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Witness: Henry E. Warren
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MISSOURI PUBLIC SERVICE COMMISSION
UTILITY OPERATIONS DIVISION
SUPPLEMENTAL DIRECT TESTIMONY
OF
HENRY E. WARREN
THE EMPIRE DISTRICT ELECTRIC COMPANY
CASE NO. ER-2010-0130

Jefferson City, Missouri
April 2010


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

In the Matter of the Empire District)
Electric Company for Authority to File)
Tariffs Increasing Rates for Electric) Case No. ER-2010-0130
Service Provided to Customers in the)
Missouri Service Area of the Company)

AFFIDAVIT OF HENRY E. WARREN

STATE OF MISSOURI)
) ss
COUNTY OF COLE)

Henry E. Warren, of lawful age, on his oath states: that he has participated in the preparation of the following Supplemental Direct Testimony in question and answer form, consisting of 11 pages of Supplemental Direct Testimony to be presented in the above case, that the answers in the following Supplemental Direct 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.




Henry E. Warren

Subscribed and sworn to before me this 8th day of April, 2010.



SUSAN L. SUNDERMEYER
My Commission Expires
September 21, 2010
Callaway County
Commission #06942086



Notary Public

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SUPPLEMENTAL DIRECT TESTIMONY

OF

HENRY E. WARREN

THE EMPIRE DISTRICT ELECTRIC COMPANY

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1 **SUPPLEMENTAL DIRECT TESTIMONY**

2 **OF**

3 **HENRY E. WARREN**

4 **THE EMPIRE DISTRICT ELECTRIC COMPANY**

5 **CASE NO. ER-2010-0130**

6 Q. Please state your name and business address.

7 A. My name is Henry E. Warren and my business address is P.O. Box 360,
8 Jefferson City, Missouri, 65102.

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

10 A. I am employed by the Missouri Public Service Commission (PSC or
11 Commission) as a Regulatory Economist in the Energy Department of the Utility Operations
12 Division.

13 Q. How long have you been employed by the Commission?

14 A. I have worked at the Commission seventeen years.

15 Q. What is your educational and professional background?

16 A. I received my Bachelor of Arts and my Master of Arts in Economics from the
17 University of Missouri-Columbia, and a Doctor of Philosophy (PhD) in Economics from
18 Texas A&M University. Prior to joining the PSC Staff (Staff), I was an Economist with the
19 U.S. National Oceanic and Atmospheric Administration (NOAA). At NOAA I conducted
20 research on the economic impact of climate and weather. I began my employment at the
21 Commission on October 1, 1992 as a Research Economist in the Economic Analysis
22 Department. My duties consisted of calculating adjustments to test year energy use based on
23 test-year weather and normal weather, and I also assisted in the review of Electric Resource

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Henry E. Warren

1 Plans for investor owned utilities in Missouri. From December 1, 1997, until May 2001, I
2 was a Regulatory Economist II in the Commission's Gas Department where my duties still
3 included analysis of issues in natural gas rate cases and were expanded to include reviewing
4 tariff filings, applications and various other matters relating to jurisdictional gas utilities in
5 Missouri. On June 1, 2001 the Commission organized an Energy Department and I was
6 assigned to the Tariff/Rate Design Section of the Energy Department. My duties in the
7 Energy Department include analysis of issues in natural gas rate cases, tariff filings,
8 applications and various other matters relating to jurisdictional gas utilities in Missouri as well
9 as tariff filings, review of Electric Resource Plans, and review of Regulatory Plans for
10 investor owned electric utilities in Missouri. I have also served on Task Forces,
11 Collaboratives, and Working Groups dealing with issues relating to jurisdictional natural gas
12 and electric utilities.

13 Q. Are you a member of any professional organizations?

14 A. Yes, I am a member of the International Association for Energy Economics
15 and the Western Economics Association.

16 Q. Have you previously filed testimony before the Commission?

17 A. Yes, I have filed testimony in the cases listed in Schedule 1 attached to this
18 testimony.

19 Q. Have you been involved with any of the current or previous programs that
20 provide subsidies for the bills for low-income customers of Missouri investor-owned utilities
21 (IOUs)?

22 A. I have been involved in setting up programs for low-income customers for the
23 following utilities:

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- 1 • Missouri Gas Energy
- 2 • The Empire District Electric Company (Empire)

3 Q. Have you participated in designing programs for IOUs to provide
4 weatherization for the residences of their low-income customers?

