Exhibit No.:
Issues: On-System Fuel and Purchased Power Expense, Fuel Adjustment Clause
Witness: Todd W. Tarter
Type of Exhibit: Direct Testimony
Sponsoring Party: Empire District Electric
Case No.: ER-2016-0023
Date Testimony Prepared: October 2015

Before the Public Service Commission
Of the State of Missouri

Direct Testimony

of

Todd W. Tarter

October 2015

EMPIRE
SERVICES YOU COUNT ON

TABLE OF CONTENTS
OF
TODD W. TARTER
ON BEHALF OF
THE EMPIRE DISTRICT ELECTRIC COMPANY
BEFORE THE
MISSOURI PUBLIC SERVICE COMMISSION
CASE NO. ER-2016-0023

DIRECT TESTIMONY OF
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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" or "Company"). My title is Manager of Strategic Planning.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND.

A. I graduated from Pittsburg State University in 1986, with a Bachelor of Science Degree in Computer Science. After graduation, I received a mathematics education certification. I began my employment with Empire in May 1989. During my tenure with Empire, I have worked in the Corporate Planning, Strategic Planning, Information Technology, and Planning and Regulatory departments. My primary responsibilities during this time included work with the Company's construction budget, load forecasts, sales and revenue budgets, financial forecasts and fuel and purchased power projections, among others. In September 2004, I was promoted to my current position where I primarily work with fuel and purchased power projections, energy efficiency and integrated resource planning.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE ANY STATE UTILITY

COMMISSIONS?

A. Yes. I have testified on behalf of Empire before the Missouri Public Service Commission ("Commission"), the Kansas Corporation Commission, the Oklahoma Corporation Commission, and the Arkansas Public Service Commission. The case references are attached to this testimony as Schedule TWT-1.

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY IN THIS CASE?

A. I support Empire's proposal to continue its Fuel Adjustment Clause ("FAC") and present an updated FAC base factor for this case. I also support Empire's estimate of the ongoing level of on-system fuel and purchased power ("FPP") costs as part of this case. In addition, I provide the information required by 4 CSR 240-3.161(3) for continuance of the FAC. I also describe the adjustments for normalized fuel inventory balances and customer growth revenue adjustments.

Q. PLEASE LIST THE ENERGY COST COMPONENTS ASSOCIATED WITH EMPIRE'S CURRENT FAC BASE.

A. Empire's current FAC base consists of net FPP energy costs (including FPP costs associated with the Southwest Power Pool Integrated marketplace ("SPP IM"), fuel related costs, such as unit train, undistributed and other, variable natural gas transportation expenses, and Plum Point purchased power agreement ("PPA") operation and maintenance ("O&M") expense), plus the cost of the air quality control system ("AQCS") consumables, a portion of transmission expense and net emissions cost, if any, less the net sales of renewable energy credits ("RECs"). The FAC base is then calculated on a per unit basis utilizing net system input expressed in kilowatt hours or megawatt hours. The current FAC base is $0.02684 per kWh.

Q. DOES THIS TESTIMONY ADDRESS ALL OF THE COSTS ASSOCIATED WITH EMPIRE'S FAC?

A. Yes. All costs associated with the FAC are either discussed in this testimony or presented in the schedules that accompany this testimony. The transmission cost components, including auction revenue rights and transmission congestion rights ("ARR/TCR"), are discussed more fully in the direct testimony of Empire witness Aaron Doll.

II. SUPPORTING INFORMATION FOR AN FAC CONTINUATION REQUEST AS REQUIRED BY 4 CSR 240.3.161(3)

Q. IS EMPIRE'S REQUEST TO CONTINUE ITS FAC DESIGNED TO COMPLY WITH THE COMMISSION'S RULES?

A. Yes. Empire has designed its FAC continuation request to comply with the Commission's rule governing the fuel adjustment process. The table below displays a list of the twenty (20) minimum filing requirements and a description of where this information can be found in supporting schedules and testimony.

