Exhibit No.:
Issue: FAC, FAC Base, Revenues, Fuel Inventory
Witness: Todd W. Tarter
Type of Exhibit: Rebuttal Testimony
Sponsoring Party: Empire District Electric
Case No. ER-2014-0351
Date Testimony Prepared: March 2015

Before the Public Service Commission
Of the State of Missouri

Rebuttal Testimony

of

Todd W. Tarter

March 2015

TABLE OF CONTENTS OF
TODD W. TARTER
ON BEHALF OF
THE EMPIRE DISTRICT ELECTRIC COMPANY
BEFORE THE
MISSOURI PUBLIC SERVICE COMMISSION
CASE NO. ER-2014-0351

SUBJECT **PAGE**

REBUTTAL TESTIMONY OF
TODD W. TARTER
ON BEHALF OF
THE EMPIRE DISTRICT ELECTRIC COMPANY
BEFORE THE
MISSOURI PUBLIC SERVICE COMMISSION
CASE NO. ER-2014-0351

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. Todd W. Tarter. My business address is 602 S. Joplin Avenue, Joplin, Missouri.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. The Empire District Electric Company ("Empire", "EDE" or "Company"). My title is Manager of Strategic Planning.

Q. ARE YOU THE SAME TODD W. TARTER THAT EARLIER PREPARED AND FILED DIRECT TESTIMONY IN THIS RATE CASE BEFORE THE MISSOURI PUBLIC SERVICE COMMISSION ("COMMISSION") ON BEHALF OF EMPIRE?

A. Yes.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. In my rebuttal testimony, I will comment on the Commission Staff's ("Staff") position on the fuel and purchased power ("FPP") expense level for setting the base FPP cost, as proposed in the direct testimony of Staff witness Ms. Kimberly K. Bolin and Staff's Rate Design and Cost of Service Report. I will also respond to the Office of the Public Counsel ("OPC") witness Ms. Lena Mantle and the Midwest Energy Consumers Group ("MECG") witness Ms. Kavita Maini regarding the fuel adjustment clause ("FAC"). I will further provide revenues and fuel inventories updates.

Q. ARE THERE OTHER COMPANY WITNESSES THAT ADDRESS THE FAC ISSUES?

A. Yes. For additional information on the FAC, please see the rebuttal testimony of Empire witnesses W. Scott Keith, Aaron J. Doll, and H. Edwin Overcast.

II. RESPONSE TO STAFF FAC BASE FACTOR

Q. WHAT IS EMPIRE'S POSITION ON ENERGY COST RECOVERY IN THIS CASE?

A. Empire is recommending the continuation of a fuel adjustment clause ("FAC"), to include the current 95%/5% sharing mechanism, with the addition of net transmission costs and charges from the recently implemented Southwest Power Pool ("SPP") integrated marketplace ("SPP IM"). In its direct testimony, Empire recommended a new FAC base factor. Empire presented the results of a computer model run using current fuel, power and transmission costs, and all the cost components of the proposed FAC base as compared to the Company's current FAC base.

Q. CAN YOU SUMMARIZE STAFF'S POSITION ON ENERGY COST RECOVERY IN THIS CASE BASED ON ITS DIRECT FILING?

A. Staff is also recommending the continuation of the FAC, to include the current 95%/5% sharing mechanism, with the addition of net transmission costs and charges from the recently implemented SPP IM.

Q. ARE THERE ANY DIFFERENCES IN THE COST COMPONENTS TO BE INCLUDED IN THE FAC IN THE INITIAL FILED POSTIONS OF EMPIRE AND STAFF?

A. Yes. In its direct filing, Empire proposed to flow the future changes to natural gas storage and natural gas transportation costs through the FAC. Staff's initial position does not propose to flow these cost changes through the FAC, but would continue to recover them as a component of base rates.

Q. WHAT IS EMPIRE'S POSITION IN REGARD TO THIS ISSUE?

A. Empire can agree with the Staff's position of not allowing the flow-through of changes in natural gas storage costs or the fixed portion of natural gas transportation costs through the FAC, and continue to recover the natural gas storage and natural fixed transportation costs in base rates.

Q. HAVE YOU REVIEWED STAFF'S FPP MODEL OUTPUT, BASE FACTOR PROPOSAL, AND WORKPAPERS IN THIS AREA?

A. Yes**.** Moreover, issues in these areas were discussed during the recent technical conference in this case.

Q. DO YOU HAVE ANY CONCERNS ABOUT THE ASSUMPTIONS THAT STAFF USED TO DEVELOP ITS PROPOSED FAC BASE FACTOR?

A. Yes. Based on my review, I found three primary areas of concern with Staff's initial FPP analysis: (1) the methodology Staff used to model the SPP IM; (2) fuel and energy related cost omissions; and, (3) Staff FPP model inputs.

Q. HOW DID EMPIRE ACCOUNT FOR THE ANNUALZED IMPACT OF THE SPP IM IN ITS CALCUALTION OF THE PROPOSED FAC BASE?

A. As discussed in my direct testimony, Empire modeled its system consistent with previous general rate case filings prior to the SPP IM, and then made an adjustment outside the model to recognize the anticipated savings from participation in the SPP IM. This SPP IM

adjustment reduces the model generated energy cost, and Empire's overall revenue requirement. It was determined that this "post processing" approach would be best for this rate filing since the SPP IM had been in place for just a few months when the Empire model was developed for this case. In addition, this approach resulted in a simpler, more familiar and more transparent approach to the development of an overall normalized energy cost in this case and the establishment of a new FAC base. Empire felt that it would take some time for the SPP IM to mature and for analysts to gain confidence in the market based modeling approach.

Q. HOW DID STAFF ACCOUNT FOR THE SPP IM IN ITS CALCULATION OF THE PROPOSED FAC BASE IN ITS INITIAL CASE?

A. According to the Staff Cost of Service Report, Staff states that it attempted to directly model the SPP IM. On page 82, lines 25-29, of the report it states, "Staff used market prices in its fuel model dispatch to simulate Empire's operations in the SPP's IM. The price for energy in the IM dictates the amount of energy Empire sells in the IM, so Staff's fuel run dispatches Empire's generation to match Empire's load, which simulates how the SPP would dispatch if that generation was being dispatched into the SPP IM based on prices set by the SPP's regional load requirements."

Q. DO YOU SEE PROBLEMS WITH STAFF'S MODELING APPROACH IN THIS CASE?

A. Yes. I do not have access to the Staff model, but I have reviewed the model output and I discussed the modeling methodology with Staff at the technical conference. Based on that review, it is my understanding that what Staff has modeled for this case is not consistent with how the SPP IM actually operates. In the SPP IM approach, all of Empire's native

load would be supplied from the market at locational marginal prices. Empire would bid in its resources, and, if requested to run by SPP, Empire would sell generation into the market and receive revenue. The net FPP cost would be the cost to serve native load from the SPP IM market, plus the cost of Empire's FPP to generate for the market, minus revenue received from the SPP IM market sales.

Of course, the actual market is more complex than this high level description. It also involves multiple pricing points, transmission congestion issues, a day-ahead market, a real time market, a virtual market, ancillary services and the ability to self-generate, etc.

