

Exhibit No.:
Issues: Unit Efficiency
Testing/Fuel Adjustment
Clause
Witness: Mark C. Birk
Sponsoring Party: Union Electric Company
Type of Exhibit: Surrebuttal Testimony
Case No.: ER-2007-0002
Date Testimony Prepared: 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**

1 **SURREBUTTAL TESTIMONY**

2 **OF**

3 **MARK C. BIRK**

4 **CASE NO. ER-2007-0002**

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

6 A. My name is Mark C. Birk. My business address is One Ameren Plaza, 1901
7 Chouteau Avenue, St. Louis, Missouri 63166-6149.

8 **Q. Are you the same Mark C. Birk that filed Direct and Rebuttal Testimony**
9 **in this proceeding?**

10 A. Yes, I am.

11 **Q. What is the purpose of your Surrebuttal Testimony in this proceeding?**

12 A. I am responding to Mr. Warren Wood's Rebuttal Testimony regarding heat
13 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
15 CSR 240-3.163 and 4 CSR 240-20.090). Indeed, use of an EDF is a better approach than
16 performing a heat rate test every two years.

17 **Q. Please explain how the EDF calculation complies with 4 CSR 240-3.163**
18 **and 4 CSR 240-20.090.**

19 A. The FAC rules require either heat rate tests or efficiency tests so that plant
20 efficiency can be tracked by comparing the results from one period to the next. Staff in
21 effect advocates what would be a substantive amendment to the FAC rules by stating that it is
22 "Staff's position" (Mr. Wood's Rebuttal Testimony, p. 7, l. 10) that there must be "testing of
23 generation plant heat rates" and that other mandatory requirements (Mr. Wood's Rebuttal

1 Testimony, p. 7, l. 12-15) must be met. In fact, the rules do not require heat rate testing to
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.

1 **Q. How does AmerenUE ensure that the plant systems are operating**
2 **properly?**

3 A. AmerenUE has installed performance monitoring systems on all its major
4 generating units. The performance monitoring system tracks real time performance
5 parameters related to heat rates and provides an indication when significant changes take
6 place. Schedule MCB-2 is an example of one of the reports from AmerenUE's performance
7 monitors.

8 **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?**

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

20 **Q. Does this conclude your Surrebuttal Testimony?**

21 A. Yes, it does.



