

Exhibit No.:  
Issues: Fuel Adjustment Clause  
Witness: Michael E. Taylor  
Sponsoring Party: MO PSC Staff  
Type of Exhibit: Rebuttal Testimony  
Case No.: ER-2008-0093  
Date Testimony Prepared: April 4, 2008

**MISSOURI PUBLIC SERVICE COMMISSION**

**UTILITY OPERATIONS DIVISION**

**REBUTTAL TESTIMONY**

**OF**

**MICHAEL E. TAYLOR**

**THE EMPIRE DISTRICT ELECTRIC COMPANY**

**CASE NO. ER-2008-0093**

**Jefferson City, Missouri  
April 2008**

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

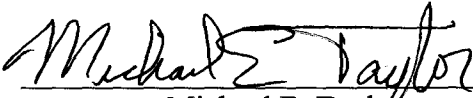
In the matter of The Empire District )  
Electric Company of Joplin, Missouri's )  
application for authority to file tariffs )  
increasing rates for electric service )  
provided to customers in the Missouri )  
service area of the Company )

Case No. ER-2008-0093

**AFFIDAVIT OF MICHAEL E. TAYLOR**

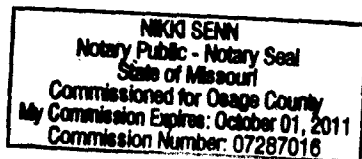
STATE OF MISSOURI     )  
                                      ) ss  
COUNTY OF COLE     )

Michael E. Taylor, 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 7 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.

  
\_\_\_\_\_  
Michael E. Taylor

Subscribed and sworn to before me this 3<sup>rd</sup> day of April, 2008.

  
\_\_\_\_\_  
Nikki Senn  
Notary Public



1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11

**REBUTTAL TESTIMONY**  
  
**OF**  
  
**MICHAEL E. TAYLOR**  
  
**THE EMPIRE DISTRICT ELECTRIC COMPANY**  
  
**CASE NO. ER-2008-0093**

EXECUTIVE SUMMARY ..... 1

COST RECOVERY MECHANISM--TESTING REQUIREMENTS ..... 2



**COST RECOVERY MECHANISM--TESTING REQUIREMENTS**

Q. What is the purpose of your rebuttal testimony?

A. My rebuttal testimony is responding to the direct testimony of Empire witness Blake Mertens regarding compliance with Commission Rule 4 CSR 240-3.161(2)(P). The specific portion of Mr. Mertens' direct testimony addressed is page 17, line 12 through page 19, line 3.

Q. What are the requirements of 4 CSR 240-3.161(2)(P)?

A. This subsection of the rule sets forth requirements for heat rate tests and/or efficiency tests for generating units. Specifically, it requires an electric utility that files to establish a rate adjustment mechanism to include in the filing:

A proposed schedule and testing plan with written procedures for heat rate tests and/or efficiency tests for all of the electric utility's nuclear and non-nuclear generators, steam, gas, and oil turbines and heat recovery steam generators (HRSG) to determine the base level of efficiency for each of the units;

Q. Does Mr. Mertens' testimony propose such a schedule and procedures for heat rate tests?

A. Mr. Mertens' testimony addresses the filing requirement by proposing an alternative methodology; however, Staff does not agree that the proposed methodology is technically adequate to meet the requirements of the rule. Mr. Mertens states in part, "Empire believes it is more prudent and economical to use historical data that comes from various load levels and weather conditions that occur during normal operations rather than operate the unit(s) at inefficient (and more costly) levels solely for the sake of testing." He further states: "I am suggesting that the heat rate curves available for Empire's units based on historical data be used to meet this testing requirement rather

1 | than direct Empire to perform specific heat rate tests for each of its units that will provide  
2 | little to no benefit when compared to the historical data.”

3 |         Q.     Has Empire provided any information other than that contained in Mr.  
4 | Mertens’ testimony?

5 |         A.     Yes.   Staff submitted Data Request No. 0005 to obtain additional  
6 | information regarding Empire’s intentions for heat rate and/or efficiency testing. Empire  
7 | provided a response to that Data Request on October 12, 2007. The additional  
8 | information was consistent with the original testimony in that it indicates Empire’s intent  
9 | to utilize historical heat rate and/or efficiency data.

10 |        Q.     Does Staff agree that this response satisfies the technical requirements of 4  
11 | CSR 240-3.161(2)(P)?

12 |         A.     No.

13 |         Q.     Has Staff had any additional communication with Empire regarding heat  
14 | rate and/or efficiency testing?

15 |         A.     Yes. After receiving Empire’s response to Data Request No. 0005, Staff  
16 | communicated with Empire on October 15 and 16, 2007. As a result of those  
17 | communications and additional communications, Empire has been working to develop a  
18 | proposed schedule and testing plan with written procedures for heat rate tests and/or  
19 | efficiency tests for all of all its generating units. Staff has received a proposed testing  
20 | schedule and has reviewed draft copies of the proposed testing procedures. Staff has  
21 | provided written and verbal comments for consideration by Empire.

22 |         Q.     Have these written procedures and schedules been completed to the  
23 | satisfaction of Staff?

