

Exhibit No.:

Issue(s)

Witness/Type of Exhibit:

Sponsoring Party:

Case No.:

FAC

Mantle/Direct

Public Counsel

EO-2017-0065

DIRECT TESTIMONY

OF

LENA M. MANTLE

Submitted on Behalf of the Office of the Public Counsel

EMPIRE DISTRICT ELECTRIC COMPANY

CASE NO. EO-2017-0065

**

**

**Denotes Highly Confidential Information
that has been Redacted**

May 19, 2017

NP

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


In the Matter of the Sixth Prudence)	
Review of Costs Subject to the)	
Commission-Approved Fuel Adjustment)	Case No. EO-2017-0065
Clause of The Empire District)	
Electric Company)	

AFFIDAVIT OF LENA MANTLE

STATE OF MISSOURI)
) ss
COUNTY OF COLE)

Lena Mantle, of lawful age and being first duly sworn, deposes and states:

1. My name is Lena Mantle. I am a Senior Analyst for the Office of the Public Counsel.
2. Attached hereto and made a part hereof for all purposes is my direct testimony.
3. I hereby swear and affirm that my statements contained in the attached testimony are true and correct to the best of my knowledge and belief.


Lena M. Mantle
Senior Analyst

Subscribed and sworn to me this 19th day of May 2017.



JERENE A. BUCKMAN
My Commission Expires
August 23, 2017
Cole County
Commission #13754037


Jerene A. Buckman
Notary Public

My Commission expires August 23, 2017.

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DIRECT TESTIMONY
OF
LENA M. MANTLE
THE EMPIRE DISTRICT ELECTRIC COMPANY
CASE NO. EO-2017-0065

INTRODUCTION

Q. Please state your name and business address.

A. My name is Lena M. Mantle and my business address is P.O. Box 2230, Jefferson City, Missouri 65102. I am a Senior Analyst for the Office of the Public Counsel (“OPC”).

Q. Please describe your experience and your qualifications.

A. I worked for the Staff of the Missouri Public Service Commission (“Staff”) from August 1983 until I retired in December 2012. During the time that I was employed at the Missouri Public Service Commission (“Commission”), I worked as an Economist, Engineer, Engineering Supervisor and Manager of the Energy Department. I was employed by the OPC in my current position in August 2014.

Attached as Schedule LMM-D-5 is a brief summary of my experience with OPC and Staff along with a list of the Commission cases in which I filed testimony, Commission rulemakings in which I participated, and Commission reports to which I contributed. I am a Registered Professional Engineer in the State of Missouri.

Q. Have you provided testimony in any other fuel adjustment clause (“FAC”) prudence audit cases before the Commission?

A. Yes, I have. I presented direct/rebuttal testimony on behalf of Staff in cases EO-2010-0255 and EO-2012-0074. In both cases the Commission found Union Electric Company d/b/a AmerenUE (“AmerenUE”) imprudently excluded certain off-system sales revenues from the calculation of FAC actual fuel costs. The

Commission ordered AmerenUE to refund \$17 million and \$26 million, respectively, to its customers through its FAC.

OPC RECOMMENDATIONS

Q. Did OPC find that the Empire District Electric Company (“Empire”) acted imprudent in a manner that impacted the FAC costs in the time period covered by this audit?

A. Yes. Empire’s rigid and inflexible natural gas hedging policies resulted in hedging costs of \$16,785,521.65 of which \$13,104,811.18¹ was included for recovery in Empire’s FAC. Empire’s hedging policy was neither prudent nor necessary to serve Empire’s customers. Section 386.266.1 RSMo states that only prudent fuel and purchased power costs should be reflected in an FAC. Commission rule 4 CSR 240-20.090(1)(B)2.A. states that only prudently incurred fuel and purchased power costs necessary to serve Empire’s customers can be recovered through an FAC.

Empire’s hedging policy has not changed since 2001 even though the natural gas market has changed drastically since that time from an unpredictable, volatile market to a relative stable market. OPC witnesses John Riley and Charles Hyneman provide testimony regarding the changes to the natural gas market and provide evidence that hedging decisions made by Empire did not take into account the changes to the natural gas market. Because these costs were passed through to Empire’s customers, Empire’s imprudent hedging strategy harmed Empire’s customers through increased FAC rates.

¹ A Missouri jurisdictional allocation factor was applied and then only 95% of the costs were passed through to Empire’s customers in its FAC.

1 **Q. What Commission action is OPC recommending in this case?**

2 A. The Commission should find Empire's hedging policy unlawful resulting in unjust
3 and unreasonable rates and should order Empire to refund \$13,104,811.18 plus
4 interest to its customers in the first FAC rate change case after the Commission's
5 order becomes effective in this case.

6 **Q. Does OPC have any other recommendations for the Commission?**

7 A. OPC has three additional recommendations for the Commission. First, OPC
8 recommends the Commission direct Staff in its FAC prudence audits, to conduct a
9 review of each generating unit's heat rates. The review should include heat rates
10 from the previous and current prudence audit periods and the heat rate test results
11 supplied as FAC minimum filing requirements in rate cases. Staff's prudence
12 review report should include a section that documents Staff's review and the
13 findings from its review. The testimony of OPC witness John Robinett provides
14 support for this recommendation along with information regarding heat rate
15 testing and the review of the heat rates of Empire's generation units conducted by
16 OPC.

17 Second, OPC recommends the Commission direct Staff in its FAC
18 prudence audits to include a review of "true" purchased power and off-system
19 sales to determine if there is any imprudence in regarding the electric utility's
20 purchased power and off-system sales practices.

21 Lastly, OPC recommends the Commission make the finding in this case
22 that Empire's hedging policy is imprudent. Further, the Commission should find
23 that no imprudence was found in all other FAC costs and revenues.

