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**Missouri Public
Service Commission**

Exhibit No.: **027**
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**

AmerenUE Exhibit No. 27
Case No(s). ER-2007-0002
Date 3/14/07 Rptr MV

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.

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

In the Matter of Union Electric Company)	
d/b/a AmerenUE for Authority to File)	
Tariffs Increasing Rates for Electric)	Case No. ER-2007-0002
Service Provided to Customers in the)	
Company's Missouri Service Area.)	

AFFIDAVIT OF MARK C. BIRK

STATE OF MISSOURI)
) 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.



Notary Public

My commission expires: 02-08-2010

