

FILED
August 12, 2016
Data Center
Missouri Public
Service Commission

Exhibit No.:
Issue: Fuel Adjustment Clause
Witness: David C. Roos
Sponsoring Party: MoPSC Staff
Type of Exhibit: Surrebuttal Testimony
Case No.: ER-2016-0023
Date Testimony Prepared: May 16, 2016

MISSOURI PUBLIC SERVICE COMMISSION
COMMISSION STAFF DIVISION
ENERGY RESOURCES DEPARTMENT

SURREBUTTAL TESTIMONY

OF

DAVID C. ROOS

THE EMPIRE DISTRICT ELECTRIC COMPANY

CASE NO. ER-2016-0023

Jefferson City, Missouri
May, 2016

** Denotes Highly Confidential Information **

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Staff Exhibit No. 23
Date 6-02-16 Reporter JK
File No. ER-2016-0023

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DAVID C. ROOS
THE EMPIRE DISTRICT ELECTRIC COMPANY
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1 **STAFF'S REVISED FAC BASE FACTOR**

2 Q. What revisions did Staff make to its calculation of Empire's Base Factor in the
3 CCOS?

4 A. The amount of Renewable Energy Credit ("REC") Revenues found in Staff's
5 accounting work papers was updated to an amount of ** _____ **for REC revenues,
6 which is ** _____ ** from Staff's previous estimate.

7 Q. What is Staff's Base Factor after the update?

8 A. Staff's Base Factor after the update is \$0.02574 per kWh.

9 Q. What is the difference between Staff's Base Factor filed in the CCOS and the
10 Base Factor for this surrebuttal testimony?

11 A. Staff's Base Factor filed in its CCOS was \$0.02564 per kWh; the Base Factor
12 for this surrebuttal testimony is \$0.02574 per kWh, for an increase of \$0.0010 per kWh.
13 A comparison of Staff's revised Base Factor with Empire's current FAC Base Factor and the
14 Company's proposed Base Factor is provided on Schedule DCR-s1-HC.

15 **UPDATED FUEL ADJUSTMENT RATE CHART 1**

16 Q. Why did you update Chart 1 of your COS testimony?

17 A. Chart 1 is updated to include information for the FAC's accumulation
18 period 15 ("AP15") as a result of File No. ER-2016-0253.

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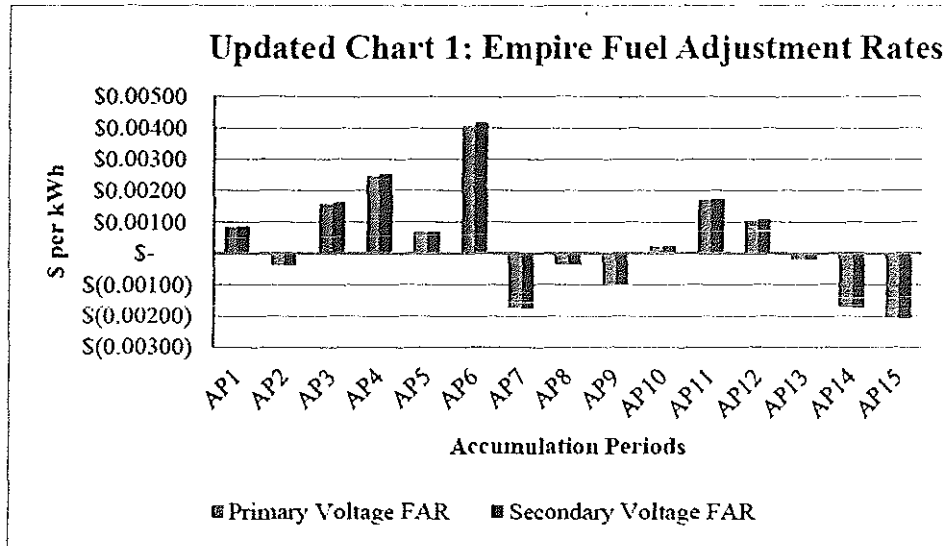
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23 *continued on next page*

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3 Q. What does Chart 1 show?