5 A. Yes, for the following utilities:

- 6 • Missouri Gas Energy
- 7 • Union Electric Company d/b/a AmerenUE (Gas)
- 8 • Laclede Gas Company
- 9 • Atmos Gas Company
- 10 • Union Electric Company d/b/a AmerenUE (Electric)
- 11 • Kansas City Power & Light Company
- 12 • The Empire District Electric Company
- 13 • The Empire District Gas Company

14 Q. Have you been involved with any groups, committees, or other projects
15 relating to low-income customer energy affordability issues?

16 A. Yes. I attended meetings of the Cold Weather Rule and Long-Term Energy
17 Affordability Task Force set up in Case No. GW-2004-0452 and meetings of the Committee
18 to Keep Missourians Warm.

19 Q. What is the purpose of your supplemental direct testimony?

20 A. On March 31, 2010, the Commission issued an ORDER DIRECTING THE
21 PARTIES TO ADDRESS THE CONCERNS RAISED BY LOW-INCOME RESIDENTIAL
22 CUSTOMERS in Case No. ER-2010-0130. In this order, the Commission asked the parties to
23 file additional testimony “to address the feasibility of establishing an experimental ‘very low-
24 income’ customer class that would be based upon the federal poverty level.” The
25 Commission asked that the testimony address:

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- 1 1. the practicality of establishing such a class, including the effect on
- 2 revenues and costs;
- 3 2. guidelines for inclusion in such a class;
- 4 3. verification procedures for participants in such a class;
- 5 4. the possible effect on the company's bad debt expense of such a class; and
- 6 5. whether such a class should be tied to the current industrial rate class or
- 7 propose an alternate rate.

8 My testimony in this case is to respond to the Commission's Order and to provide
9 Staff's response to the Commission's five (5) specific questions stated in its Order.

10 Q. Have these questions been addressed in a previous electric rate case?

11 A. In Case No. ER-2010-0036 to establish rates for AmerenUE electric service,
12 Staff Witness Ms. Anne Ross provided testimony that addressed these same questions.

13 Q. Does Empire currently have a low-income program?

14 A. Yes, Empire has the Experimental Low-Income Program (ELIP) as set forth in
15 Empire's Tariff, Section 4, Tariff Sheet Nos. 9-11. The ELIP and the recent evaluation of the
16 ELIP are addressed by Staff Witness Ms. Carol Gay Fred in the Staff's Class Cost-of-Service
17 and Rate Design Report, Rebuttal Testimony, and Supplemental Direct Testimony.

18 **1. Practicality of Establishing a Specific Customer Class**

19 Q. Is it practical to establish a specific *very low-income* customer class?

20 A. Given the necessary information required to characterize a new customer class
21 and the short timeline to review and establish a specific customer class, it is not practical in
22 the time available in this case. However, Staff will address the concept of establishing an
23 experimental *very low-income* customer rate.

24 Q. On what criteria are customers grouped into distinct rate classes?

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1 A. In general, customer classes are composed of customers with similar usage
2 characteristics, such as total usage, daily and monthly peak demand and delivery voltage
3 which in turn result in similar cost to serve.

4 Q. What type of information would be needed in order to set up a separate class of
5 residential customers based on household income level?

6 A. The most important data would be the customers' household ranking according
7 to an established index such as the Federal Poverty Guideline (FPG) which takes into account
8 household size, age range, income range, disability, and some other criteria.

9 Q. Do utilities have FPG information for their residential customers?

10 A. No, not unless a customer voluntarily shares this information. This
11 information may not even be known to the customer unless the customer participates in a
12 program such as the Low-Income Home Energy Assistance Program (LIHEAP). Only a
13 fraction of LIHEAP-eligible customers actually apply for and receive LIHEAP funds, so the
14 majority of potential customers eligible for low-income rates could not be identified by this
15 means.

16 Q. Are there other sources of FPG data that could possibly be used to identify
17 customers eligible for a low-income rate?

18 A. Yes, data to determine a customer's FPG is collected from customers who
19 participate in other assistance programs, such as Temporary Assistance for Needy Families,
20 Food Stamps, or Federal Public Housing Assistance. However, there are Privacy Act
21 restrictions on agencies providing this information to a third party such as a utility without the
22 consent of the customer.

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1 Q. Would the inability to include *all* eligible low-income households in a *very*
2 *low-income* rate class create any issues?

3 A. Yes, a rate class should include all customers who meet the established criteria
4 for the rate; such as, all residential customers where the customer's FPG rank falls below a
5 certain level. The inability to identify the majority of these customers is problematic.
6 Therefore, the best way to address this problem is with a program, rather than a separate rate
7 class.