Q. HAVE YOU ATTEMPTED TO PREPARE AN ILLUSTRATION OF THE PROBLEMS YOU SEE WITH STAFF'S MODEL?

A. Yes. Figure 1 below helps illustrate the problems I see with Staff's model. The "traditional approach" or the top portion of Figure 1, represents the modeling prior to the advent of the SPP IM. In this approach, the model would dispatch Empire's resources to meet its native load and buy and sell from the spot market (such as the energy imbalance services ("EIS") market or bilateral contracts) as it is economical to do so. This is the modeling approach that Empire utilized for this case, prior to making an SPP savings adjustment. The SPP IM approach, described above, is illustrated in the middle section of Figure 1. The lower portion of Figure 1 illustrates Empire's understanding of the Staff model in this case. Essentially, Staff's model is similar to the traditional approach, with the model set up to dispatch resources based on a market price curve instead of a load curve. In Staff's model, Empire's load is served from Empire resources and the spot market. In addition, in Staff's model, Empire may sell generation from its resources into a virtually unlimited market. Staff's model labeled this as "spot sales." A fundamental

problem with Staff's model is that Empire no longer serves its own load; it is now served by the SPP IM. In addition to serving Empire load with Empire resources, the Staff model can also help serve Empire load from a spot market if it is more economical to do so. The depth of this spot market may be another issue. The Staff model output calls this "spot purchases." The problem associated with Staff's spot market purchase is that since the inception of the SPP IM, spot purchases are no longer available for the most part. It appears that Staff has attempted to move its modeling toward a market approach by having its model dispatch to price. But this is not the only change that would need to be made to fully model the SPP IM.

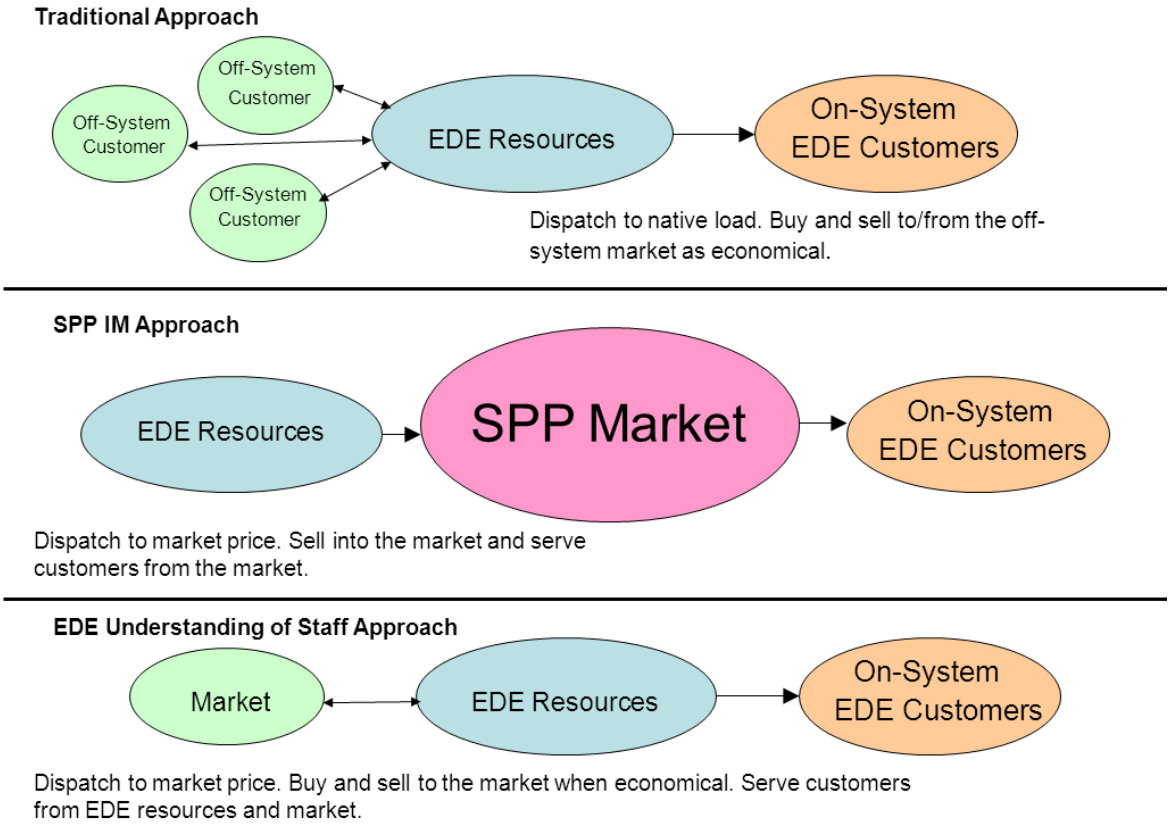


Figure 1 – Model Approaches

Q. DO YOU HAVE CONCERNS WITH THE MARKET PRICES USED IN STAFF'S MODELING?

A. Yes. If you are truly attempting to model the SPP IM, then market prices become a very important model input. Market prices would need to represent the price points to serve Empire load, the price points that determine if Empire resources are dispatched, and how those resources are paid if they are dispatched. The market prices would also need to be normalized, be in synch with the other fuel price assumptions in the model and perhaps include some reflection of transmission congestion, unless transmission congestion is handled some other way within the model.

Q. WHAT SPECIFIC CONCERNS DO YOU HAVE WITH HOW STAFF ADDRESSED THIS ISSUE?

A. For this case, Staff analyzed the SPP IM data that was available. However, since the SPP IM is relatively new, Staff did not have a full year of data. Based on the description of the market prices from the Staff report, I am concerned about the quality of such an important variable in Staff's SPP IM approach. In addition, the market pricing data does not appear to be normalized nor aligned with the other fuel price assumptions in the model. On page 85, line 19-27 of the Staff Report, Staff provides the following description of market prices used in its modeling:

> "Because the IM was only active for part of the test year, hourly IM prices for the months of January and February are not available. Further, the monthly averages calculated from the IM data for March and April appear to be too high. The high prices reflected in the IM data for March and April could be a result of the extreme weather in early 2014 as well as issues related to market start-up. Staff

has used the energy imbalance market prices developed by the Company as place holders for these four months until a full year of data can be analyzed to reflect a full year of IM operation. Staff will continue to review IM purchased power prices and will update the purchased power prices used as input to Staff's fuel model as necessary."

Another important factor is that the Staff model considers only one set of market prices. Under the new SPP IM, multiple sets of market prices need to be considered. For example, the price at which Empire's load is served may be different than the price at which Empire's Asbury generating station is dispatched. In fact, since Empire's resources are geographically disbursed (e.g., Iatan is located north of Kansas City, Missouri; the wind farms are located in north central Kansas; Plum Point is located in eastern Arkansas; and the rest of Empire's resources are in southeast Kansas and southwest Missouri) they may each see a different locational price.

Q. DO YOU HAVE CONCERNS WITH STAFF'S OFF-SYSTEM SALES LEVEL IN ITS FAC BASE FACTOR CALCULATION?

A. Yes, I do. Staff's FAC base factor calculation contains a value of $19,264,289 that is reducing total costs for the FAC base factor. In Staff's modeling approach, it is unclear what this value represents. Staff's title for this item is "Sales for Resale Acct. 447," which may include off-system and/or SPP next day market revenue.

Q. WHY IS THIS A PROBLEM?

A. In the "traditional approach" prior to the SPP IM, Empire made off-system sales. Since the advent of the SPP IM, however, these types of off-system sales are nearly non-existent. Additionally, if the Staff's FAC base calculation contains off-system revenue, then it must

also contain the FPP costs to generate those sales. Otherwise, the offset should be margin and not revenue. If this Staff value represents Staff's SPP next day market revenue, then it may be affecting Staff's FAC base calculation accuracy, since Staff's modeling approach did not accurately portray the SPP IM. It appears Staff is using a collection of dissimilar methods to calculate the FAC base. The pieces do not appear to be coordinated and may not fit together properly.

