

Exhibit No.:
Issue(s)
Witness/Type of Exhibit:
Sponsoring Party:
Case No.:

Heat Rate Testing
Robinett/Rebuttal
Public Counsel
ER-2016-0179

REBUTTAL TESTIMONY

OF

JOHN A. ROBINETT

Submitted on Behalf of the Office of the Public Counsel

UNION ELECTRIC COMPANY
D/B/A AMEREN MISSOURI

CASE NO. ER-2016-0179

January 20, 2017

REBUTTAL TESTIMONY

Ameren Missouri

CASE NO. ER-2016-0179

OF

JOHN A. ROBINETT

1 **Q. Please state your name and business address.**

2 A. John A. Robinett, PO Box 2230, Jefferson City, Missouri 65102.

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

4 A. I am employed by the Missouri Office of the Public Counsel (“OPC”) as a Utility
5 Engineering Specialist.

6 **Q. Are you the same John A. Robinett that filed direct testimony on behalf of the OPC in
7 this proceeding?**

8 A. Yes.

9 **Q. What is the purpose of your rebuttal testimony?**

10 A. To respond to the portion of the Public Service Commission Staff’s Cost of Service
11 Report (“Staff Report”) regarding to the heat rate testing required for the fuel adjustment
12 clause (“FAC”).

13 **Q. What is the heat rate?**

14 A. Heat rate is a measure of generating station thermal efficiency, generally expressed in British
15 thermal units (Btu) per net kilowatt-hour (“kWh”). It is computed by dividing the total Btu
16 content of fuel burned for electric generation by the resulting net kilowatt-hour generation.

1 Net generation is the amount of electricity generated by a power plant minus the power used
2 for plant operation that is available to be transmitted and distributed for consumer use.

3 **Q. What did the Staff Report say about heat rate testing?**

4 A. On page 153 lines 16 through 17 of the Staff Report summarizes its review of material
5 provided by Ameren Missouri to meet Commission Rule 4 CSR 240-3.161(3)(Q) as
6 follows:

7 *Staff's review of the testimony of Lynn M. Barnes confirms each generating unit*
8 *meets the "previous 24-month" heat rate testing requirement.*

9 **Q. What is the purpose of the requirement of Commission Rule 4 CSR 240-3.161(3)(Q)?**

10 A. This rule requires heat rate tests within 24 months prior to the filing of a rate case in
11 which an electric utility is requesting the continuation or modification of an FAC. Heat
12 rate tests results are a useful tool in monitoring the generation plant maintenance
13 practices of a utility. While over their lives generating facilities will become less
14 efficient, sharp changes in the efficiencies may indicate a change in philosophy in
15 maintaining a generating facility and should draw inquiry of causes. This information is a
16 filing requirement so that the parties can evaluate changes in efficiency output. These
17 heat rate testing results could signify changes in a plants efficiency that may exceed
18 normal wear and tear.

19 **Q. Why is this important when a utility is granted an FAC?**

20 A. Under traditional ratemaking, the utility would benefit from any efficiency improvements at
21 the facility that would result in a reduction in fuel costs. This incentive is diminished when

1 a utility is granted an FAC where these particular costs and savings are passed on to the
2 customers.

3 **Q. Has Staff performed any analysis of the heat rate test results to develop baseline**
4 **metrics to be used in the future?**

5 A. No. Based on Staff's response to Data Request No. 0529, attached as Schedule JAR-R-1, it
6 is evident that Staff only looked for the date on which a heat rate test was reported to have
7 occurred. This was the extent of its analysis.

8 **Q. Did OPC seek additional clarification about Staff's position on the purpose of the Heat**
9 **Rate testing requirements?**

10 A. Yes. OPC sent a follow-up Data Request No. 0530 to Staff. In its response, attached as
11 Schedule JAR-R-2, Staff stated:

12 *The heat rate testing required by 4 CSR 240-3.161(3)(Q) ensures that utilities that*
13 *request to continue or modify an FAC regularly test the efficiency of all the*
14 *generating units for which the utility will recover fuel costs. Heat rate test results*
15 *allow the utility to identify units that may not be operating as expected. Heat rate*
16 *testing is a good utility management operating practice to help assure any*
17 *degradation of generating units is identified early and corrections are made in a*
18 *timely manner when economic to do so.*

19 **Q. Are Staff's responses to Data Request Nos. 0529 and 0530 concerning to OPC?**

20 A. Yes. While recognizing the purpose of heat rate testing is to ensure Ameren Missouri
21 monitors and maintains the efficiency of its generating units, Staff does not appear to see a
22 need to evaluate the information provided. Instead, Staff only checked to see if the
23 information was provided. The Staff Report and its DR responses indicate that efficiency of
24 the units is of no concern to Staff but whether the tests meet the minimum filing

1 requirements so Staff can “check the box”. It did not delve into how the units have been
2 functioning when compared to a baseline measure. Staff distances itself from the role
3 envisioned in the FAC rulemaking case, File No. EX-2006-0472:¹

4 *Concern: Some stakeholders believe that minimum equipment performance*
5 *standards are needed in these rules.*

6 *Staff Response: Staff agrees that equipment performance standards should be a part*
7 *of these rules and has included in the proposed rules requirements to develop*
8 *generating unit efficiency testing and monitoring procedures. Staff will, as a result*
9 *of receiving this data, have the ability to monitor each electric utilities’ power plants*
10 *in terms of their capability to efficiently convert fuel to electricity. Any observed*
11 *reductions over time may be an indication of the utility’s need to implement*
12 *programs to improve efficiency. Staff views this as a very important and necessary*
13 *detail since the efficiency of each electric utility’s power plants directly relates to*
14 *each electric utility’s fuel and purchased power costs. (emphasis added)*

15 Staff clearly stated here that they will have the ability to monitor the plant efficiencies. But
16 Staff’s response to Data Request No. 0530 seems to put the monitoring squarely on the
17 investor-owned utility. All of this is inconsistent.