8 Q. Setting aside the difficulty of identifying low-income customers, are there any
9 other factors that would need to be considered in the process of setting up a separate low-
10 income rate class?

11 A. Information would need to be collected to determine whether there was a
12 difference in the cost required to serve these customers so that a cost-of-service could be
13 performed.

14 Q. Does Staff believe that there might be differences in the cost to serve
15 low-income residential customers vs. the remainder of Empire's residential customers?

16 A. Yes, Staff believes that the cost to serve a very low-income customer might be
17 different than the cost to serve a residential customer at a higher income level.

18 Q. What types of costs might be different, and how would they differ?

19 A. The primary difference would be in customer-related costs. There are costs to
20 the utility associated with communicating with customers who are having trouble paying their
21 bills on time, as well as increased time spent working out payment arrangements for these
22 customers or providing information on utility assistance programs. Given the assumption that
23 lower-income customers have a higher rate of default on their utility bills, the costs related to

1 disconnection and bad debt would be different for this group of residential customers. In both
2 cases, it is possible that the cost to serve low-income customers would be higher than that
3 required to serve customers at higher income levels.

4 Q. Is there information currently available that would allow the parties to quantify
5 these costs to be used in this rate case?

6 A. There is some information available in the evaluation of Empire's current ELIP
7 customers and this is addressed by Staff witness Ms. Fred in the Staff Class Cost-of-Service
8 Report.

9 Q. What is Staff's recommendation regarding the creation a new class of
10 customers?

11 A. Staff recommendation is that instead of creating a low-income rate class, the
12 ELIP continue as stated in the Rebuttal testimony of Ms. Fred filed on March 30, 2010.

13 Q. Why does Staff believe that the ELIP customer payment, a direct subsidy,
14 would be preferable to creating a new separate rate class for these customers?

15 A. A main advantage of the ELIP is that it is easier to administer than an
16 additional rate class. It also is a program that is easy for customers to understand because it is
17 not related to how much electricity is used by the customer uses.

18 **2. Guidelines for Inclusion**

19 Q. Which Empire customers are currently eligible for the ELIP?

20 A. The ELIP program was established under the previous LIHEAP guidelines
21 which required an FPG of 125% or below. Currently, households with income that does not
22 exceed 135% of the FPG are LIHEAP-eligible. For a 4-person household, this would be
23 \$2,481/month.

1 The ELIP is a tiered program with a higher payment for lower-income customers.
2 LIHEAP-eligible households, such as those with household income less than 50% of the FPG
3 receive a \$50 per month payment, and households with an FPG greater than 50%, but less
4 than 125% receive \$20 per month subject to other requirements in the tariff.

5 Q. How are ELIP-eligible customers identified?

6 A. Identifying customers eligible for the ELIP has the same problems as
7 identifying customers for a separate low-income customer class, and is based on the same
8 information sources. Currently these customers are identified by Community Action
9 Agencies (CAA) in Empire's service territory. To aid in the process of identifying potential
10 participants, Empire also provides outreach to its customers to explain the program.

11 **3. Verification Procedures for Participants**

12 Q. How are customers that are eligible, but have not applied for the LIHEAP or
13 the low-income weatherization program, enrolled in the ELIP?

14 A. The customer, or his/her representative, initiates the application process.
15 Household income is verified annually by a CAA in Empire's service territory, and the CAA
16 provides Empire verification of the customer's income eligibility. The details are set forth in
17 the tariff.

18 Q. Is there a specific application period or are customers are allowed to enroll at
19 any time of the year?

20 A. Customers are allowed to apply any time of the year.

21 Q. How many Empire customers are potentially eligible for the ELIP?

22 A. As discussed earlier, FPG data are not available on all of Empire's customers.
23 Staff has developed an estimate of the number of Empire customers that are LIHEAP eligible,

1 i.e., are 135% of FPG to estimate a range of the numbers of customers that might participate
2 in the ELIP program, Staff relied on two sources.

- 3 • 2009 Missouri LIHEAP facts, published by the Campaign for Home Energy
4 Assistance¹. This report was used to determine the number of LIHEAP-
5 eligible customers in the entire state of Missouri, as well as the number of
6 households actually served in 2009. This report also contains information
7 regarding the percentage of Missouri LIHEAP customers with household
8 income of 125% or less of the FPG, and estimates that number to be
9 approximately 56% of LIHEAP recipients.
- 10 • EIA Electric Sales & Revenues 2008². This document was used to estimate
11 the percentage of Missouri residential electric customers served by Empire.
12 This percentage was then applied to the information from the LIHEAP report
13 to develop a range of minimum and maximum participant numbers.