Q. HOW DID STAFF'S PROPOSED FAC BASE ON A PER MEGAWATT HOUR ("MWH") BASIS COMPARE WITH EMPIRE'S CURRENT FAC BASE?

A. Staff's proposed FAC base is much lower. In the direct filing, Staff proposed an FAC base of $23.93/MWh. Empire proposed an FAC base of $30.37/MWh. However, these values need to be adjusted to provide a comparison of the same cost components. Figure 2 below shows Staff and Empire direct filed positions *with only existing FAC cost components for comparison purposes only*. This approach allows an "apples to apples" comparison with the existing FAC base and the actual costs since the current FAC base factor of $28.31/MWh became effective in April, 2013. The Empire comparison value, for this purpose, would be $27.47/MWh and the Staff comparison value would be $22.07/MWh, when only existing FAC components are considered.

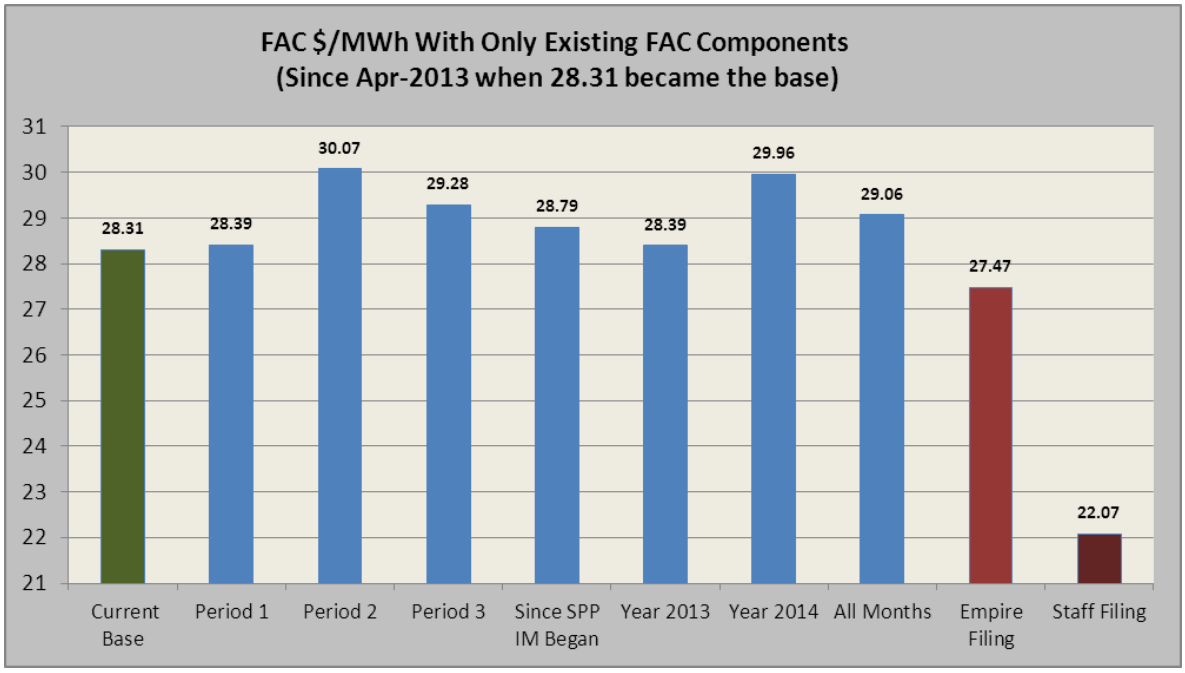


Figure 2 – FAC Base Comparison

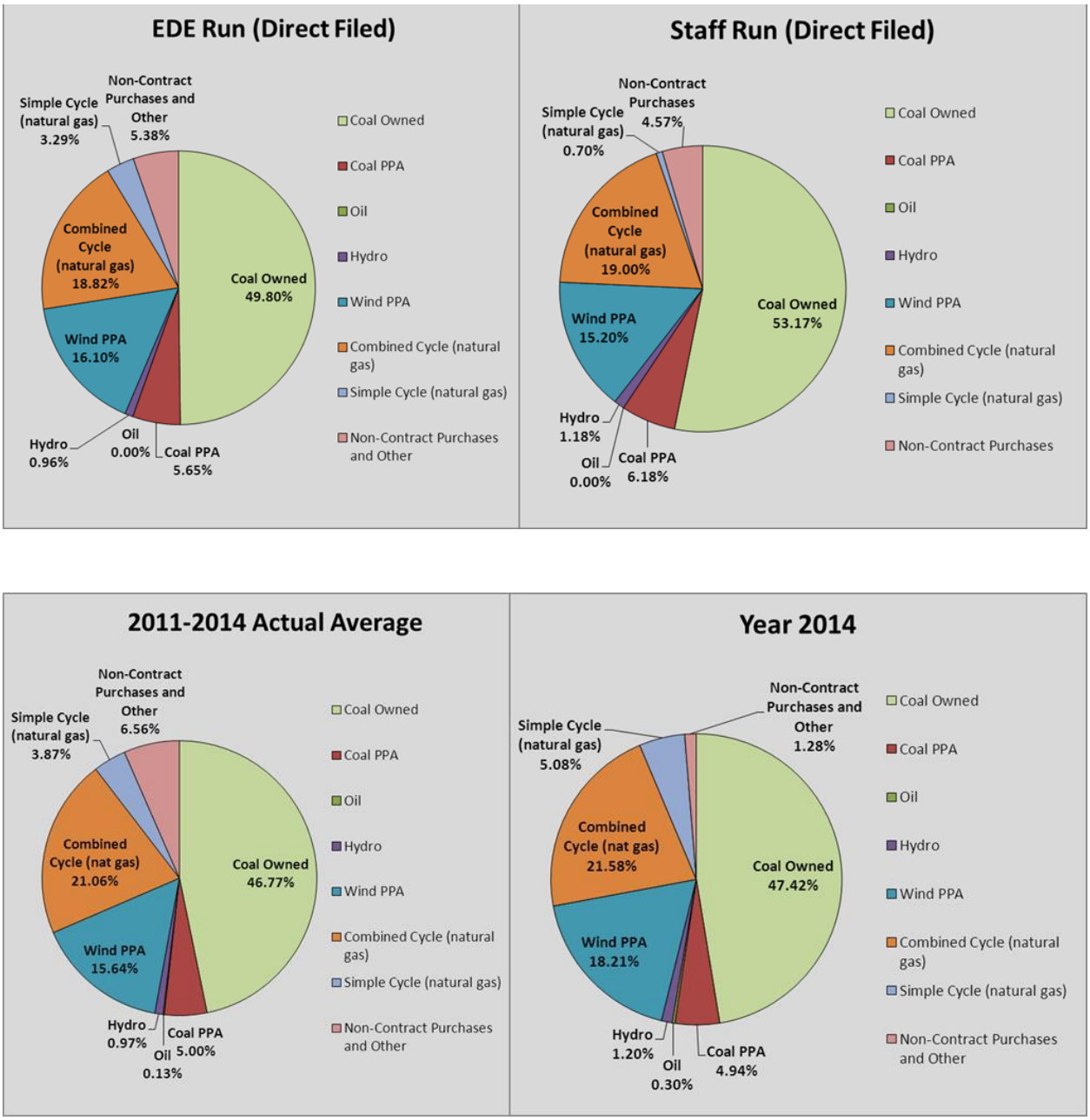
Q. WHAT ARE SOME OF THE MAJOR FACTORS DRIVING THE LOWER FAC BASE CALCULATIONS PROPOSED BY STAFF WHEN COMPARED TO THE CURRENT FAC BASE AND RECENT HISTORY?