Rule Reference	Brief Description	Location
4 CSR 240.3.161 (3) (A)	Customer notice	Schedule TWT-2
4 CSR 240.3.161 (3) (B)	Example customer bill	Schedule TWT-3
4 CSR 240.3.161 (3) (C)	Proposed FAC tariff	Schedule TWT-4
4 CSR 240.3.161 (3) (D)	Explanation of FAC	Tarter Testimony
4 CSR 240.3.161 (3) (E)	FAC and opportunity to earn a fair ROE	Tarter Testimony
4 CSR 240.3.161 (3) (F)	(Over)/Under recoveries & true-up	Tarter Testimony
4 CSR 240.3.161 (3) (G)	FAC and prudence review	Tarter Testimony
4 CSR 240.3.161 (3) (H)	Specific costs and FERC accounts	Schedule TWT-5
4 CSR 240.3.161 (3) (I)	Specific revenue and FERC accounts	Schedule TWT-5
4 CSR 240.3.161 (3) (J)	Incentive features and benefits	Tarter Testimony
4 CSR 240.3.161 (3) (K)	Volatility mitigation	Tarter Testimony
4 CSR 240.3.161 (3) (L)	Company procedures/prudent costs	Tarter Testimony
4 CSR 240.3.161 (3) (M)	Customer class rate design	Tarter Testimony
4 CSR 240.3.161 (3) (N)	FAC, business risk and allowed ROE	Tarter & Vander Weide Testimonies
4 CSR 240.3.161 (3) (O)	How responses differ	Tarter Testimony
4 CSR 240.3.161 (3) (P)	Supply-side, Demand-side resource data	Schedule TWT-6
4 CSR 240.3.161 (3) (Q)	Unit heat rate & unit efficiency testing	Schedule TWT-7
4 CSR 240.3.161 (3) (R)	Existing IRP and objectives	Tarter Testimony
4 CSR 240.3.161 (3) (S)	Emission allowance cost/(revenue) & FAC	Schedule TWT-8
4 CSR 240.3.161 (3) (T)	Other	Tarter Testimony

Q. WILL EMPIRE'S CUSTOMERS BE NOTIFIED OF THE REQUEST TO CONTINUE THE FAC (3.161 (3) (A))?

A. Yes. In addition to the normal notice requirements for a general rate case filing, Empire has prepared a notice that describes the request to continue the existing FAC. I have attached an exemplar copy of this notice as Schedule TWT-2.

Q. DOES THE ACCOUNTING AND BILLING PROCESS IN THE PROPOSED FAC ENABLE EMPIRE TO TRACK FAC REVENUES AS A DISCRETE LINE ITEM ON CUSTOMERS' BILLS (3.161 (3) (B))?

A. Yes. FAC changes/credits have been, and will continue to be, shown as a separate line item on each customer's bill, and the FAC revenue will continue to be segregated on the Empire books and records to facilitate the accounting and audit process. An example customer bill is attached as Schedule TWT-3

Q. ARE THE PROPOSED FAC TARIFF SHEETS PROVIDED (3.161 (3) (C))?

A. Yes. They are attached to my testimony as Schedule TWT-4.

Q. PLEASE DESCRIBE HOW EMPIRE'S FAC WORKS (3.161 (3) (D)).

A. As shown on Schedule TWT-4, the application of the tariff involves the accumulation of actual Missouri jurisdictional net energy costs, including a portion of RTO transmission costs, over a six-month period, comparing that cost accumulation to the base cost of energy built into the Missouri jurisdictional rates, and then determining the amount of over/under recovery of net costs eligible for the FAC (e.g., net FPP costs including SPP IM market activities, transmission costs, consumables, net emission allowances, RECs). Ninety-five percent (95%) of this over/under recovery balance is then billed/credited to Empire's Missouri retail customers over a six-month billing period that immediately follows the six-month accumulation period. As shown in Schedule TWT-4, the first six-month accumulation period is September through February, and the recovery or billing period associated with this accumulation period is the following June through November. The process in the FAC involves changing the energy cost recovery factor twice each year, once in June and again in December. Empire has filed for energy cost recovery changes under the FAC, in April and October of each year, since April of 2009.

Q. WHAT IS THE TIMING OF THE SEMI-ANNUAL FAC FILINGS IN THE FAC TARIFF (3.161 (3) (D))?

A. The proposed tariff incorporates the following timing of actions, which are the same as those included in Empire's existing FAC:

- Filing for a change in the fuel adjustment rate ("FAR") on April 1st and October 1st each year;
- Staff recommendation on the filed FAR by May 1st and November 1st each year;
- Commission action on the FAR by June 1st and December 1st or FAR as filed is allowed to go into effect on June 1st and December 1st each year.

Q. DOES THE TIMING OF THESE ACTIONS COMPLY WITH THE COMMISSION'S RULES GOVERNING THE FILING OF PERIODIC ADJUSTMENTS TO THE FAC (3.161 (3) (D))?

A. Yes. The Staff has thirty days from the date of a FAR filing to make its recommendation, and the Commission has sixty days from the FAR filing date in which it can render a decision concerning the cost recovery factor or allow it to go into effect by operation of law.

Q. DOES THE PROPOSED FAC TARIFF AND THE RECOVERY/REFUND

MECHANISM PROVIDE EMPIRE SUFFICIENT OPPORTUNITY TO EARN A FAIR RETURN ON EQUITY (3.161 (3) (E))?