14
15 Q. How was this information used to develop an estimated number of expanded
16 ELIP participants?

17 A. To estimate the minimum number of potential participants. Staff took the
18 percentage of Missouri residential customers served by Empire in 2008 (4.7%), and applied
19 that percentage to 147,000, which is the number of Missouri households who received
20 LIHEAP assistance in 2009. This results in a minimum estimate of 7,170 participating
21 customers if the criteria were 135% or less of the FPG.

22 The 2009 LIHEAP report also estimates that there are 912,400 households in Missouri
23 that are eligible for LIHEAP assistance. Multiplying this number by 4.7% results in an
24 estimate of 42,600, or about one third of Empire's customers; this number was used as the
25 upper bound in the Staff's projections. Therefore Staff estimates that the number of potential
26 participants if the Commission determined that LIHEAP eligibility should be the criteria,
27 ranges from 7,170 to 42,600 customers.

¹ <http://liheap.org/liheap%20fact%20sheet/MO/liheap-MO.pdf>

² <http://www.eia.doe.gov/cneaf/electricity/esr/table6.xls>

1 Q. What is the current number of participants in the ELIP?

2 A. There are 1,137 ELIP participants.

3 Q. How is funding currently provided for the ELIP?

4 A. As agreed to in the Third Stipulation and Agreement as to Certain Issues in
5 Empire's last rate case, Case No. ER-2008-0093, the program is being funded by shareholder
6 contributions that were not used in the early years of the program.

7 **4. Effect on Company's Bad Debt Expense**

8 Q. Has Empire's bad debt expense been affected by this expanded ELIP?

9 A. As Ms. Fred stated in the Staff Class Cost-of-Service report, the draft
10 evaluation of the ELIP showed that while ELIP did assist consumers during their participation
11 in ELIP, it did not appear to impact their payment behaviors outside of the program's
12 duration. Consumers who were successful in the program paying their subsidized bills were
13 unsuccessful following the elimination of the credits. Therefore ELIP only reduced bad debt
14 expenses while the customers were participating in the program.

15 Q. If the relationship between ELIP assistance dollars and reduction in Empire's
16 bad debt expense is less than one-to-one, what is the effect?

17 A. It means that the customers that are participating are being subsidized.
18 Currently they are being subsidized by Empire's shareholders. If the program funding was
19 provided by the ratepayers, then the ratepayers would be subsidizing the participants.

20 Q. Is subsidization of one group of customers by another group of customers
21 consistent with cost-of-service ratemaking?

22 A. No, it is not.

23 Q. Has the effectiveness of the ELIP been evaluated?

1 A. Yes, as mentioned previously, an evaluation was performed by TecMarket
2 Works and is discussed by Ms. Fred in the Staff Class Cost-of-Service Report.

3 Q. Do any other Missouri utilities have assistance programs for their low-income
4 customers?

5 A. Yes, Kansas City Power & Light Company, KCP&L Greater Missouri
6 Operation Company, The Empire District Gas Company, and Laclede Gas Company currently
7 have low-income customer payment assistance programs.

8 **5. Tie to Current Industrial Rate Class or Alternate Rate**

9 Q. In your opinion, if the Commission establishes a *very low-income* rate class,
10 should the differential between the rates paid by the residential rate class and the *very low-*
11 *income* rate class be tied to the rate of the current industrial rate class?

12 A. No. However, the ELIP could be designed to require the customer's bill to be
13 separated into fuel and non-fuel costs.

14 Q. Does this conclude your Supplemental Direct testimony?

15 A. Yes, it does.

HENRY WARREN, PHD
REGULATORY ECONOMIST
UTILITY OPERATIONS DIVISION
ENERGY DEPARTMENT

EDUCATION AND EXPERIENCE

I received my Bachelor of Arts and my Master of Arts in Economics from the University of Missouri-Columbia, and a Doctor of Philosophy (PhD) in Economics from Texas A&M University. Prior to joining the PSC Staff (Staff), I was an Economist with the U.S. National Oceanic and Atmospheric Administration (NOAA). At NOAA I conducted research on the economic impact of climate and weather. I began my employment at the Commission on October 1, 1992 as a Research Economist in the Economic Analysis Department. My duties consisted of calculating adjustments to test-year energy use based on test-year weather and normal weather, and I also assisted in the review of Electric Resource Plans for investor owned utilities in Missouri. From December 1, 1997, until May 2001, I was a Regulatory Economist II in the Commission's Gas Department, where my duties included analysis of issues in natural gas rate cases and were expanded to include reviewing tariff filings, applications and various other matters relating to jurisdictional gas utilities in Missouri. On June 1, 2001 the Commission organized an Energy Department and I was assigned to the Tariff/Rate Design Section of the Energy Department. My duties in the Energy Department include analysis of issues in rate cases of natural gas and electric utilities, tariff filings, applications, and various other matters relating to jurisdictional gas and electric utilities in Missouri, including review of Electric Resource Plans and Regulatory Plans for investor owned electric utilities in Missouri. I have also served on various task forces, collaboratives, and working groups dealing with issues relating to jurisdictional natural gas and electric utilities.