A. Since the current FAC base of $28.31/MWh was authorized in April 2013, the SPP IM was implemented in March 2014, and fuel prices have declined. Still, with those factors considered, the FAC base proposed by Staff is significantly lower than the current FAC base and all FAC period costs since the time the current FAC base has been in effect. This is illustrated in Figure 2.

Q. DO YOU HAVE CONCERNS WITH THE OVERALL GENERATION LEVELS ASSOCIATED WITH EMPIRE'S RESOURCES IN THE STAFF MODEL?

A. Yes. As a result of the Staff modeling methodology concerns that I described earlier, I question the Staff's generation mix for Empire's resources. Figure 3 below shows generation mix pie charts for Empire's direct filed model run, Staff's direct filed model

run, 2011-2014 actual average, and year 2014. I used the period 2011-2014 since that period has consistent Empire resources (e.g., 2011 was the first year that Iatan 2 and the Plum Point coal units were on-line for a full year), and year 2014 is used in the comparison since the SPP IM began its operation in March 2014.



Note: Purchased Power Agreement is abbreviated "PPA"

Figure 3 – Generation Mix

As Figure 3 illustrates, the Staff model has more low-cost coal generation as compared to the other graphs, especially when you consider total coal as being equal to "Coal Owned," plus "Coal PPA." The following chart shows total coal percentage values, including a normalized estimate for the Plum Point unit outage in 2014. The difference between the Staff run and the Empire run is about 3.9 percent of the generation mix. This represents a difference of nearly 343,000 MWh of coal-fired generation between Empire and Staff model runs. If this 343,000 MWh of additional coal-fired generation in Staff's model were replaced with natural gas-fired generation (a mixture of combined-cycle and simple-cycle or at roughly an 8,050 weighted heat rate) with the fuel prices in Staff's model, this would account for about a $4.6 million difference. In other words, this calculation, which is performed for comparison purposes only, replaces $19.02/MWh coal-fired energy with $32.44/MWh natural gas-fired energy to help quantify this issue.

	Staff Run Direct Filed	EDE Run Direct Filed	2011-2014 Average	Year 2014	Year 2014 Plum Point Normalized
Coal Owned	53.17%	49.80%	46.77%	47.42%	49.00%
Coal PPA	6.18%	5.65%	5.00%	4.94%	5.90%
Total Coal	59.35%	55.45%	51.77%	52.36%	54.90%

Another concern is with Staff's simple cycle natural gas unit output. These units tend to be higher cost resources that operate more during peak conditions. A review of Staff's supporting workpapers shows that some of Empire's larger simple cycle units did not run at all in Staff's modeling. Specifically, the Staff model shows no generation coming from Energy Center Units 1 and 2 and State Line Unit 1. I have researched back several years and have not found a twelve month period during which these units did not run at all. The other simple cycle natural gas units that do run in Staff's model all run considerably less

than actual historical values. Empire's model showed 3.29 percent of the generation coming from simple cycle natural gas units, compared to a 2011-2014 average of 3.87 percent and a 2014 level of 5.08 percent. The Staff model, on the other hand, shows only 0.7 percent of the generation mix coming from simple cycle natural gas units.

Q. DO YOU BELIEVE THAT SOME ITEMS HAVE BEEN OMITTED FROM STAFF'S PROPOSED FAC BASE CALCULATION.

A. Yes. Based on my review of Staff's direct filing, I believe Staff's initial analysis has omitted or overlooked the following items from its calculation of the FAC base: (1) the cost of the oil to start the Asbury coal unit; (2) fuel related costs such as unit train and undistributed and other; and, (3) Plum Point purchased power agreement ("PPA") operation and maintenance ("O&M") costs. In addition, I have concerns about the Staff level of air quality control system ("AQCS") consumables and renewable energy credit ("REC") offset.

Q. PLEASE EXPLAIN THE OMISSION OF ASBURY START OIL FROM THE STAFF MODEL.

A. Empire's Asbury coal unit uses fuel oil when it starts. Staff did include the cost of start oil in its model for the other coal units, but it was not included for Asbury.

Q. PLEASE EXPLAIN THE OMISSION OF FUEL RELATED COSTS FROM THE STAFF FAC BASE CALCULATION.

A. The coal prices used in the Staff model are for initial and freight. This does not include the costs of other fuel related costs such as unit train expenses and undistributed and other. Empire's analysis of the proposed FAC base adds these costs outside of the model.

Q. PLEASE EXPLAIN THE PLUM POINT PPA O&M OMISSION FROM THE

STAFF FAC BASE FACTOR CALCULATION.

A. Since Empire's Plum Point ownership share and Plum Point PPA are sourced from the same unit, both Staff and Empire modeled the 50 megawatt ("MW") Plum Point coal purchase and the 50 MW Plum Point coal ownership as one 100 MW coal unit in order to keep the random forced outages aligned. Outside the model, Empire then added the O&M costs associated with the 50 MW purchase, which is based on the actual billing practices. It is my understanding that Staff omitted the O&M costs for the Plum Point purchase in its direct filing. The O&M costs associated with the Plum Point Purchase should be included with the FPP cost component used to establish the base FPP expense and FAC base.

Q. ARE ALL OF THE COST COMPONENTS THAT STAFF OMITTED INCLUDED IN EMPIRE'S CURRENT FAC BASE FACTOR?

A. Yes, they are.

Q. PLEASE EXPLAIN YOUR CONCERNS WITH THE AIR QUALITY CONTROL SYSTEM ("AQCS") CONSUMABLE VALUE IN STAFF'S FAC BASE FACTOR CALCULATION.

A. The AQCS consumables are a component of Empire's existing FAC. The environmental equipment at the generating stations consumes these products in order to perform their air quality control functions. This includes materials such as ammonia, lime, limestone, and powder activated carbon. Empire has recently performed an environmental retrofit at the Asbury generating station which will add to the amount of consumables used by the Company at that unit. However, Staff is suggesting a level of AQCS consumables expense that is lower than the level included in the current FAC base calculation. This is troubling when this amount is considered with the high level of coal-fired generation in Staff's

model run, which would actually increase consumable use. This seems to be another example of Staff's assumptions being misaligned.

Q. PLEASE EXPLAIN YOUR CONCERNS WITH THE RENEWABLE ENERGY CREDITS ("RECS") VALUE IN STAFF'S FAC BASE FACTOR CALCULATION.

A. Empire currently sells a portion of the RECs from the Elk River and Meridian Way wind farm purchases on the open market, and flows the revenue from these REC sales through the FAC as an offset to energy costs. In recent years, the average price received per REC sold has declined as the supply of RECs from various sources nationwide has increased. In addition, Empire had a long-term contract for the sale of RECs in prior years, but that contract expired at the end of 2012. The current REC market prices are much lower than the prices in the expired long-term contract. Staff's REC offset in its direct filing is about 38% higher than Empire's. The following table shows the weighted average price of RECs received by Empire over the past decade.