18 **Q. Have baseline heat rates been established for Ameren Missouri?**

19 A. OPC has sent a data request to Staff seeking this information. The deadline for this data
20 request falls after the filing date of rebuttal testimony. OPC intends to address this issue in
21 surrebuttal testimony related to the tracking of heat rates for generating units at Ameren
22 Missouri.

¹ Staff Testimony in Support of and Suggested Changes to 4 CSR 240-3.161 and 4 CSR 240-20.090

1 | **Q. Does this conclude your rebuttal testimony?**

2 | A. Yes, it does.

Missouri Public Service Commission

Respond Data Request

Data Request No.	0529
Company Name	MO PSC Staff-(All)
Case/Tracking No.	ER-2016-0179
Date Requested	12/27/2016
Issue	Expense - Fuel Adjustment Clause
Requested From	Kevin Thompson
Requested By	Jere Buckman
Brief Description	Heat Rate Testing
Description	Please provide documentation and workpapers of all analysis conducted by J Luebbert or other Staff on the heat rate testing information provided by Ameren Missouri. If no documentation exists, please provide a complete explanation of the analysis conducted.
Response	Commission Rule 4 CSR 240-3.161(3)(Q) requires: (Q) The results of heat rate tests and/or efficiency tests on all the electric utility's nuclear and non-nuclear steam generators, HRSG, steam turbines and combustion turbines conducted within the previous twenty-four (24) months Staff's review of the testimony of Company witness Lynn M. Barnes confirmed that each generating unit for which the utility will recover fuel costs meets the "previous 24-month" heat rate testing rule requirement.
Objections	NA

The attached information provided to **Missouri Public Service Commission** Staff in response to the above data information request is accurate and complete, and contains no material misrepresentations or omissions, based upon present facts of which the undersigned has knowledge, information or belief. The undersigned agrees to immediately inform the **Missouri Public Service Commission** if, during the pendency of Case No. **ER-2016-0179** before the Commission, any matters are discovered which would materially affect the accuracy or completeness of the attached information. If these data are voluminous, please (1) identify the relevant documents and their location (2) make arrangements with requestor to have documents available for inspection in the **MO PSC Staff-(All)** office, or other location mutually agreeable. Where identification of a document is requested, briefly describe the document (e.g. book, letter, memorandum, report) and state the following information as applicable for the particular document: name, title number, author, date of publication and publisher, addresses, date written, and the name and address of the person(s) having possession of the document. As used in this data request the term "document(s)" includes publication of any format, workpapers, letters, memoranda, notes, reports, analyses, computer analyses, test results, studies or data, recordings, transcriptions and printed, typed or written materials of every kind in your possession, custody or control or within your knowledge. The pronoun "you" or "your" refers to **MO PSC Staff-(All)** and its employees, contractors, agents or others employed by or acting in its behalf.

Security :	Public
Rationale :	NA

Schedule JAR-R-1

Missouri Public Service Commission

Respond Data Request

Data Request No.	0530
Company Name	MO PSC Staff-(All)
Case/Tracking No.	ER-2016-0179
Date Requested	12/27/2016
Issue	Cost Recovery Mechanism - Fuel Adjustment Clause
Requested From	Kevin Thompson
Requested By	Jere Buckman
Brief Description	Purpose of heat rate testing
Description	In Staff's opinion, what is the purpose of the heat rate testing required of an electric utility that is requesting a continuation or modification of an FAC [4 CSR 240-3.161 (3)(Q)]?
Response	The heat rate testing required by 4 CSR 240-3.161(3)(Q) ensures that utilities that request to continue or modify an FAC regularly test the efficiency of all the generating units for which the utility will recover fuel costs. Heat rate test results allow the utility to identify units that may not be operating as expected. Heat rate testing is a good utility management operating practice to help assure any degradation of generating units is identified early and corrections are made in a timely manner when economic to do so.
Objections	NA

The attached information provided to **Missouri Public Service Commission** Staff in response to the above data information request is accurate and complete, and contains no material misrepresentations or omissions, based upon present facts of which the undersigned has knowledge, information or belief. The undersigned agrees to immediately inform the **Missouri Public Service Commission** if, during the pendency of Case No. **ER-2016-0179** before the Commission, any matters are discovered which would materially affect the accuracy or completeness of the attached information. If these data are voluminous, please (1) identify the relevant documents and their location (2) make arrangements with requestor to have documents available for inspection in the **MO PSC Staff-(All)** office, or other location mutually agreeable. Where identification of a document is requested, briefly describe the document (e.g. book, letter, memorandum, report) and state the following information as applicable for the particular document: name, title number, author, date of publication and publisher, addresses, date written, and the name and address of the person(s) having possession of the document. As used in this data request the term "document(s)" includes publication of any format, workpapers, letters, memoranda, notes, reports, analyses, computer analyses, test results, studies or data, recordings, transcriptions and printed, typed or written materials of every kind in your possession, custody or control or within your knowledge. The pronoun "you" or "your" refers to **MO PSC Staff-(All)** and its employees, contractors, agents or others employed by or acting in its behalf.

Security :	Public
Rationale :	NA

Schedule JAR-R-2