A. Yes and no. The proposed FAC mechanism is a significant improvement over the recovery of these costs through base rates. The proposed FAC will recover 95 percent of the changes in energy costs, which means that the Missouri retail customers will reimburse Empire for a significant portion of its actual, prudently incurred, fuel and energy costs when above the base level. Although, overall, the FAC is a great improvement over the situation that existed prior to the FAC, any negative adjustment to the 95%/5% sharing mechanism could deprive Empire of a sufficient opportunity to earn a fair return on equity and thereby deny the Company one of the major benefits an FAC was designed to provide. During periods when fuel and purchased power costs increase between rate cases, the sharing mechanism requires Empire to absorb five percent of those cost increases – which directly reduces the Company's earnings – even though all those costs were prudently incurred. If the percentage of costs the Company is required to absorb under the FAC's sharing mechanism is increased above the current level, the resulting effect on net income could deprive Empire of an opportunity to earn a fair return on equity. Likewise, if energy costs would happen to fall below the FAC base, Empire's customers could be adversely impacted by what I referred to as any negative adjustment to the 95%/5% sharing mechanism.

Q. HOW DOES THE TRUE-UP OF ENERGY COST RECOVERY TAKE PLACE, AND HOW ARE PRUDENCE REVIEWS SCHEDULED ACCORDING TO THE EXISTING FAC TARIFF (3.161 (3) (F))?

A. The true-up of recovered energy costs takes place every six months. The exact timing of the prudence review has not been explicitly set out in the tariff, but the tariff specifies that prudence reviews will take place no less than every eighteen (18) months. Empire's operation of the FAC has been audited by the Commission Staff through February 28, 2015, and no disallowances have been recommended.

Q. IS THE FAC DESIGNED TO COMPLY WITH THE PRUDENCE REVIEW PROCEDURES PRESCRIBED BY THE COMMISSION'S RULES (3.161 (3) (G))?

A. Yes. Empire's proposed FAC is flexible and allows the Commission to adjust the amount of FAC recovery if any cost is disallowed as the result of a prudence review. The accounting procedures used by Empire will involve an audit trail that should facilitate the audit process associated with those periodic prudence reviews.

Q. PLEASE EXPLAIN ALL OF THE COSTS AND REVENUES THAT SHALL BE CONSIDERED FOR RECOVERY IN THE PROPOSED FAC (3.161 (3) (H-I)).

A. Empire is proposing to continue with the same FAC components as Empire's existing FAC. As mentioned earlier, Empire's current and proposed FAC consists of net FPP energy costs (including FPP costs associated with the SPP IM, fuel related costs such as unit train, undistributed and other, variable natural gas transportation expenses and Plum Point PPA O&M), plus the cost of the AQCS consumables, a portion of RTO transmission expense and net emissions cost, if any, less the net sales of RECs. The FAC base is then calculated on a per unit basis utilizing net system input expressed in kilowatt hours or megawatt hours.

Accounts, especially subaccounts, can change from time to time. They exist as a way to track and manage costs. Therefore, some flexibility should be retained to handle changing business conditions. An example of specific accounts and definitions from

Empire's existing and proposed FAC are attached in Schedule TWT-5.

Q. DO THE ENERGY COSTS ELIGIBLE FOR RECOVERY THROUGH THE PROPOSED FAC INCLUDE THE COSTS AND/OR BENEFITS ASSOCIATED WITH EMPIRE'S FUEL RISK MANAGEMENT (HEDGING) PROGRAM (3.161 (3) (H-I))?

A. Yes. As indicated on Schedule TWT-4, the costs eligible for recovery through the tariff include Empire's fuel risk management costs, which are recorded in FERC accounts 501, 547, and 555.

Q. PLEASE DESCRIBE ANY INCENTIVE FEATURES IN THE PROPOSED FAC (3.161 (3) (J)).

A. As with the existing FAC, Empire is proposing to maintain the 95%/5% sharing mechanism.

Q. ARE THERE BENEFITS ASSOCIATED WITH THE CONTINUED USE OF A FAC FOR EMPIRE (3.161 (3) (J))?

A. Yes.

Q. PLEASE EXPLAIN.

A. I believe there are significant benefits for all of the Company's stakeholders. First, Empire benefits by being able to recover most of its actual fuel and energy costs through the FAC. This strengthens Empire's financial profile and enhances its ability to attract the financing necessary to meet its customers' needs and to obtain that financing at the best rates possible. In addition, the need to file general rate cases for the purpose of recovering ongoing fuel and energy costs in base electric rates has essentially been eliminated. Over time, this may reduce the overall number of electric rate cases in Missouri, and a reduction in the number of general rate cases may ultimately lower Empire's regulatory costs and the cost to serve Empire's Missouri customers.