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Weighted $ per REC	1.34	1.05	1.70	4.43	1.94	1.90	3.05	1.61	1.59	0.99

Q. WHAT DOES EMPIRE EXPECT IN THE FUTURE?

A. The spot market for national Green-e non-compliance RECs continues to move slightly downward. The most recent market prices per REC ranged from $0.75 to $0.80/REC in January 2015. This trend should be considered for this case.

Q. ARE THERE OTHER COST COMPONENTS THAT ARE OMITTED FROM STAFF'S FAC BASE FACTOR CALCULATION?

A. There are other cost components that are in the existing Empire FAC such as variable natural gas transportation (commodity charges) and natural gas losses that should be

included in the FAC base factor that comes out of this case. Based on the Staff direct filing, I could not tell if those items were combined with other FPP costs or if they have been omitted.

Q. DO YOU ALSO HAVE CONCERNS ABOUT THE STAFF MODEL INPUTS?

A. Yes. I have concerns about the level of generation from the Ozark Beach Hydro facility and the heat rates for Iatan Unit 2 and State Line Combined Cycle ("SLCC") that have been used in Staff's model.

Q. WHAT IS YOUR CONCERN ABOUT THE OZARK BEACH HYDRO GENERATION LEVEL THAT STAFF MODELED?

A. Ozark Beach is a low cost hydroelectric generating resource. In its direct filing, the Staff modeled this unit's generation at a level higher than the unit's long-term average. The output of this unit is governed by the water released from Table Rock Lake and the level of water maintained on Bull Shoals Lake. Each of these lakes is under the control of the Corp of Engineers. In addition, minimum flow restrictions were introduced in July, 2013, which will limit the unit's output as compared to prior history. The Staff's model has Ozark Beach generating at an annual level of 68,370 MWh. The annual average for the past ten years is 57,851 MWh. Empire has modeled this unit at an annual level of 53,960 MWh to recognize the minimum flow restrictions that are now in place.

Q. PLEASE DISCUSS THE HEAT RATE CONCERNS THAT YOU HAVE INDENTIFIED WITH STAFF'S MODELING.

A. After examining the Staff's workpapers, it was apparent that the heat rates that Staff used for Iatan Unit 2 and the SLCC were lower than actual historical observations. These are two of the most important units in Empire's resource portfolio. By using a low heat rate,

which is a measure of the unit's efficiency (the heat required to generate a kilowatt hour of energy); the Staff model would tend to underestimate the cost of energy generated by these units. The following table shows the historical heat rates for Iatan 2 and SLCC, along with the heat rates yielded by Empire and Staff's models in this case.

	Heat Rate (Btu/kWh)	
	Iatan 2	SLCC
2011	9,119	7,376
2012	9,002	7,257
2013	9,141	7,444
2014	9,344	7,502
Empire Model	9,223	7,484
Staff Model	8,237	6,990

Q. WHAT ARE YOUR CONCLUSIONS WITH RESPECT TO STAFF'S PROPOSED FAC BASE IN ITS DIRECT CASE?

A. In general, production cost model runs and other energy cost calculations used to develop the FAC base factor should be normalized, attempting to compute an FAC base that is fair to both Empire and its customers. All of the assumptions used to create the FAC base factor, both internal and external to the model, should be coordinated. Due to the several factors that I have pointed out in this testimony—the methodology Staff used to model the SPP IM, the Staff model's generation resource mix, Staff's cost omissions, and incorrect model inputs—Staff's proposed FAC base appears to be low and is not indicative of Empire's ongoing energy costs. There are many uncertain variables involved in calculating future energy costs, and there exists a range of expected outcomes. Staff's proposed FAC base appears to be lower than what can reasonably be expected.

Q. HAVE THERE BEEN CHANGES TO MODEL ASSUMPTIONS SINCE EMPIRE FILED THIS CASE?

A. Yes. It is not uncommon for energy cost assumptions to continually change. This includes changes to Empire's native load requirement in megawatt hours as a result of updated weather normalization in this case, updated FPP costs, and other factors. Additionally, as I stated earlier, it is now Empire's position to recover the natural gas storage and natural firm transportation costs in base rates and not through the FAC. Empire will continue to monitor energy cost assumptions and will be prepared to update its FAC base factor computation during the true-up portion of this case as necessary.

III. RESPONSE TO OPC WITNESS LENA MANTLE

Q. PLEASE SUMMARAIZE THE OPC'S POSITIONS ON THE FAC IN THIS CASE BASED ON OPC WITNESS LENA MANTLE'S DIRECT TESTIMONY.

A. OPC recommends the discontinuation of Empire's FAC. In the alternative, if the FAC continues, OPC recommends certain modifications such as changing the incentive mechanism from the current 95%/5% to 90%/10%, as well as changes to proposed FAC tariff sheets, limiting costs and revenues defined by the Commission, proposing that cost and revenue accounts included in the FAC not change until the next rate case, and suggesting that certain revenue accounts not have a jurisdictional allocation factor applied in the FAC tariff. The OPC also makes a claim that the explanation of costs and revenues that Empire is proposing to flow through the FAC do not meet the FAC minimum filing requirements ("MFR").

Q. WHAT WERE OPC'S REASONS FOR RECOMMENDING THE DISCONTINUANCE OF EMPIRE'S FAC?

A. OPC witness Mantle's testimony listed three reasons. She claims Empire did not meet the FAC continuation MFR; Empire did not provide information to show the magnitude,

uncertainty and volatility of FAC costs and revenues; and, energy costs have stabilized at or near the base since the FAC has been established.

Q. HAS EMPIRE'S FILING COMPLIED WITH THE COMMISSION'S MFR FOR THE CONTINUATION OF AN FAC IN THIS CASE?

A. Yes. Empire was first granted an FAC in 2008, and the Commission has approved the continuation of the FAC in three subsequent cases. This current filing contains substantially the same information as was contained in all the prior filings. In those past Commission approved cases, no other party, including the OPC or Ms. Mantle as a member of the Commission Staff, has claimed that the MFRs were not met by Empire. OPC is now attempting to use what Ms. Mantle claims as a filing deficiency as one of the primary reasons to discontinue Empire's FAC.

Q. HAS EMPIRE WORKED WITH THE OPC TO ADDRESS THE MFR CONCERNS OUTLINED BY MS. MANTLE IN THIS CASE?

A. Yes. In the spirit of working collaboratively, Empire has worked with the OPC to help allay its MFR concerns. Following discussions with OPC, Empire filed the Supplemental Direct Testimonies of Todd W. Tarter, Dr. James H. Vander Weide, and Aaron J. Doll in this case. On multiple occasions, OPC acknowledged Empire's willingness to discuss OPC's concerns and stated its appreciation of Empire's voluntary filing of the Supplemental Direct Testimony and attendant supporting information. With the Direct and Supplemental Direct filings, Empire has met all the MFRs for continuance of its FAC.

Q. DID THE SUPPLEMENTAL FILINGS MADE BY EMPIRE ALLEVIATE THE OPC'S CONCERNS?

A. No.

Q. IN WHAT AREAS IS MS. MANTLE CLAIMING EMPIRE'S FAC CONTINUATION REQUEST IS STILL DEFICIENT?

A. From my review of OPC witness Mantle's direct testimony, it appears that, even though Empire has exceeded the level of FAC information provided in past Commission approved FAC continuation filings in an effort to satisfy the OPC's concerns, the OPC still claims that the explanation of the costs and revenues that Empire is proposing flow through the FAC does not meet the FAC continuance filing requirements. More specifically, at page 7, lines 1-2 of Ms. Mantle's direct testimony, she states, "EDE did not provide *complete* explanations of the costs and revenues that it is requesting flow through its FAC as required by 4 CSR 240-3.161(3)(H) and (I)." Ms. Mantle both italicizes and underlines the word "complete" in her testimony. It seems the crux of the OPC argument revolves around the interpretation of the meaning of "complete."