4 A. Staff used Chart 1 in the COS to illustrate the variability of the fuel adjustment
5 rates ("FARs") as a result of variations in each accumulation period's billed Net Base Energy
6 Cost and actual Total Energy Cost. This updated chart continues to show that variability.
7 As shown on updated Chart 1, during seven accumulation periods, AP2, AP7, AP8, AP9,
8 AP13, AP14, and AP15 Empire's Net Base Energy Cost exceeded actual Total Energy Cost,
9 and 95% of the over-recovered amounts were or will be returned to customers during the
10 seven recovery periods ("RP") RP2, RP7, RP8, RP9, RP13, RP14 and RP15. In eight of
11 its accumulation periods (AP1, AP3, AP4, AP5, AP6, AP10, AP11, and AP12), Empire
12 under-recovered its actual Total Energy Costs, and 95% of the under-recovered amounts
13 were recovered from Empire's Missouri customers during recovery periods RP1, RP3, RP4,
14 RP5, RP6, RP10, RP11, and RP12.

1 COMPARISON OF ACTUAL FUEL COSTS PER MEGAWATT HOUR AND
2 BASE FACTORS

3 Q. Are there other ways to compare billed Net Base Energy Cost and actual Total
4 Energy Cost other than Chart 1?

5 A. Yes. A useful “apples to apples” comparison is to compare the actual Total
6 Energy Cost on a per megawatt hour basis with the Base Factor for the accumulation period in
7 which the costs were incurred.

8 Q. What is the relationship between actual Total Energy Cost and the FAC Base
9 Factor?

10 The Base Factor is a volumetric rate, expressed in \$/kWh, and is that portion of
11 Empire’s retail customers’ base electric energy rate, also expressed in \$/kWh, that serves to
12 recover the expected weather-normalized costs of fuel and purchased power used to serve
13 customers’ energy needs. The Base Factor is defined in Empire’s Original Tariff Sheet No.
14 171 as “BASE FACTOR (“BF”): The base factor is the base energy cost divided by net
15 generation kWh determined by the Commission in the last general rate case. $BF = \$0.02684$
16 for each accumulation period.” In the FAC, the Base Factor is used to calculate the Net Base
17 Energy Cost which is the amount that retail customers have been billed for fuel and purchased
18 power in base rates during an accumulation period. Empire’s FAC is designed to collect 95%
19 of the difference between actual Total Energy Cost and Net Base Energy Cost the cost of fuel
20 and purchased power costs that the customer has already paid through base rates. The base
21 rates are sometimes referred to as “permanent” rates because these rates are set by the
22 Commission in a general rate case report and order, and remain “permanent” until changed by
23 the Commission in another general rate case report and order.

24 Q. How can actual Total Energy Cost be compared to a Base Factor?

1 A. Actual Total Energy Costs can be compared to a Base Factor by dividing
2 actual Total Energy Cost by the actual net system input (“NSI”) in kWh for a given time
3 period. This calculation produces a volumetric rate in \$/kWh that is directly comparable to a
4 Base Factor. For ease of discussion, both the Base Factor and the actual Total Energy Cost per
5 kWh are multiplied by 1000 so that both are expressed in terms of dollars per megawatt hour
6 (“\$/MWh”). Therefore, Staff’s Base Factor of \$0.02574/kWh is equal to \$25.74/MWh.
7 The Total Energy Cost and Base Factors can then be graphed over a given time period.

8 Q. Why graphically compare the actual Total Energy Cost to Base Factors on
9 a \$/MWh basis?

10 A. By visually inspecting the graph one can:

- 11 1) Review how Base Factors have changed over time; and
12 2) Examine the relative volatility and magnitude of actual Total
13 Energy Cost on a \$/MWh basis over time.

14 Q. How does the Base Factor change over time?

15 A. On Chart HC-4 the Base Factor is shown as a relatively flat line that
16 has several abrupt step changes. Initially, Empire’s Base Factor had differing summer and
17 winter rates. This is shown on Chart HC-4 as the two step ups in June 2009 and June 2010
18 as the higher summer rate took effect. On June 15, 2011, as a result of Rate Case No.
19 ER-2011-0004, the Base Factor was reset and changed to a single rate. Since then, it has
20 remained a single rate. As a result of Rate Case No. ER-2012-0345, the Base factor was reset
21 on April 1, 2013. The reset increased the Base Factor by \$0.08/MWh, but this change is too
22 small to be seen on Chart HC-4. The last step down in the Base Rate occurred on August 6,
23 2015, and is the result of the Base Factor being reset in the last general rate case from
24 \$28.31/MWh to the current Base Factor of \$26.84/MWh.