24 **Q. Would you provide a summary of OPC witnesses and the topics of their
25 testimony?**

26 A. OPC witnesses and the topic of their testimony are shown in the table below.

John Riley	Imprudent hedging practices of Empire
Charles R. Hyneman	Imprudent hedging and prudence standards
Lena M. Mantle	Review of purchased power and off-system sales
John A. Robinett	Review of generation unit heat rates

Q. Did OPC conduct a comprehensive prudence review of Empire's FAC costs and revenues for the time period identified in Staff's report?

A. No, it did not. OPC only reviewed four areas – hedging, purchased power, off-system sales revenue, and heat rates of Empire's generating units. OPC became concerned about Empire's hedging policy in the last Empire rate case, ER-2016-0023. Therefore, OPC began an audit of Empire's hedging policy as soon as a case was opened for an FAC prudence review. OPC's review of purchased power costs, off-system sales revenues, and generation unit heat rate tests began after Staff filed its report in this case on February 28, 2017. Discussions with Staff and subsequent data requests of Staff, attached as Schedule LMM-D-1, showed Staff did a limited review of these areas. This prompted OPC to review purchased power costs, off-system sales revenues and Empire generating unit heat rates in addition to its hedging audit.

Q. You state OPC audited hedging but only reviewed purchased power, off-system sales revenues and heat rates of generation units. Why the distinction?

A. As stated above, OPC began looking into Empire's hedging policies in the last rate case and began sending data requests to Empire for information on September 9, 2016 – more than two weeks before Staff sent any data requests to Empire. As

1 described in OPC witness John Riley's testimony in this case, his review lead to a
2 deeper investigation that revealed Empire's inflexible hedging policy caused harm
3 to ratepayers in this time period.

4 OPC had raised concerns about the reporting of purchased power and off-
5 system sales in recent rate cases and the necessity of calculating them as specified
6 in FERC Order 668.² In recent rate cases the Commission recognized why this is
7 needed and defined what it terms "true" purchased power and off-system sales in
8 its orders in these cases.³ It was OPC's expectation that Staff would review the
9 "true" purchased power and off-system sales in its prudence review report. After
10 discovering Staff did not do such a review in its audit,⁴ OPC has had limited time
11 to perform its own review of Empire's purchased power costs and off-system
12 sales.

13 OPC also has raised the issue of the importance of reviewing and
14 analyzing the heat rates of generation plants for indications of imprudent
15 maintenance practices in recent rate cases. Again, OPC expected to see an
16 analysis of the heat rates as a part of the Staff's prudence audits. When no such
17 analysis was described in Staff's report, OPC began its review of heat rates of
18 Empire's generation plants. OPC's review in these areas is not comprehensive
19 but is instead intended to determine if there is any indication of imprudence in
20 these areas. Therefore, OPC considers its analysis in these areas a review, not a
21 detailed audit.

² FERC Order 668, *Final Rule; Accounting and Financial Reporting for Public Utilities Including RTOs*, Case No. RM04-12-000, December 16, 2005.

³ ER-2014-0258, *Report and Order*, pg. 115; ER-2014-0351, *Report and Order*, pg. 28; ER-2014-0370, *Report and Order*, pg. 35

⁴ Staff reviewed the total energy costs charged to Empire by the Southwest Power Pool ("SPP") for native load as "purchased power." It did not review in its prudence audit true purchased power as defined by the Commission.

SUMMARY OF TESTIMONY

Q. Would you provide a summary of your testimony?

A. In this testimony I explain why it is important for the Commission to not make a finding of prudence and the importance of instead finding that for all costs and revenues with the exception of costs related to Empire's hedging policy, no imprudence was found.

I provide a correct representation of Empire's purchased power costs and off-system sales revenues for the prudence audit period. I also provide the results of my review of Empire's purchased power costs and off-system sales revenues for prudence.

In addition, in the recent Kansas City Power & Light Company rate case hearing, the Commission's Chairman requested a list of the costs and revenues for the prudence period. Attached to this testimony as Schedule LM-D-2 is a table listing Empire's subaccounts that are included in its FAC⁵ and the cost/revenue of each subaccount for the prudence audit period as provided from Empire's general ledger in response to Staff data request no. 29.

Q. Did you find any indications of imprudence with respect to purchased power and off-system sales in your review?

A. I did not find any indications of imprudence. However, this does not necessarily mean Empire's actions with respect to purchased power and off-system sales were prudent or that Empire's actions were the most prudent actions. I just found no indications of imprudence.

⁵ The subaccounts relevant for this prudence audit period are listed on Exhibit 3 of the *Non-Unanimous Stipulation and Agreement on Certain Issues* filed in ER-2014-0351 on April 8, 2015.

1 **Q. Do you have a recommendation for the Commission?**

2 A. Yes. OPC recommends the Commission require Staff to conduct a review of
3 purchased power, defined as power necessary for native load above what is
4 generated, and off-system sales revenue, defined as revenue for generation above
5 what is necessary for native load, in its FAC prudence audits.

6 **OPC RECOMMENDATION REGARDING**
7 **COMMISSION FINDING IN THIS CASE**

8 **Q. Would you explain why OPC is recommending the Commission make a**
9 **finding of “no imprudence found” with respect to all non-hedging costs and**
10 **revenues for this prudence review?**

11 A. Prudence reviews are imperfect and limited. The costs and revenues in Empire’s
12 FAC are numerous and the mechanism itself is complicated. If the Commission
13 were to find Empire’s actions in this review period other than its hedging
14 practices to be prudent, OPC is concerned that Empire may point to a Commission
15 finding of prudence to avoid providing a refund to its customers in the future.
16 This could occur if a correction is needed for mistakes Empire made in recording
17 costs or revenues during this time period, and where a refund would be warranted.
18 A finding that no evidence of imprudence was presented recognizes the reality
19 that errors can occur and the lack of evidence of imprudence does not necessarily
20 indicate that all costs were prudently incurred.