Q. DO YOU AGREE WITH MS. MANTLE'S ASSESSMENT?

A. No. In an OPC data request, Empire has provided complete account and subaccount information for the costs and revenues that EDE is proposing flow through the FAC from the Company's accounting system with descriptions and a glossary of terms for all but obvious industry terminology. This was more detailed information on costs and revenues that flow through the FAC than Empire has provided in past Commission approved FAC continuation cases. In my mind, the OPC position in this case on the continuation of Empire's FAC represents an attempt by OPC to modify the Commission's FAC rule and expand the rule to include OPC's new interpretation of the term "complete". OPC's claim that Empire has not complied with the Commission's existing FAC rule on continuation is without merit.

Q. OPC CLAIMS THAT EMPIRE DID NOT FILE INFORMATION ON THE MAGNITUDE, UNCERTAINTY, AND VOLATILITY OF CERTAIN FAC RELATED COSTS IN ITS DIRECT TESTIMONY. HOW DO YOU RESPOND?

A. Empire's rate case filing, including that portion dealing with the continuation of the FAC, meets the requirements of the Commission's FAC rule. As previously stated, this contains all—if not more—information than previous Empire Commission approved FAC continuation filings. The filing of information on the uncertainty and volatility of costs is not specified as part of the existing Commission FAC rule. The filing requirements for a FAC continuation is listed in 4 CSR-3.161 (3) (A)-(T). Even so, Empire has provided numerous schedules in its direct filing including values for the proposed FAC costs and revenues.

Q. WHAT CAN BE DETERMINED FROM THE INFORMATION PROVIDED BY EMPIRE?

A. From this information, the OPC and other parties to the case can deduce the magnitude of the costs and revenues involved. More specifically, Schedule TWT-2 from Empire's initial filing, shows how the proposed FAC base component values compare to the current FAC (including the natural gas price each set of costs are based on). This is a clear indication of how costs have changed since the last rate case.

Q. HOW CAN THE MAGNITUDE, UNCERTAINTY, AND VOLATILITY OF FPP COSTS BE DETERMINED?

A. The magnitude, uncertainty, and volatility of FPP costs have been well established in other cases including the case that established Empire's initial FAC.

Q. ARE ENERGY COSTS THAT FLOW THROUGH EMPIRE'S PROPOSED AND

CURRENT FAC UNCERTAIN AND VOLATILE?

A. Yes, of course they are. Empire, in the various filings made to adjust the FAC rate every six months, has reported on numerous reasons for energy costs deviating from the base. There have been times that costs were above the base creating the need to collect funds from customers and times that costs were below the base requiring customer refunds. This uncertainty is caused by a variety of factors that are beyond the Company's control such as weather, fuel prices, market prices, unit availability, natural gas curtailments, wind generation levels, etc.

Q. CAN YOU IDENTIFY AN EXAMPLE?

A. Yes. Natural gas prices provide an example. Natural gas prices, which have a strong correlation with market prices, are very uncertain and can be very volatile. Natural gas prices can change daily, if not hourly. Historically, they have been prone to price spikes given certain events. The current FAC base factor was established with a gas price of $4.92/MMBtu. Empire had proposed to use $4.35/MMBtu for this case in its direct case. Staff filed its direct case about five months later and used a natural gas price of $4.03/MMBtu in its modeling. In addition, coal prices have also declined since Empire filed this case about eight months ago. In modeling Empire's system for this rate case filing, every one dollar change in natural gas price is approximately a nine to ten million dollar change in annual total company system energy costs, perhaps more when you consider the natural gas price impact on market prices. Since Empire added a combined cycle to the generation portfolio in 2001, it has seen a significant number of natural gas pricing points in excess of $10/MMBtu, less than $2/MMBtu and nearly everywhere in between. Natural gas prices have been lower more recently due to horizontal drilling and

hydraulic fracturing to access shale gas (fracking). How long will this low price period last? What is the future of fracking? It is uncertain. Natural gas prices and the availability of natural gas can change based on weather events, the environmental rules placing a greater reliance on natural gas as a producer of electricity and a number of other factors.

Q. MS. MANTLE CLAIMS IN HER DIRECT TESTIMONY THAT ENERGY COSTS FOR EMPIRE HAVE STABILIZED AT OR NEAR THE BASE ESTABLISHED IN THE FAC SINCE THE FAC WAS ORIGIANALLY IMPLEMENTED. HOW DO YOU RESPOND?

A. When you make the statement that energy costs have stabilized at or near the FAC base, it should be noted that the base factor has changed over time, attempting to keep up with changing conditions (i.e., energy prices have not necessarily stabilized). Also, this statement is made with regards to the timeframe "since the FAC was originally implemented," which means since September 2008 or over a period of almost six and a half years. I think that the expectation, or at least the hope, of a properly crafted FAC with periodic changing base factors is that, over the long term, it will not deviate too far from the base. Keep in mind that this is a net value that includes high and low cost periods that tend to average out. It also includes true-ups from prior periods. As mentioned before, at times Empire has been above the base, passing on prudently incurred costs to customers; and at times it has been below the base, making refunds to customers through a negative FAC factor. Uncertain factors like weather and unit outages, among others, tend to even out when netted over long periods of time, but these factors can still contribute to volatility over the short-term. Additionally, the implementation of the FAC just happens to coincide with a period of generally declining natural gas prices and the filing of multiple general

rate cases by Empire, which have both helped to keep the overall energy costs in base rates closer to the FAC base than it would have been otherwise.

Q. MS. MANTLE REFERENCES YOUR DIRECT TESTIMONY AT PAGE 9 AND INDICATES THAT THIS SECTION OF YOUR TESTIMONY PROVIDES SUPPORT FOR HER CLAIM THAT ENERGY PRICES HAVE STABILZED. HOW DO YOU RESPOND?

A. This is a mischaracterization of my testimony. Page 9 of my direct testimony goes on to state that, "since September of 2008 through February 2014, Empire has requested to pass on to its Missouri retail customers around $17.1 million of increased fuel and energy costs through the FAC." While this amount is only about 2.4 percent of Missouri jurisdictional energy costs and only about 0.8 percent of Missouri jurisdictional retail revenue over that period (about five and a half years at that time), it is still very significant to the Company's earnings. Had the FAC not been in place, Empire would not have recovered a significant amount of prudently incurred energy costs from its customers. The bottom line is Empire's FAC has worked as intended and should be allowed to continue.

Q. ARE THERE ANY RECENT CHANGES TO EMPIRE'S OPERATIONS OR ANY CHANGES THAT EMPIRE IS PROPOSING FOR THE FAC?

A. Yes. Empire is a member of SPP. As discussed above, SPP began a new next day market, also known as an integrated marketplace ("IM"), on March 1, 2014. This constitutes a major change in Empire's operations, and its overall impact on Empire's energy costs will play out over the next several years as the SPP IM matures. SPP is now the region's single balancing authority. Empire now purchases energy from the SPP IM to serve native load, and Empire sells generation into the SPP IM. A more complete explanation of the SPP IM

can be found in my direct testimony. Also, Empire is proposing to add net Regional Transmission Organization transmission costs to the FAC. These costs are associated with the SPP and Midcontinent Independent System Operator ("MISO") transmission revenue and expenses. These costs represent substantial costs to Empire, are volatile, and are beyond the control of Empire's management. OPC witness Mantel's claim that costs have "stabilized" based on roughly the past six and a half years since the FAC was originally implemented ignores these new uncertain costs and factors.