1           A.     Not at this time. However, significant progress has been made and work  
2 is ongoing.

3           Q.     What procedures does Staff believe must be implemented by electric  
4 utilities operating under a Commission approved fuel and purchased power cost recovery  
5 surcharge in order for them to comply with the rule?

6           A.     It is Staff's position that electric utilities operating under a fuel and  
7 purchased power cost recovery surcharge must have procedures in place that: 1) require  
8 testing of generation plant heat rates on a regular basis, 2) generally conform to industry-  
9 standard performance testing methodologies, 3) require identification of plant systems,  
10 structures, or components that are degrading overall plant heat rate/efficiency, and 4)  
11 require cost-effective maintenance or replacement activities on any such systems,  
12 structures, or components that have been identified as degrading overall plant heat  
13 rate/efficiency.

14          Q.     Why does Staff believe these procedures are necessary for electric utilities  
15 operating under a fuel and purchased power cost recovery surcharge?

16          A.     Electric utilities recovering fuel and purchased power costs based on a  
17 fixed amount set in a rate case (*i.e.*, using the traditional approach to rate setting) have  
18 strong incentives to control their fuel and purchased power cost. If a utility can reduce its  
19 overall fuel and purchased power cost below the fixed amount set in rates, this difference  
20 improves the utility's profitability. If on the other hand the utility experiences fuel and  
21 purchased power costs that exceed the fixed amount set in rates, this difference decreases  
22 the utility's profitability. This dynamic creates a strong incentive for the utility to control  
23 its fuel and purchased power cost.

1           In contrast, although electric utilities that can adjust their rates to reflect increases  
2 in fuel and purchased power cost between rate cases may have incentives to act prudently  
3 in reversing any degradation in unit heat rates or their purchasing decisions, Staff does  
4 not view these incentives as being as effective as the incentives that exist under  
5 traditional ratemaking.

6           Q.     Does Staff have any specific standards for heat rate testing procedures?

7           A.     No. However, a set of testing procedures was submitted in Case No. EO-  
8 2008-0156 by Aquila, Inc. (Aquila). These procedures were reviewed by Staff. On  
9 December 20, 2007, Staff filed its recommendation that the Commission approve the heat  
10 rate testing procedures filed by Aquila. Subsequently, on January 15, 2008, the  
11 Commission approved Aquila's proposed heat rate schedule and testing plan as being in  
12 compliance with Commission Rule 4 CSR 240-3.161(2)P. The procedures filed by  
13 Aquila and approved by the Commission provide a benchmark for comparison purposes.

14          Q.     Does Staff expect written procedures developed by Empire for heat rate  
15 tests and/or efficiency tests to duplicate the Aquila procedures?

16          A.     No. However, Staff expects heat rate testing procedures by Empire and  
17 other investor-owned utility corporations to be comparable to the Aquila procedures with  
18 respect to substantive technical issues.

19          Q.     Subsection (2)(P) of the above-noted Commission rule requires a  
20 determination of "the base level of efficiency for each of the units." What does Staff  
21 understand would be required in this determination?

22          A.     Staff expects the "base level of efficiency" to be determined in a manner  
23 that reflects optimum operating conditions for generating units unless there are known



1 and expected degradations that need to be taken into account. For newer generating  
2 units, the “base level of efficiency” could be determined from performance guarantee  
3 tests following construction of the unit. For older generating units, however, the “base  
4 level of efficiency” must be determined through a rigorous process that verifies the unit is  
5 performing at a level consistent with its age, hours of service, and prudent preventive and  
6 corrective maintenance.

7 Q. Earlier in your testimony, you stated that electric utilities operating under  
8 a fuel and purchased power cost recovery surcharge must, among other things, have  
9 procedures in place that “require testing of generation plant heat rates on a regular basis”.  
10 What does Staff mean by “a regular basis”?

11 A. Staff’s expectation is that the required testing would be performed at  
12 intervals not to exceed twenty-four (24) months.

13 Q. What is the basis for Staff’s twenty-four (24) month expectation?

14 A. Subsection 4 CSR 240-3.161(3)(Q) provides support for this expectation.  
15 This subsection is included in a section of the rule that establishes requirements for filing  
16 a general rate proceeding (following the general rate proceeding that established a  
17 utility’s rate adjustment mechanism (RAM)) in which the utility requests that its RAM be  
18 continued or modified. Subsection (3)(Q) sets forth the following filing requirement:

19 The results of heat rate tests and/or efficiency tests on **all** the  
20 electric utility’s nuclear and non-nuclear steam generators, HRSG,  
21 steam turbines and combustion turbines conducted within the  
22 **previous twenty-four (24) months**. (Emphasis added.)  
23

24 This subsection states that all the electric utility’s generating units must be tested  
25 within the twenty-four (24) months preceding the filing of that general rate proceeding.

Rebuttal Testimony of  
Michael E. Taylor

1 | Therefore, it is reasonable to conclude from this requirement that a testing interval not to  
2 | exceed twenty-four (24) months is required.

3 |       Q.     Does this conclude your rebuttal testimony?

4 |       A.     Yes, it does.