21 **Q. What is the typical practice of the Commission regarding its findings in a**
22 **prudence audit case?**

23 A. While I have not reviewed every order regarding a Staff FAC prudence audit, in
24 the Report and Orders that I have reviewed, the Commission approves the Staff’s
25 prudence review report which states no imprudence was found.

1 **Q. Are you aware of any instances where discoveries regarding the costs and**
2 **revenues included in an FAC were improperly accounted for in a utility's**
3 **FAC and not discovered in a Staff FAC prudence audit?**

4 A. Yes. I am aware of two such instances. GMO's FAC, to comply with a
5 Commission order in ER-2012-0175 effective January 9, 2013, was to include
6 only transmission costs necessary to receive purchased power to serve native load
7 and make off-system sales. No transmission costs associated with the Crossroads
8 Generating facility were to be included in GMO's base rates or in its FAC. Three
9 and half years later, in its FAC true-up case filed on July 1, 2016, in case no. ER-
10 2017-0002, GMO notified the Commission that it was including in its true-up
11 amount, a correction of \$4.6 million of transmission costs associated with
12 Crossroads that it had flowed through its FAC. This error came to light when
13 GMO began doing research to answer data requests issued by Staff's Auditing
14 Department in GMO's rate case ER-2016-0156.

15 Prior to the discovery in the rate case that these costs had flowed through
16 the FAC, the Commission's Energy Resources Staff had analyzed a variety of
17 items in examining whether GMO prudently incurred the fuel and purchased
18 power costs associated with GMO's FAC for the period of December 1, 2013
19 through May 31, 2015.⁶ One of the items Staff reviewed in this prudence audit
20 was transmission costs. Staff, on February 29, 2016, reported it found no
21 indication GMO's transmission costs were imprudent during the review period.⁷
22 The Commission found Staff's report and recommendation to be reasonable and

⁶ Case no. EO-2016-0053, *Prudence Review of Costs Related to the Fuel Adjustment Clause for the Electric Operations of KCP&L Greater Missouri Operations Company*, filed February 29, 2016.

⁷ *Prudence Review of Costs Related to the Fuel Adjustment Clause for the Electric Operations of KCP&L Greater Missouri Operations Company*, page 23.

1 approved Staff's report.⁸ The error was found and included in GMO's true-up
2 case filed four months later.

3 **Q. Would you describe the other instance you are aware of where a utility**
4 **discovered errors in the costs or revenues that it had flowed through its**
5 **FAC?**

6 A. Yes. Union Electric Company d/b/a Ameren Missouri ("Ameren Missouri")
7 showed in its September 2016 monthly FAC report submission that Ameren
8 Missouri added another revenue account to its FAC. Ameren Missouri disclosed
9 to OPC in a response to a phone call, and then later in an email, that it had
10 identified an error in how it accounted for revenues from its municipal utility
11 contracts from August of 2011 through August 2016. While the revenue Ameren
12 Missouri recorded in error was small, Ameren Missouri corrected the error in its
13 August 2016 general ledger resulting in a lower actual net energy cost for that
14 month.

15 **Q. How many prudence audits of Ameren Missouri's FAC were conducted by**
16 **Staff for the time period this revenue was recorded in error?**

17 A. The Staff conducted and the Commission approved the reports for three prudence
18 audits of Ameren Missouri's FAC.

19 **Q. Do you have any indication that either of these utilities would not have**
20 **voluntarily made these corrections had the Commission found their FAC**
21 **costs and revenues prudent at the conclusion of a Staff prudence audit?**

22 A. No, I do not. However, they may not have made the corrections had the
23 Commission made a finding of prudence instead of a finding of no imprudence in
24 FAC prudence audit cases.

⁸ Order approving Staff's Prudence Review, effective April 15, 2016

1 **Q. Do you have any indication that Empire would not voluntarily make**
2 **corrections it discovers if the Commission finds its non-hedging FAC costs**
3 **and revenues prudent at the conclusion of this prudence audit case?**

4 A. No, I do not. However, it is possible that they may not make a correction if the
5 Commission makes a finding of prudence instead of a finding of no imprudence,
6 and a finding that no imprudence was found best protects the public from this
7 concern.

8 **NECESSITY FOR REVIEW OF**
9 **PURCHASED POWER AND OFF-SYSTEM SALES**

10 **Q. Why is a review of purchased power costs and off-system sales revenues**
11 **necessary in an FAC prudence review?**

12 A. Absent an FAC, an electric utility is rewarded when it can generate and purchase
13 power at a cost less than the costs included in the revenue requirement in the last
14 rate cases. An FAC reduces this reward to almost nothing because the utility is
15 required to return any cost savings and is made whole regardless of the cost of
16 fuel and purchased power. Purchased power for Empire consists of two
17 components – direct purchases through contracts with other generators and power
18 purchased from the Southwest Power Pool (“SPP”) integrated market when the
19 market price is below the cost of Empire to generate the energy. This is what this
20 Commission has defined as “true” purchased power.

21 It is important to look at these separately since purchasing energy on the
22 spot market increases risk of price and availability. In addition, an increasing
23 reliance on spot market purchases may indicate Empire’s resources are not the
24 least cost method of meeting its customers’ needs and, if market prices rise,
25 Empire’s customers will be subject to fluctuations in market cost. Since the FAC
26 protects the utility from price and availability risk and moves that risk to Empire’s
27 customers, it is important to audit the utility’s purchase power practices to make

1 sure the utility is not becoming too reliant on spot market energy. However, it is
2 prudent for Empire to take advantage of low spot market prices by purchasing
3 when spot market cost is less than its cost to generate.

