansion area as being in the public interest?

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1 A. Yes, if the Commission agrees to the recommendations made in the

2 Rebuttal Testimony of Staff witness V. William Harris.

3 Q. Does this conclude your prepared rebuttal testimony?

4 A. Yes, it does.

TESTIMONY AND REPORTS FILED
BEFORE THE MISSOURI PUBLIC SERVICE COMMISSION

BY ALAN J. BAX

COMPANY	CASE NUMBER
Aquila Networks – MPS	ER-2004-0034
Union Electric Company d/b/a AmerenUE	EO-2004-0108
Empire District Electric Company	ER-2002-0424
Kansas City Power and Light	EA-2003-0135
Union Electric Company d/b/a AmerenUE	EO-2003-0271
Aquila Networks – MPS	EO-2004-0603
Union Electric Company d/b/a AmerenUE	EC-2002-0117
Three Rivers and Gascosage Electric Coops	EO-2005-0122
Union Electric Company d/b/a AmerenUE	EC-2002-1
Empire District Electric Company	ER-2001-299
Aquila Networks – MPS	EA-2003-0370
Union Electric Company d/b/a AmerenUE	EW-2004-0583
Union Electric Company d/b/a AmerenUE	EO-2005-0369
Union Electric Company d/b/a AmerenUE	EC-2005-0352
Missouri Public Service	ER-2001-672
Aquila Networks – MPS	EO-2003-0543
Macon Electric Coop	EO-2005-0076
Aquila Networks – MPS	EO-2006-0244
Union Electric Company d/b/a AmerenUE	EC-2004-0556
Union Electric Company d/b/a AmerenUE	EC-2004-0598
Empire District Electric Company	ER-2004-0570
Union Electric Company d/b/a AmerenUE	EC-2005-0110
Union Electric Company d/b/a AmerenUE	EC-2005-0177
Union Electric Company d/b/a AmerenUE	EC-2005-0313
Empire District Electric Company	EO-2005-0275
Aquila Networks – MPS	EO-2005-0270
Union Electric Company d/b/a AmerenUE	EO-2006-0145
Aquila Networks – MPS	ER-2005-0436

Missouri Public Service Commission

Respond Data Request

Data Request No.	0014
Company Name	Missouri Gas Energy-(Gas)
Case/Tracking No.	HA-2006-0294
Date Requested	3/21/2006
Issue	General Information and Miscellaneous - Company Information
Requested From	Diane Carter
Requested By	Alan Bax
Brief Description	Incidents pertaining to steam facilities
Description	Has Missouri Gas Energy experienced any problems with its facilities that was caused by facilities installed and/or utilized by a steam heat distribution system? If yes, please provide all documents and records pertaining to each incident.
Response	Since MGE began using plastic pipe in the 1960's it has been a requirement to not install plastic within 10' of a steam line due to the potential of the plastic pipe melting and leaking. However, some time in the mid 1980's a plastic service was installed closer than 10' to a steam line and the plastic line did melt within a few months of installation and begin leaking. This incident occurred on 11th Street between Main and Walnut in Kansas City, MO. MGE has also experienced some deterioration of his cast iron pipe found in close proximity to steam lines which has caused MGE to replace cast iron pipe at several locations in the Kansas City, MO downtown loop.