

Exhibit No.: 027 Witness: Sponsoring Party: Type of Exhibit: Case No.: Date Testimony Prepared:

Issues: Unit Efficiency Testing/Fuel Adjustment Clause Mark C. Birk Union Electric Company Surrebuttal Testimony ER-2007-0002 February 27, 2007

MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. ER-2007-0002

SURREBUTTAL TESTIMONY

OF

MARK C. BIRK

ON

BEHALF OF

UNION ELECTRIC COMPANY d/b/a AmerenUE

> St. Louis, Missouri February, 2007

Hmeren UE Exhibit No. 27 Case No(s). 22007-000 INU

| | SURREBUTTAL TESTIMONY |
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| | OF |
| | MARK C. BIRK |
| | CASE NO. ER-2007-0002 |
| Q. | Please state your name and business address. |
| А. | My name is Mark C. Birk. My business address is One Ameren Plaza, 1901 |
| Chouteau Av | enue, St. Louis, Missouri 63166-6149. |
| Q. | Are you the same Mark C. Birk that filed Direct and Rebuttal Testimony |
| 9 in this proceeding? | |
| А. | Yes, I am. |
| Q. | What is the purpose of your Surrebuttal Testimony in this proceeding? |
| А. | I am responding to Mr. Warren Wood's Rebuttal Testimony regarding heat |
| 3 rate testing as it relates to the Fuel Adjustment Clause (FAC). Specifically, the Company's | |
| 14 use of an Efficiency Deviation Factor (EDF) complies with the Commission's FAC rules (4 | |
| CSR 240-3.1 | 63 and 4 CSR 240-20.090). Indeed, use of an EDF is a better approach than |
| performing a | heat rate test every two years. |
| Q. | Please explain how the EDF calculation complies with 4 CSR 240-3.163 |
| and 4 CSR 2 | 40-20.090. |
| А. | The FAC rules require either heat rate tests or efficiency tests so that plant |
| efficiency car | n be tracked by comparing the results from one period to the next. Staff in |
| effect advoca | tes what would be a substantive amendment to the FAC rules by stating that it is |
| 2 "Staff's position" (Mr. Wood's Rebuttal Testimony, p. 7, l. 10) that there must be "testing of | |
| generation plant heat rates" and that other mandatory requirements (Mr. Wood's Rebuttal | |
| | A. Chouteau Ava Q. in this proceed A. Q. A. rate testing as use of an Effi CSR 240-3.1 performing a Q. and 4 CSR 2 A. efficiency can effect advoca "Staff's posit |

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Surrebuttal Testimony of Mark C. Birk

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| 1 | Testimony, p. 7, 1. 12-15) must be met. In fact, the rules do not require heat rate testing to | | |
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| 2 | the exclusion of efficiency testing (such as the EDF used by AmerenUE), and the rules do | | |
| 3 | not impose the additional requirements only now advocated by Mr. Wood. All the rules | | |
| 4 | provide for are "[t]he results of heat rate tests and/or efficiency tests" (emphasis added). | | |
| 5 | Moreover, the rules do not prescribe use of ASME-PTCs and do not require any particular | | |
| 6 | plant component replacement program. | | |
| 7 | The EDF calculation that AmerenUE intends to use allows plant efficiencies to be | | |
| 8 | tracked. If the EDF increases from one time period to the next, there is a decrease in plant | | |
| 9 | efficiency, and if the EDF declines there is an increase in plant efficiency. Thus, monitoring | | |
| 10 | EDFs will enable the tracking of unit efficiencies in a manner similar to periodic heat rate | | |
| 11 | testing, and the FAC rules indeed recognize that efficiency testing is a permissible method of | | |
| 12 | tracking unit efficiencies. | | |
| 13 | Q. Does periodic heat rate testing provide a good method for tracking the | | |
| 14 | performance of various plant systems? | | |
| 15 | A. No, heat rate testing does not provide a good method for monitoring plant | | |
| 16 | systems. Heat rate testing as specified by the applicable ASME-PTCs does not require data | | |
| 17 | collection for important plant systems that have significant impacts on plant heat rates. For | | |
| 18 | example: condenser performance is not specifically identified during heat rate tests. | | |
| 19 | Although proper testing will correct heat rate results for actual versus reference condition | | |
| 20 | exhaust pressure, the performance factors relative to the condenser (TTD (terminal | | |
| 21 | temperature difference), cleanliness, etc.) are not required and further specific testing is | | |
| 22 | needed. | | |

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Surrebuttal Testimony of Mark C. Birk

Q. How does AmerenUE ensure that the plant systems are operating properly? A. AmerenUE has installed performance monitoring systems on all its major generating units. The performance monitoring system tracks real time performance

parameters related to heat rates and provides an indication when significant changes take
place. Schedule MCB-2 is an example of one of the reports from AmerenUE's performance
monitors.

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Q. What happens when a material change in performance occurs?

9 A. The following actions are taken when a change in performance occurs: (1) the 10 instrument indication is validated, (2) the operating department will review for proper set-up, 11 procedure, and equipment operation and (3) the engineering department will analyze cause 12 and make recommendations for remedial action.

- 13 Q. What types of remedial actions are taken when changes are
- 14 recommended?

A. The remedial actions will vary. Some actions can be made with the unit online and other actions require the units to be off-line. In the case where units musts be taken off-line to make repairs, the length of the outage and the timing of the outage may make immediate repairs undesirable. Another factor in making repairs is the availability of material and qualified personnel to make the repairs.

- Q. Does this conclude your Surrebuttal Testimony?
- A. Yes, it does.

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BEFORE THE PUBLIC SERVICE COMMISSION OF THE STATE OF MISSOURI

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In the Matter of Union Electric Company d/b/a AmerenUE for Authority to File Tariffs Increasing Rates for Electric Service Provided to Customers in the Company's Missouri Service Area.

Case No. ER-2007-0002

AFFIDAVIT OF MARK C. BIRK

STATE OF MISSOURI J) ss **CITY OF ST. LOUIS**)

Mark C. Birk, being first duly sworn on his oath, states:

1. My name is Mark C. Birk. I work in St. Louis, Missouri and I am

employed by Ameren Services Company as Vice President of Power Operations.

2. Attached hereto and made a part hereof for all purposes is my Surrebuttal

Testimony on behalf of Union Electric Company d/b/a AmerenUE consisting of 3 pages, which has been prepared in written form for introduction into evidence in the above-referenced docket.

3. I hereby swear and affirm that my answers contained in the attached

testimony to the questions therein propounded are true and correct

Mark C. Birk

Subscribed and sworn to before me this 27 day of February, 2007.

My commission expires: 02-08-20/0

| | CATHY J. CRISP |
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| | PROVING Notes of the |
| | GIVE OF MISSOUDI |
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| Mv | |
| | Commission Expires: 2-08-2010 |
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