4 With respect to off-system sales, without an FAC a utility gets to retain
5 any off-system sales margin above what is included in the revenue requirement in
6 the last rate case giving it a powerful incentive to make off-system sales. With an
7 FAC there is little incentive for the utility to make off-system sales because it sees
8 minimal benefit from making those sales since almost the entire off-system sales
9 margin is returned to the customers. It is important therefore to review the off-
10 system sales of the utility over time. Empire should be offering its resources into
11 the Southwest Power Pool (“SPP”) integrated market when cost-effective to off-
12 set the fuel and purchased power costs of meeting its customers’ needs.

13 **RESULTS OF REVIEW OF EMPIRE’S**
14 **PURCHASED POWER AND OFF-SYSTEM SALES**

15 **Q. What did you find regarding purchased power in your investigation?**

16 A. As shown in Schedule LMM-D-3, Empire’s total purchased power cost⁹ of \$77
17 million in the prudence audit period is greater than its cost for coal generation
18 (\$75 million.) Empire’s total purchased power cost is also greater than its cost for
19 Empire’s natural gas generation (\$49 million.)

20 I parsed Empire’s purchased power costs into three categories. The first is
21 direct purchases. Empire currently has a long-term purchased power contract with
22 Plum Point Power Generating Station (“Plum Point”) for energy and capacity.
23 This is a coal-fired generation unit in Arkansas of which Empire also owns a
24 percentage. Empire also has two long-term wind purchased power contracts – Elk
25 River Wind Farm and Horizon Wind Farm. Direct purchases also include short-

⁹ Both direct purchases and purchases from the SPP integrated market

1 term purchases from other sources such as Mid-Continental Independent Operator
2 (“MISO”) and Associated Electric Cooperatives. These direct purchases make up
3 71% of Empire’s purchased power costs in the prudence review time period.

4 The second category of purchased power is power purchased on the SPP
5 integrated market above the generation provided by Empire to SPP. In every
6 hour, Empire dispatches its generation as directed by SPP and pays SPP for each
7 kilowatt-hour (kWh) of its customer’s requirements. Empire incurs purchased
8 power costs when the amount paid for Empire’s generation by SPP is less than the
9 amount Empire pays SPP for its native load. This is what the Commission has
10 defined as true purchased power. Likewise, off-system sales revenue is generated
11 when Empire is paid more for its generation than it pays for its native load. Due
12 to the nature of the SPP integrated market, Empire either incurs a purchased
13 power cost or generates off-system sales revenue every hour of the year.

14 Schedule LMM-D-4 is a graph of Empires’ purchased power costs, split
15 between direct and SPP integrated market purchases, and off-system sales
16 revenues from the time the SPP integrated market began in March 2014.¹⁰

17 **Q. What does the graph on Schedule LMM-D-4 show?**

18 A. This graph shows a big decline and some volatility in SPP integrated market
19 purchases for the first twelve months after the market started. Off-system sales in
20 this first year also declined but were always less than the power purchased from
21 SPP integrated market resulting in Empire being a net purchaser on the integrated
22 market during this time. This is not unexpected with the introduction of a new
23 market.

24 In the 18 months of the prudence audit period beginning in March 2015,
25 SPP integrated market purchased power costs were substantially less than

¹⁰ The costs and revenues on this graph are taken from Empire’s responses to OPC data requests 8000 and 8001 and the FAC monthly reporting requirements.

1 Empire's cost in the first year of the market. This may have been due to a
2 multitude of reasons such as a new market settling down, changes in loads,
3 generation being added by other utilities, and generation unit availability.

4 In the prudence audit period, Empire's SPP integrated market purchases
5 were greater than the off-system sales revenues that it received from the beginning
6 of the market in March 2015 through February 2016. Since the Riverton combined
7 cycle plant came on line in May 2016, off system sales revenues have been higher
8 and SPP integrated market purchases lower resulting in Empire being a net seller
9 of energy the last four months of the prudence audit period.

10 **Q. What was happening with direct purchased power during this time period?**

11 A. At the beginning of the SPP integrated market, the costs of market purchases were
12 much greater than the costs of direct purchases. However in the 18 months of the
13 prudence audit period, the costs of direct purchases have mostly been greater than
14 the costs of purchases on the SPP integrated market. The dollars per mega-watt
15 hour ("MWh") costs of direct purchases from the wind farms remained consistent
16 through the prudence audit. Energy from the Elk River wind farm cost Empire **

17 ** and Meridian Way wind energy cost Empire **

18
19
20
21 ** In fact, there was only one month
22 when Empire's average SPP integrated market cost for purchased power was **

23 **

24 **Q. Did your analysis of this information indicate imprudent actions by Empire**
25 **with respect to direct or spot market purchased power?**

26 A. No, it did not.

1 **Q. Did your analysis of Empire's off-system sales revenue indicate imprudent**
2 **actions by Empire?**

3 A. No, it did not. It did indicate, however, that with the Riverton combined cycle
4 coming on line, Empire has excess energy. I did not review whether this resulted
5 in Empire having excess capacity. If so, selling only the excess energy on the SPP
6 integrated market, while not imprudent, may not optimize the revenue Empire
7 could receive from this excess energy and capacity, and reduce the risk of
8 receiving off-system sales revenues. This is an instance where although an action
9 may not be imprudent, it may not be the optimal prudent decision.