1 Q. How has the relative volatility of actual Total Energy Cost (\$/MWh) changed
2 over time?

3 A. Chart HC-4 and Chart HC-5 graph the monthly Total Energy Cost on a
4 \$/MWh basis and the authorized Base Factors over time. Chart HC- 4 tracks the two
5 variables from the start of Empire's FAC through February 2016.

6 **

7

8 **

9 Overall, Chart HC-4 shows that the Total Energy Cost (\$/MWh) has varied month to month
10 since the beginning of the FAC. Comparatively, Total Energy Cost (\$/MWh) was more
11 volatile in the period from September 2008 through November 2012, than the relatively less
12 volatile succeeding period from December 2012 through January 2014. Chart HC-4 shows
13 that the period from February 2014 through February 2016 shows an increase in volatility
14 relative to the previous period.

1 **

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3 **

4 Chart HC-5 details the last 24-months of available data, a period ending February 29, 2016.

5 Chart HC-5 shows the variability and the downward trend in Total Energy Cost (\$/MWh).

6 The step down of the Base Factor is the result of resetting the Base Factor in the last general
7 rate case.

8 Q. Can the trend line in Chart HC-5 be used to forecast a future Total Energy
9 Cost?

10 A. The trend line illustrates the historical 24-month trend in Total Energy Cost.
11 Although the trend line can be used to forecast future values, it is not the intent of Staff to
12 present this trend line as a forecasting tool. Staff's intent is to only present the trend line for
13 the 24 months of historical data.

14 RESPONSE TO OPC WITNESS LENA M. MANTLE

15 Q. Beginning on page 12 through page 16 of Ms. Mantle's rebuttal testimony,
16 Ms. Mantle discusses Off-System Sales and Purchased Power definitions, including the

1 differences between the definitions of Off-System Sales and Purchased Power on the
2 Commission's website's FAC fact sheet and as used by Staff and Empire in this rate case.
3 What does Staff conclude from Ms. Mantle's review of how Staff used the terms Off-System
4 Sales and Purchased Power in its FAC testimony and work papers?

5 A. Ms. Mantle is correct in that Staff used in Schedule DCR-d1:

- 6 1) Off-system sales to mean revenue from SPP dispatch of Empire's
7 generation; and
8 2) Purchased Power Energy Charges are costs of Empire's long term
9 purchased power agreements.

10 Ms. Mantle is also correct that Staff's fuel model work papers show:

- 11 1) Normalized spot market purchases of ** _____ **; and
12 2) Normalized spot market sales of ** _____ **.

13 Q. On page 17 of Ms. Mantle's rebuttal testimony, she recommends that the
14 Commission order Empire to include in its FAC monthly reports, by general ledger account,
15 the FAC costs in each of the general ledger accounts that Mr. Tartar provides in Schedule
16 TWT-5 of his direct testimony. What is Staff's response?

17 A. Staff agrees with OPC that Empire should provide in its FAC monthly reports,
18 by general ledger account, the FAC costs in each of the general ledger accounts that
19 Mr. Tartar provides in Schedule TWT-5 of his direct testimony. Staff currently receives this
20 level of cost detail from Ameren in its monthly reports. This information is useful in
21 understanding and tracking individual components of costs in the FAC.

22 Q. Does this conclude your testimony?

23 A. Yes.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of The Empire District Electric)
Company's Request for Authority to Implement) Case No. ER-2016-0023
a General Rate Increase for Electric Service)

AFFIDAVIT OF DAVID C. ROOS

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW DAVID C. ROOS and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing SURREBUTTAL TESTIMONY; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

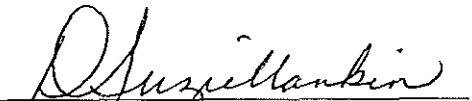


DAVID C. ROOS

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 13th day of May, 2016.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2016
Commission Number: 12412070



Notary Public

SCHEDULE DCR-s1

HAS BEEN DEEMED

HIGHLY CONFIDENTIAL

IN ITS ENTIRETY