MISSOURI PUBLIC SERVICE COMMISSION
CASES IN WHICH PREPARED TESTIMONY,
REPORT, OR REVIEW WAS SUBMITTED BY:
HENRY E. WARREN, PHD

<u>COMPANY NAME</u>	<u>CASE NUMBER</u>
St. Joseph Light and Power Company	GR-93-042 ¹
Laclede Gas Co.	GR-93-149
Missouri Public Service	GR-93-172 ¹
Western Resources	GR-93-240 ¹
Laclede Gas Co.	GR-94-220 ¹
Kansas City Power & Light Co.	EO-94-3601 ²
United Cities Gas Co.	GR-95-160 ¹
UtiliCorp United, Inc.	EO-95-187 ²
The Empire District Electric Co.	ER-95-279 ¹
The Empire District Electric Co.	EO-96-56 ²
St. Joseph Light and Power Company	EO-96-198 ²
Laclede Gas Co.	GR-96-193 ¹
Missouri Gas Energy	GR-96-285 ¹
The Empire District Electric Co.	ER-97-081 ¹
Union Electric Co.	GR-97-393 ¹
Missouri Gas Energy	GR-98-140 ¹
Laclede Gas Co.	GR-98-374 ¹
St. Joseph Light & Power Company	GR-99-246 ¹
Laclede Gas Co.	GR-99-315 ¹
Union Electric Company (d/b/a AmerenUE)	GR-2000-512 ¹
Missouri Gas Energy	GR-2001-292 ¹
Laclede Gas Co.	GR-2001-629 ¹

¹Testimony includes computations to adjust test year volumes, therms, or kWh to normal weather.

²Staff Report or Review

**MISSOURI PUBLIC SERVICE COMMISSION
CASES IN WHICH PREPARED TESTIMONY,
REPORT OR REVIEW WAS SUBMITTED BY:**

**HENRY E. WARREN, PHD
(CONTINUED)**

<u>COMPANY NAME</u>	<u>CASE NUMBER</u>
Laclede Gas Company	GC-2002-0110 ²
Laclede Gas Company	GR-2002-0356 ¹
Aquila, Inc.	GC-2003-0131 ²
Laclede Gas Company	GC-2003-0212 ²
Laclede Gas Company	GT-2003-0117
Aquila, Inc., (d/b/a Aquila Networks MPS and L&P)	GR-2004-0072 ¹
Missouri Gas Energy	GR-2004-0209
Laclede Gas Company	GC-2004-0240 ²
Kansas City Power & Light Company	EO-2005-0329 ²
Union Electric Company (d/b/a AmerenUE)	EO-2006-0240 ²
The Empire District Electric Company	ER-2006-0315
The Atmos Energy Corporation	GR-2006-0387 ¹
Missouri Gas Energy	GR-2006-0422 ¹
Union Electric Company (d/b/a AmerenUE)	GR-2007-0003 ¹
Kansas City Power & Light Company	EO-2007-0008 ²
Aquila, Inc., (d/b/a Aquila Networks MPS and L&P)	EO-2007-0298 ²
Laclede Gas Company	GR-2007-0208 ²
Missouri Gas Energy – The Empire District Gas Company	GA-2007-0289, et al
Union Electric Company (d/b/a AmerenUE)	EO-2007-0409 ²

¹Testimony includes computations to adjust test year volumes, therms, or kWh to normal weather.

²Staff Report or Review

**MISSOURI PUBLIC SERVICE COMMISSION
CASES IN WHICH PREPARED TESTIMONY,
REPORT OR REVIEW WAS SUBMITTED BY:**

**HENRY E. WARREN, PHD
(CONTINUED)**

The Empire District Electric Company	EO-2008-0069 ²
Union Electric Company (d/b/a AmerenUE)	ER-2008-0318
Missouri Gas Energy	GR-2009-0355 ¹
The Empire District Gas Company	GR-2009-0434

¹Testimony includes computations to adjust test year volumes, therms, or kWh to normal weather.

²Staff Report or Review