Q. IS THE OPC CLAIM THAT ENERGY COSTS HAVE STABILIZED AT OR NEAR THE BASE SINCE THE FAC WAS ORIGINALLY IMPLEMENTED A VALID REASON TO DISCONTINUE THE FAC?

A. No. As previously discussed, while Empire mentioned in direct testimony that the amount of increased energy costs requested to pass on to its Missouri retail customers since the FAC began was a small percentage relative to Missouri jurisdictional energy costs and retail revenue, it is still the most significant area of costs that Empire has to contend with. The fact remains that nobody can predict what future energy costs will be with any degree of accuracy. Even if costs seem to be stable at some point in time, the potential for dramatic cost changes exists. Witness the recent implosion and subsequent recovery of gasoline prices. By and large the energy costs in an FAC are uncertain and outside the Company's control, but a properly designed FAC would work no matter how stable or unstable those costs and revenues become. An FAC is important to the Company, its shareholders, its customers, and the investment community.

Q. OPC WITNESS MANTLE CLAIMS THAT SINCE THE FAC HAS BEEN IMPLEMENTED EMPIRE HAS RECOVERED 99.91% OF ITS ACTUAL FUEL

COSTS. HOW DO YOU RESPOND?

A. I have not had an opportunity to check the math, but if this is correct, I think this proves that the Missouri FAC process is working well and that the FAC should be continued, not discontinued as proposed by OPC witness Mantle. Prior to the implementation of the Missouri FAC, this fuel cost recovery position certainly was not the case for Empire. The implementation of an FAC has been beneficial for Empire and its customers and will continue to be important in the future.

Q. DOES EMPIRE HAVE AN ENERGY COST RECOVERY MECHANISIM IN THE OTHER STATES THAT IT SERVES?

A. Yes. Empire has an energy cost recovery mechanism in all four state jurisdictions that it serves (Arkansas, Kansas, Missouri, and Oklahoma). Additionally, Empire has generation and transmission formula rates that are updated annually with a true-up mechanism in its FERC jurisdiction, which regulates Empire's on-system wholesale customers. In fact, nearly all traditionally regulated states in the United States have some form of energy cost recovery mechanism.

Q. WHY IS AN FAC IMPORTANT?

A. An FAC is a very important recovery mechanism for a utility. In previous cases, including Commission Case No. ER-2008-0093, the rate case that authorized Empire's first FAC, Empire has discussed the importance of an FAC. The following are some of the factors that highlight the FAC's importance:

- The underlying energy costs and revenues are large, quite volatile and largely beyond the utility's control.

- It is difficult to estimate the exact amount of energy cost for base rate recovery since it involves so many uncertain and uncontrollable factors.
- The customer will pay for no more than the actual, prudently incurred fuel and energy cost, not an estimate of future energy costs.
- The customer will benefit automatically if prices decrease below the base.
- It creates a timely price signal for consumers. The FAC will convey the true cost of electric energy to customers enabling them to make an effort to lower consumption and/or consider energy efficiency measures.
- It creates the ability for the company to recover the overwhelming portion of actual prudently incurred fuel and energy costs.
- It allows the company the opportunity to earn a fair return on equity.
- It strengthens the company's financial profile and ability to attract the financing necessary to meet its customer needs at the best rates possible.
- The need to file general rate cases for the primary purpose of reflecting ongoing fuel and energy costs in base electric rates could be reduced which could lower costs to serve customers.

Q. WHAT IS YOUR RESPONSE TO OPC'S RECOMMENDATION TO DISCONTINUE THE EMPIRE FAC?

A. I do not agree with the OPC proposal. As discussed in this rebuttal testimony, the three reasons Ms. Mantle provided for discontinuing the FAC are not valid. Completely eliminating the FAC would deny Empire the means to recover prudently incurred energy costs and maintain the opportunity to earn a fair return. This would also remove the assurance that customers neither over-paid nor under-paid for these costs. It may also send

a very negative message to investors and credit rating agencies which could eventually harm Empire and its customers. The OPC proposal sponsored by Ms. Mantle to discontinue the Empire FAC is not in the public interest and should therefore be rejected.

Q. IF THE FAC CONTINUES, OPC RECOMMENDS CHANGING THE CURRENT 95%/5% SHARING MECHANISM TO 90%/10%. HOW DO YOU RESPOND?

A. Empire's proposal is to continue to utilize the current FAC sharing level of 95%/5% and to reject the change in the sharing mechanism proposed by OPC. Energy expenses represent a significant portion of the overall costs to operate an electric utility. For the most part, Empire is a price taker and not a price setter with regards to variable energy costs. An electric utility should be able to recover prudently incurred energy costs—and in most states this is 100% of the prudently incurred energy costs. A proposal to put more of the over/under FAC balance at risk is viewed by the Company as less of an incentive to control costs, and more of a penalty for not being able to forecast future energy costs (which is highly dependent on uncontrollable factors such as weather, fuel costs, unit outages, etc.) for Missouri retail customers. As outlined in each of the Company's previous FAC filings, there are already provisions in the Missouri FAC to ensure Empire passes along only prudently incurred FPP costs its customers. The current sharing mechanism causes the Company to absorb (in the case of energy costs being above the base), or retain (in the case of energy costs being below the base) a certain percentage (currently 5%) of the over/under balance. Changing to a 90%/10% sharing mechanism would only increase the percentage of energy costs shared above or below the base and would not be equitable for Empire or its customers.

Q. HOW DO YOU RESPOND TO OPC'S RECOMMENDATION TO LIMIT THE ACCOUNTS THAT FLOW THROUGH THE FAC?

A. I do not agree. The criteria should be simple. As with the current approach, all legitimate energy costs and revenues that are allowed by rule and that have been authorized through the rate case process should flow through the FAC without introducing some arbitrary limit on the number of accounts. OPC has proposed to limit accounts by recommending that Empire should not recover prudently incurred costs of less than $60,000 (based on the accounts value in the true-up period) through the FAC. Rather, OPC proposes to have them recovered in base rates. Besides creating administrative complexity, this only serves to limit Empire's ability to recover prudently incurred costs or refund to customers if those excluded accounts' costs change over time.

Q. OPC CONTENDS THAT CERTAIN ACCOUNTS SHOULD NOT HAVE A JURISDICTIONAL ALLOCATION FACTOR APPLIED TO THE FAC TARIFF. HOW DO YOU RESPOND?

A. I understand the OPC confusion on this issue. It is my understanding that this concern may have been prompted by a data request response Empire sent to OPC that showed accounts by state jurisdiction along with a corresponding total company account for certain cost items such as Renewable Energy Credits ("RECS"). The REC costs are not directly assigned to a state as this data request response might be interpreted. Based on my research into this issue, it is my understanding that the allocation factor was applied correctly to the total company account to be included in the FAC calculation consistent with the FAC tariff. The differences in amounts cited by Ms. Mantle are related to the allocation factors used to record these costs in the general ledger system versus the

allocation factor that apportions these costs in the Missouri FAC. The FAC authorizes the use of an energy allocation factor while the general ledger uses a demand related allocation factor. Empire is at present involved in internal discussions to review the allocation of these revenue streams on the general ledger since they do not represent the way these costs are ultimately apportioned to the various jurisdictions at the time of a general rate case or when the various fuel adjustment filings are made.