10 **Q. Does this conclude your direct testimony?**

11 A. Yes, it does.

Missouri Public Service Commission

Respond Data Request

Data Request No.	0060
Company Name	MO PSC Staff-(All)
Case/Tracking No.	EO-2017-0065
Date Requested	3/20/2017
Issue	Cost Recovery Mechanism - Fuel Adjustment Clause
Requested From	Bob Berlin
Requested By	Lena Mantle
Brief Description	True purchased power analysis
Description	With respect to true purchased power described as power purchased above Empire's generation to meet its native load: 1. Did Staff determine in its prudence audit that Empire's true purchased power in this audit period was a) reasonable and b) prudent? If no, please explain why Staff did not make this determination. If yes, please provide the criteria Staff used and describe Staff's audit scope as it relates to its audit of Empire's true purchased power. 2. Did Staff conduct any meetings or discussions with any Empire personnel related to Empire's true purchased power? If so, please provide the date of the meeting, whether the meeting was in person or over the phone, a summary of the meeting, all documents provided to Staff, and all documents provided to Empire.
Response	With respect to true purchased power described as power purchased above Empire's generation to meet its native load: 1. Did Staff determine in its prudence audit that Empire's true purchased power in this audit period was a) reasonable and b) prudent? If no, please explain why Staff did not make this determination. If yes, please provide the criteria Staff used and describe Staff's audit scope as it relates to its audit of Empire's true purchased power. *Staff did not make a determination in the prudence audit that Empire's true purchased power was reasonable or prudent. Staff reviewed purchased power costs ("PP") as defined by Empire's Rider FAC Tariff sheets that were in affect during the review period. Staff found no evidence that Empire acted imprudently in purchasing power from the SPP IM during the review period. 2. Did Staff conduct any meetings or discussions with any Empire personnel related to Empire's true purchased power? If so, please provide the date of the meeting, whether the meeting was in person or over the phone, a summary of the meeting, all documents provided to Staff, and all documents provided to Empire. *No discussions or meetings occurred. DR response submitted by David Roos (david.roos@psc.mo.gov)

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. **EO-2017-0065** 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

Missouri Public Service Commission

Respond Data Request

Data Request No.	0061
Company Name	MO PSC Staff-(All)
Case/Tracking No.	EO-2017-0065
Date Requested	3/20/2017
Issue	Cost Recovery Mechanism - Fuel Adjustment Clause
Requested From	Bob Berlin
Requested By	Lena Mantle
Brief Description	Off System sales analysis
Description	With respect to off-system sales defined as energy sold above Empire's generation necessary to meet its native load: 1. Did Staff determine in its prudence audit that Empire's off-system sales in this audit period as defined above were a) reasonable and b) prudent? If no, please explain why Staff did not make this determination. If yes, please provide the criteria Staff used and describe Staff's audit scope as it relates to its audit of Empire's off-system sales as defined above. 2. Did Staff conduct any meetings or discussions with any Empire personnel related to Empire's off-system sales as defined above? If so, please provide the date of the meeting, whether the meeting was in person or over the phone, a summary of the meeting, all documents provided to Staff, and all documents provided to Empire.
Response	With respect to off-system sales defined as energy sold above Empire's generation necessary to meet its native load: 1. Did Staff determine in its prudence audit that Empire's off-system sales in this audit period as defined above were a) reasonable and b) prudent? If no, please explain why Staff did not make this determination. If yes, please provide the criteria Staff used and describe Staff's audit scope as it relates to its audit of Empire's off-system sales as defined above. *Staff did not make a determination in the prudence audit that Empire's off-system sales, defined as energy sold above Empire's generation necessary to meet its native load was reasonable or prudent. Staff reviewed off-system sales revenue ("OSSR") as defined by Empire's Rider FAC Tariff sheets that were in affect during the review period. Staff found no evidence that Empire was imprudent with regard to its off-system sales revenue. 2. Did Staff conduct any meetings or discussions with any Empire personnel related to Empire's off-system sales as defined above? If so, please provide the date of the meeting, whether the meeting was in person or over the phone, a summary of the meeting, all documents provided to Staff, and all

documents provided to Empire. *No discussions or meetings occurred. DR response submitted by David Roos (david.roos@psc.mo.gov)

Objections

NA

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Security : Public

Rationale : NA

FAC Costs and Revenues
The Empire District Electric Company
March 2015 - August 2016

Expenses		Revenues	
501042 Fuel - Coal	\$ 73,135,453.91	411800 Gains-Disposition Emmiss Allow	\$ (11.53)
501045 Fuel - Oil	1,154,726.87	447113 Gen Ark Off-Sys Sale-Resale	-
501054 Fuel - Natural Gas	(332.57)	447124 Gen Ks Off-Sys Sale-Resale	-
501183 Sales of Ash	(105,400.63)	447133 Gen Mo Off-Sys Sale-Resale	-
501211 Ineffect (Gain)Loss Deri Steam	-	447143 Gen Ok Off-Sys Sale-Resale	-
501212 Effective (Gn)Lss Deriv Steam	-	447810 SPP IM Reveue - AR	-
501206 NonFAS133Deriv(Gain)/LossSteam	-	447820 SPP IM Reveue - Ks	-
501300 Fuel - Tires	118,541.92	447830 SPP IM Reveue - Mo	-
501401 OPS Mtls-Fuel Handling	276,253.53	447840 SPP IM Reveue - Ok	-
501607 Fuel Adm E Trader Commission	-	447850 SPP IM Reveue	(26,966,476.94)
	<u>\$ 74,579,243.03</u>	447860 Bilateral/Off Line Aux Revnue	(60,980.71)
			<u>\$ (27,027,457.65)</u>
547205 Natural Gas SLCC Tolling	-	456071 Misc. Elec Rev-Green Credits - AR	-
547206 Nat Gas-Tolling SLCC Ineffectiv	-	456072 Misc. Elec Rev-Green Credits - KS	-
547207 Nat Gas-Tolling SLCC Effective	-	456073 Misc. Elec Rev-Green Credits - MO	-
547208 Comb Turb Fuel Sales - Nat Gas	-	456074 Misc. Elec Rev-Green Credits - OK	-
547210 Combustion Turb Fuel Natural Gas	58,692,090.82	456075 Misc. Elec Rev-Green Credits	(612,410.34)
547211 Ineffect (Gain)Loss Deriv Gas	-		<u>\$ (612,410.34)</u>
547212 Effective (Gain)Loss Derive Gas	-		
547213 Fuel - No 2 Oil Fuel	127,456.44		
547301 NonFAS133 Deriv (Gain)/Loss	10,568,261.00		
547607 Fuel Adm E Traders Commission	36,070.33		
Firm Transportation not included in FAC	<u>\$ 9,251,842.00</u>		
	<u>\$ 69,423,878.59</u>		
509052 Emmission Allowance Expense	-		
506127 Limestone Expense - Iatan	-		
506128 Powder Activated Carbon	8.10		
506129 Ammonia Expense	-		
506201 Limestone Expense	1,339,512.32		
506202 Ammonia Expense	1,296,655.46		
506203 Powder Activated Carbon	194,617.65		
506204 Lime Expense	352,716.61		
	<u>\$ 3,183,510.14</u>		
548202 Ammonia Expense	-		
555430 Direct Purchases	68,767,529.30		
Capacity costs	<u>14,233,390.00</u>		
Direct Purchase in FAC	54,534,139.30		
555431 Purchase Power Tolling Fees	-		
555432 Energy Imbalance	-		
555437 Interrupt Svc Compensation	-		
555800 DA Asset Energy	23,786,865.01		
555810 DA Non-Asset Energy	399,853.39		
555820 DA Virtual Energy	1,363,835.33		
555840 DA Reg-Up	288,063.08		
555850 DA Reg-Down	183,744.44		
555860 DA Spinning	283,471.99		
555870 DA Supplemental	155,378.15		
555880 DA Other	103,332.60		
555900 RT Asset Energy	5,408,332.39		
555910 RT Non-Asset Energy	16,757.95		
555920 RT Virtual Energy	770,471.40		
555940 RT Reg-Up	450,379.77		
555950 RT Reg-Down	490,866.14		
555960 RT Spinning	218,483.70		
555970 RT Supplemental	10,315.56		
555980 RT Other	(2,615,986.02)		
555990 TCR Activity	(1,314,514.78)		
555995 ARR Activity	<u>(7,490,180.42)</u>		
Account 555 Costs in FAC	<u>\$ 77,043,608.98</u>		
		% Allowed	Amount in FAC
565413 Trans of Electricity by Others	-	34%	-
565414 SPP Fixed Chg - Native Load Exclude S 1-A	10,506,796.83	34%	3,572,310.92
565415 SPP Var Chg - Native Load	(7,249.49)	34%	(2,464.83)
565416 Non SPP Fixed Chg- Native Load	4,593,263.67	50%	2,296,631.84
565417 PP Non SPP Var - Native Load	-	50%	-
565418 Gen Non SPP Var - Native Load	-	50%	-
565419 Off Sys Sales Trans Costs	-	34%	-
	<u>\$ 15,092,811.00</u>		<u>\$ 5,866,477.93</u>

FAC Costs and Revenues
The Empire District Electric Company
March 2015 - August 2016

Fuel Costs

501 Steam Generation	\$	74,579,243.03	
547 Other Generation (1)		49,567,705.26	
547 Hedging		10,604,331.33	
509 Emission Allowance		-	
506 AQCS		3,183,510.14	
Total Fuel	\$	137,934,789.76	62.46%

Purchased Power

Direct Purchases (2)		54,534,139.30	
SPP IM Energy		31,746,115.47	
SPP IM Other		(9,236,645.79)	
Total PP	\$	77,043,608.98	34.89%