Q. HOW DO YOU RESPOND TO THE OPC RECOMMENDATION OF NOT ALLOWING NEW COSTS OR REVENUES TO BE ADDED TO THE FAC BETWEEN RATE CASES?

A. I do not agree. Again, if it is a legitimate prudently incurred energy cost it should be recoverable through the FAC. Accounts, especially subaccounts, can change from time to time. They exist as a way to track and manage costs. For example, recently the new SPP IM began and several new accounts had to be created to capture the costs associated with the changed business environment. Granted, participation in a new market may seem like an extreme example since this may be a singular event, but the point remains: some flexibility should be retained to handle changing business conditions. As the market evolves, for example, new charge types (accounts) may be required in the future. These changes may take place between rate cases and represent prudently incurred costs. Empire's proposed FAC tariff included a mechanism to handle these new costs and revenues with an opportunity for parties such as the OPC to be heard when they are proposed to be included in Empire's FAC.

Q. DOES EMPIRE'S CURRENT FAC HAVE SAFEGUARDS TO PROTECT CUSTOMERS?

A. Yes. The Empire FAC and the Commission's rule governing FACs include two safeguards that limit FAC recovery to actual, prudently-incurred energy costs. The first safeguard is a true-up process that ensures that the FAC collections during the Recovery Period do not exceed actual energy costs incurred during the Accumulation Period. The second safeguard involves a requirement that Empire's energy costs be subjected to periodic Prudence Reviews, which will ensure that only prudently-incurred energy costs are passed through to customers using the FAC.

Q. OPC OPPOSES EMPIRE'S PROPOSAL TO INCLUDE NATURAL GAS STORAGE AND NATURAL GAS FIRM TRANSPORTATION AS COSTS THAT FLOW THROUGH THE FAC. HOW DO YOU RESPOND?

A. These costs are related to the delivery of fuel and the natural gas transportation costs were included in an earlier version of Empire's Missouri FAC. I do think that they could be candidates to flow through the FAC under the Missouri FAC rule. However, consistent with Empire's existing FAC, Empire has accepted the removal of these costs from the FAC base in its rebuttal position and now proposes to collect these costs in base rates, as is the current practice, and not through the FAC.

IV. RESPONSE TO MECG WITNESS KAVITA MAINI

Q. PLEASE SUMMARIZE THE MECG'S POSITIONS ON THE FAC IN THIS CASE BASED ON OPC WITNESS KAVITA MAINI'S DIRECT TESTIMONY.

A. Ms. Maini states that she generally supports witness Lena Mantle's reasoning and subsequent recommendations regarding the FAC issues. As such, please see my responses to Ms. Mantle's direct testimony in section III of this rebuttal testimony.

Q. MS. MAINI DOES NOT AGREE THAT 3% IS A REASONABLE ESTIMATE OF

THE SAVINGS ASSOCIATED WITH SPP IM. HOW DO YOU RESPOND?

A. Ms. Maini states, "While I appreciate the Company making efforts to account for benefits associated with SPP IM, an updated analysis is necessary." However, she does not make any suggestions for a more reasonable estimate or the type of study she would recommend. She does report Empire's rationale for using 3% in its direct filing, which was made just months after the SPP IM began. She contends that since the SPP IM is nascent, as it was initiated on March 1, 2014, it makes sense to complete at least one full year and calculate actual benefits compared to before the SPP IM started. The timing of this case corresponds in large part with the environmental construction at the Asbury plant. Empire could not wait until the SPP IM matures to file a rate case. The fact is, Empire is a member of the SPP and is a participant in the SPP IM. The studies that Empire referenced were used to help initiate the SPP IM and it was the best information available at the time. With that said, Empire has continued to monitor the SPP IM estimated savings as time and this case has progressed. At the end of 2014, the Empire estimate based on internal modeling is an SPP IM savings level of about 3.3%. This is an updated analysis through the first ten months of the SPP IM, and it is still in line with the 3% savings value that Empire assumed when this case was filed.

V. REVENUE UPDATE

Q. WHAT WAS THE REVENUE IMPACT OF THE WEATHER NORMALIZATION UPDATES PERFORMED BY EMPIRE?

A. Please see the rebuttal testimony of Empire witness Mark Quan. Mr. Quan discusses the corrections he made to Staff's direct filing concerning weather normalized sales. Based on his calculations, and Empire's updated weather normalized sales, updated revenues have

been calculated as shown in Figure 4 below. Staff determined an impact of its weather adjustment by allocating monthly weather-normalized sales to rate blocks based on actual block breakdowns from the test year. Each block of sales was then multiplied by the tariff rate for the block and the month. Empire followed a different methodology. In Empire's computation, the difference between weather-normalized sales and actual sales for a monthly revenue cycle was multiplied by the proforma average monthly rate per kWh computed for normalized sales to arrive at an adjustment to revenue to remove the effect of test period temperatures.

Class	Staff Original 9/13-8/14	Staff Corrected 9/13-8/14	Empire Updated 9/13-8/14
Missouri CB Class	$41,760,168	$41,588,264	$41,290,846
Missouri GP Class	81,710,859	81,691,731	81,932,115
Missouri Res Class	201,086,182	198,156,388	198,958,489
Missouri SH Class	10,281,563	10,169,284	10,067,925
Missouri TEB Class	36,851,628	36,600,568	36,395,335
Total weather-normalized revenue	371,690,400	368,206,234	368,644,711
Less revenue actually billed	378,617,050	378,617,050	379,123,178
Weather adjustment to revenue	($6,926,650)	($10,410,816)	($10,478,467)
Difference from Staff Original		($3,484,166)	($3,551,817)

Figure 4 – Updated Weather Normal Revenue

VI. FUEL INVENTORY

Q. HAVE YOU REVIEWED STAFF'S FUEL INVENTORY CALCULATIONS IN THIS CASE?

A. Yes, I have.

Q. DO YOU AGREE WITH STAFF'S FUEL INVENTORY VALUES FOR USE IN THIS CASE?

A. Staff used the results from its fuel model in this case to determine the inventory levels for

coal. Staff modeled the Plum Point coal-fired unit at the 100 megawatt ("MW") level to account for 50 MW of Empire ownership and 50 MW that Empire receives via a PPA. It appears that Staff used the entire 100 MW to determine the appropriate Plum Point coal inventory. By doing this, Staff overestimated the fuel inventory cost since it should have only considered the ownership portion. It is my understanding that Staff will correct this issue. Empire agrees to accept the Staff corrected fuel inventory levels, pending the outcome of Staff's true-up model run in this case.

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes.

AFFIDAVIT OF TODD W. TARTER

STATE OF MISSOURI)
) ss
COUNTY OF JASPER)

On the 6th day of March 2015, before me appeared Todd W. Tarter, to me personally known, who, being by me first duly sworn, states that he is Manager of Strategic Planning of The Empire District Electric Company and acknowledges that he has read the above and foregoing document and believes that the statements therein are true and correct to the best of his information, knowledge and belief.

Todd W. Tarter

Subscribed and sworn to before me this 6th day of March, 2015.

ANGELA M. CLOVEN
Notary Public - Notary Seal
State of Missouri
Commissioned for Jasper County
My Commission Expires: November 01, 2015
Commission Number: 11262659

Notary Public

My commission expires: 11/01/2015.