Transmission	\$	5,866,477.93	2.66%
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Total FAC Costs	\$	220,844,876.67	100%
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Off-System Sales Revenue	\$	(27,027,457.65)	97.78%
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REC Revenues	\$	(612,410.34)	2.22%
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Emission Allowances Gain	\$	(11.53)	0.00%
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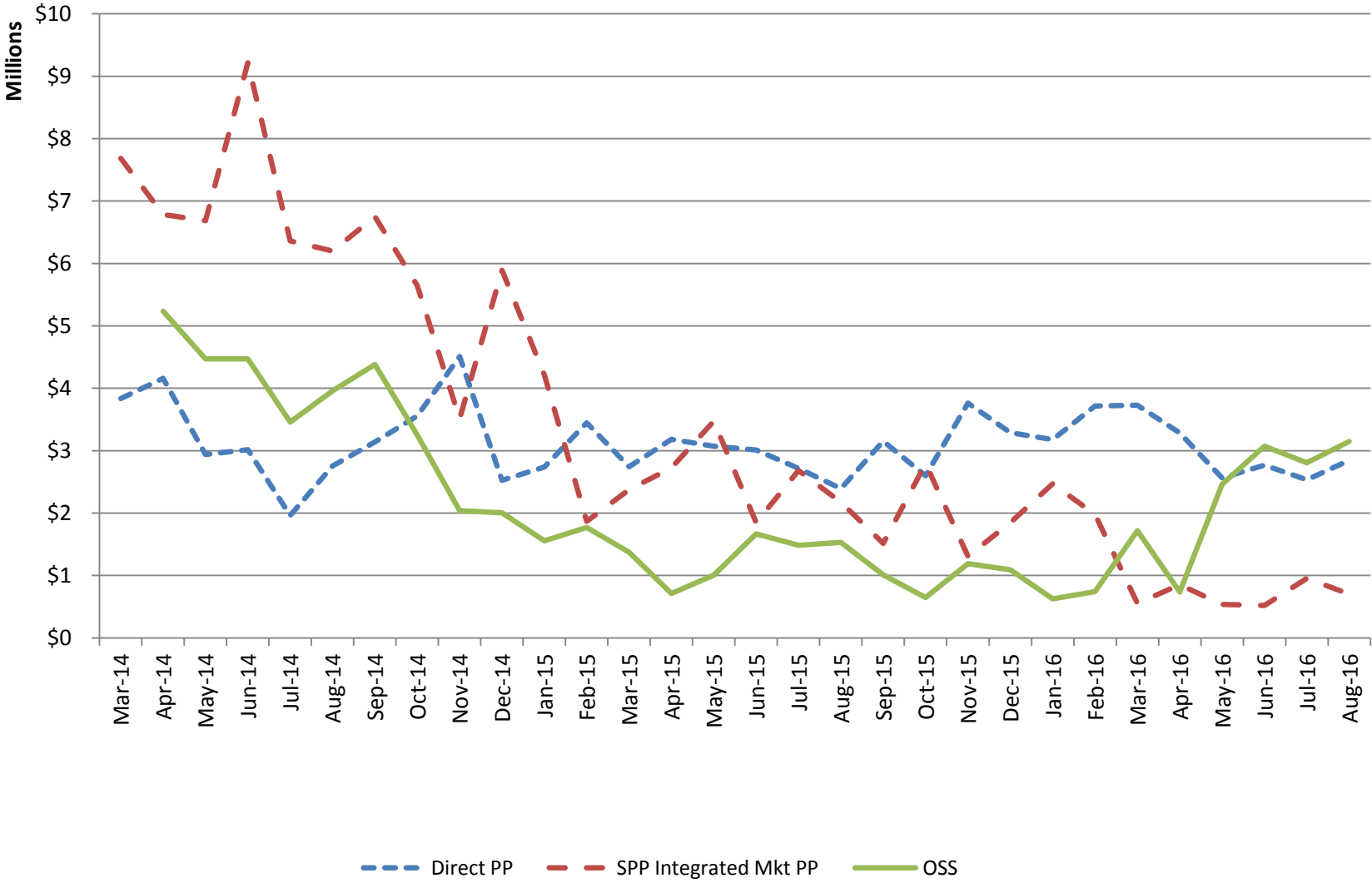
Total FAC Revenues	\$	(27,639,879.52)	100%
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Total Energy Costs	\$	193,204,997.15	
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(1) Excludes Firm Transportation

(2) Excludes Capacity Cost

Empire Purchased Power Costs & Off-System Sales Revenue



Education and Work Experience Background of

Lena M. Mantle, P.E.

In my position as Senior Analyst for the Office of the Public Counsel (“OPC”) I provide analytic and engineering support for the OPC in electric, gas, and water cases before the Commission. I have worked for the OPC since August, 2014.

I retired on December 31, 2012 from the Public Service Commission Staff as the Manager of the Energy Unit. As the Manager of the Energy Unit, I oversaw and coordinated the activities of five sections: Engineering Analysis, Electric and Gas Tariffs, Natural Gas Safety, Economic Analysis, and Energy Analysis sections. These sections were responsible for providing Staff positions before the Commission on all of the electric and gas cases filed at the Commission. This included reviews of fuel adjustment clause filings, resource planning compliance, gas safety reports, customer complaint reviews, territorial agreement reviews, electric safety incidents and the class cost-of-service and rate design for natural gas and electric utilities.

Prior to being the Manager of the Energy Unit, I was the Supervisor of the Engineering Analysis Section of the Energy Department from August, 2001 through June, 2005. In this position, I supervised engineers in a wide variety of engineering analysis including electric utility fuel and purchased power expense estimation for rate cases, generation plant construction audits, review of territorial agreements, and resolution of customer complaints all the while remaining the lead Staff conducting weather normalization in electric cases.

From the beginning of my employment with the Commission in the Research and Planning Department of the in August, 1983 through August, 2001, I worked in many areas of electric utility regulation. Initially I worked on electric utility class cost-of-service analysis, fuel modeling and what has since become known as demand-side management. As a member of the Research and Planning Department under the direct supervision of Dr. Michael Proctor, I participated in the development of a leading-edge methodology for weather normalizing hourly class energy for rate design cases. I took the lead in developing personal computer programming of this methodology and applying this methodology to weather-normalize electric usage in numerous electric rate cases. I was also a member of the team that assisted in the development of the Missouri Public Service Commission electronic filing and information system (“EFIS”).

I received a Bachelor of Science Degree in Industrial Engineering from the University of Missouri, at Columbia, in May, 1983. I am a registered Professional Engineer in the State of Missouri.

Lists of the Missouri Public Service Commission rules in which I participated in the development of or revision to, the Missouri Public Service Commission Testimony Staff reports that I contributed to and the cases that I provided testimony in follow.

Missouri Public Service Commission Rules

4 CSR 240-3.130	Filing Requirements and Schedule of Fees for Applications for Approval of Electric Service Territorial Agreements and Petitions for Designation of Electric Service Areas
4 CSR 240-3.135	Filing Requirements and Schedule of Fees Applicable to Applications for Post-Annexation Assignment of Exclusive Service Territories and Determination of Compensation
4 CSR 240-3.161	Electric Utility Fuel and Purchased Power Cost Recovery Mechanisms Filing and Submission Requirements
4 CSR 240-3.162	Electric Utility Environmental Cost Recovery Mechanisms Filing and Submission Requirements
4 CSR 240-3.190	Reporting Requirements for Electric Utilities and Rural Electric Cooperatives
4 CSR 240-14	Utility Promotional Practices
4 CSR 240-18	Safety Standards
4 CSR 240-20.015	Affiliate Transactions
4 CSR 240-20.017	HVAC Services Affiliate Transactions
4 CSR 240-20.090	Electric Utility Fuel and Purchased Power Cost Recovery Mechanisms
4 CSR 240-20.091	Electric Utility Environmental Cost Recovery Mechanisms
4 CSR 240-22	Electric Utility Resource Planning
4 CSR 240-80.015	Affiliate Transactions
4 CSR 240-80.017	HVAC Services Affiliate Transactions

Office of Public Counsel Case Listing

Case	Filing Type	Issue
ER-2016-0285	Direct, Rebuttal, Surrebuttal	Fuel Adjustment Clause
ER-2016-0156	Direct, Rebuttal, Surrebuttal	Fuel Adjustment Clause, Resource Planning
ER-2016-0023	Direct, Rebuttal, Surrebuttal	Fuel Adjustment Clause
WR-2015-0301	Direct, Rebuttal, Surrebuttal	Revenues, Environmental Cost Recovery Mechanism
ER-2014-0370	Direct, Rebuttal, Surrebuttal	Fuel Adjustment Clause
ER-2014-0351	Direct, Rebuttal, Surrebuttal	Fuel Adjustment Clause
ER-2014-0258	Direct, Rebuttal, Surrebuttal	Fuel Adjustment Clause
EC-2014-0224	Surrebuttal	Policy, Rate Design

Staff Direct Testimony Reports

ER-2012-0175	Capacity Allocation, Capacity Planning
ER-2012-0166	Fuel Adjustment Clause
ER-2011-0028	Fuel Adjustment Clause
ER-2010-0356	Resource Planning Issues
ER-2010-0036	Environmental Cost Recovery Mechanism
HR-2009-0092	Fuel Adjustment Rider
ER-2009-0090	Fuel Adjustment Clause, Capacity Requirements
ER-2008-0318	Fuel Adjustment Clause
ER-2008-0093	Fuel Adjustment Clause, Experimental Low-Income Program
ER-2007-0291	DSM Cost Recovery

Missouri Public Service Commission Staff Testimony

Case No.	Filing Type	Issue
ER-2012-0175	Rebuttal, Surrebuttal	Resource Planning Capacity Allocation
ER-2012-0166	Rebuttal, Surrebuttal	Fuel Adjustment Clause
EO-2012-0074	Direct/Rebuttal	Fuel Adjustment Clause Prudence
EO-2011-0390	Rebuttal	Resource Planning Fuel Adjustment Clause
ER-2011-0028	Rebuttal, Surrebuttal	Fuel Adjustment Clause
EU-2012-0027	Rebuttal, Surrebuttal	Fuel Adjustment Clause
ER-2010-0356	Rebuttal, Surrebuttal	Resource Planning Allocation of Iatan 2
EO-2010-0255	Direct/Rebuttal	
ER-2010-0036	Supplemental Direct, Surrebuttal	Fuel Adjustment Clause
ER-2009-0090	Surrebuttal	Capacity Requirements
ER-2008-0318	Surrebuttal	Fuel Adjustment Clause
ER-2008-0093	Rebuttal, Surrebuttal	Fuel Adjustment Clause Low-Income Program
ER-2007-0004	Direct, Surrebuttal	Resource Planning
GR-2007-0003	Direct	Energy Efficiency Program Cost Recovery
ER-2007-0002	Direct	Demand-Side Program Cost Recovery
ER-2006-0315	Supplemental Direct, Rebuttal	Energy Forecast Demand-Side Programs Low-Income Programs
ER-2006-0314	Rebuttal	Jurisdictional Allocation Factor
EA-2006-0309	Rebuttal, Surrebuttal	Resource Planning
ER-2005-0436	Direct, Rebuttal, Surrebuttal	Low-Income Programs Energy Efficiency Programs Resource Planning
EO-2005-0329	Spontaneous	Demand-Side Programs Resource Planning

Missouri Public Service Commission Staff Case Listing (cont.)

EO-2005-0293	Spontaneous	Demand-Side Programs Resource Planning
ER-2004-0570	Direct, Rebuttal, Surrebuttal	Reliability Indices Energy Efficiency Programs Wind Research Program
EF-2003-0465	Rebuttal	Resource Planning
ER-2002-425	Direct	Derivation of Normal Weather
EC-2002-1	Direct, Rebuttal	Weather Normalization of Class Sales Weather Normalization of Net System
ER-2001-672	Direct, Rebuttal	Weather Normalization of Class Sales Weather Normalization of Net System
ER-2001-299	Direct	Weather Normalization of Class Sales Weather Normalization of Net System
EM-2000-369	Direct	Load Research
EM-2000-292	Direct	Load Research
EM-97-515	Direct	Normalization of Net System
ER-97-394, et. al.	Direct, Rebuttal, Surrebuttal	Weather Normalization of Class Sales Weather Normalization of Net System Energy Audit Tariff
EO-94-174	Direct	Weather Normalization of Class Sales Weather Normalization of Net System
ER-97-81	Direct	Weather Normalization of Class Sales Weather Normalization of Net System TES Tariff
ER-95-279	Direct	Normalization of Net System
ET-95-209	Rebuttal, Surrebuttal	New Construction Pilot Program
EO-94-199	Direct	Normalization of Net System
ER-94-163	Direct	Normalization of Net System
ER-93-37	Direct	Weather Normalization of Class Sales Weather Normalization of Net System
EO-91-74, et. al.	Direct	Weather Normalization of Class Sales Weather Normalization of Net System
EO-90-251	Rebuttal	Promotional Practices Variance
ER-90-138	Direct	Weather Normalization of Net System
ER-90-101	Direct, Rebuttal, Surrebuttal	Weather Normalization of Class Sales Weather Normalization of Net System
ER-85-128, et. al.	Direct	Demand-Side Update
ER-84-105	Direct	Demand-Side Update