Q. DOES THE FAC BENEFIT THE CUSTOMER (3.161 (3) (J))?

A. Yes. The FAC process produces a result that is ultimately fair to all sides. In the long run, the customer benefits from the implementation and continuation of a properly designed FAC. The customer will only reimburse Empire for the actual cost of fuel and energy, not an estimate of future energy costs. Thus, depending on the sharing mechanism and the actual costs incurred, there may be no over or under recovery of cost. Empire also has a stronger financial profile and an enhanced ability to attract the capital necessary to operate its utility system at the best rates possible. Ultimately, this should lower the cost of operations from what it would have been without the FAC. In addition, the FAC conveys a more accurate cost of electric energy to Empire's customers. If energy costs increase, the customer will know within six months and will be in a position to make an informed decision concerning any energy efficiency measures that could be implemented in an effort to lower consumption. The fixed energy pricing system that Missouri used prior to the FAC tended to shield the customer from the true cost of electric energy, which may hamper the customers' adoption of or participation in energy efficiency programs.

Q. DOES THE PROPOSED FAC INCLUDE ANY RATE VOLATILITY MITIGATION FEATURES (3.161 (3) (K))?

A. Yes, the energy cost changes that occur during the accumulation period will be spread over six months. This feature will fix the FAC component of a customer's bill for six months and will tend to smooth out energy price volatility.

Q. DOES THE EMPIRE FAC TARIFF INCLUDE PROVISIONS THAT ARE

DESIGNED TO LIMIT EMPIRE'S FAC RECOVERIES TO THE ACTUAL COST OF ENERGY (3.161 (3) (L))?

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. As mentioned, Empire's operation of the FAC has been audited by the Commission's staff through February 28, 2015, and no disallowances have been recommended.

Q. DOES EMPIRE HAVE PROCEDURES IN PLACE DESIGNED TO ENSURE THAT ITS FUEL PURCHASING IS PRUDENT (3.161 (3) (L))?

A. Yes, it does. Empire plans its fuel procurement activity using long-term planning and maintains an active Risk Management Policy ("RMP").

Q. PLEASE DESCRIBE EMPIRE'S RMP (3.161 (3) (L)).

A. Empire implemented its RMP in 2001 to manage natural gas price volatility. The RMP outlines the instruments that may be used to help manage volatility. In general terms, Empire's RMP allows the use of financial and physical transactions to help manage price volatility. In addition, the RMP establishes minimum quantities of natural gas in future calendar years that are required to be price protected by a certain date.

Q. DOES EMPIRE ALSO HAVE ACCESS TO OTHER SOURCES OF ELECTRIC ENERGY THAT CAN BE USED TO OFFSET NATURAL GAS PRICE

VOLATILITY (3.161 (3) (L))?

A. Yes. In addition to its coal fired generating units, Empire owns and operates the Ozark Beach hydro facility. It has a capacity of about 16 MW and has averaged about 58,607 MWh's of annual output over the past three years. 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.

Additionally, at the end of 2005, Empire began receiving electricity from the Elk River Wind Project owned by PPM Energy. Empire has a contractual commitment to purchase 100% of the output from this project for 20 years. Empire expects to receive about 550,000 MWh's per year from this project. The energy under this contract is purchased at a predetermined cost. Empire also entered into an agreement with Cloud County Windfarm, LLC, owned by Horizon Wind Energy, to purchase all of the output from Meridian Way Wind Farm since late December 2008. Empire anticipates purchasing approximately 315,000 megawatt-hours of energy under this contract annually. The energy under this contract is also purchased at a predetermined cost.

Q. HOW DOES EMPIRE ACQUIRE THE FUEL AND PURCHASED POWER USED TO SUPPLY ELECTRICITY TO ITS CUSTOMERS (3.161 (3) (L))?

A. Empire's native load is now provided by the SPP IM and energy from Empire resources are sold into the market. Empire's fuel and purchased power acquisition planning is performed using a three-step process. The steps in this process are:

- Long-term Integrated Resource Plan ("IRP");
- An annual and five-year business plans;
- Updates to the annual and five-year business plans as conditions change.

Q. PLEASE DESCRIBE THE IRP PROCESS (3.161 (3) (L)).

A. Empire utilizes the IRP process to develop a long-term strategy to reliably serve its customers at the lowest possible cost. This planning process uses Empire's entire load in all five of its jurisdictions (Missouri, Arkansas, Kansas, Oklahoma, and the FERC). This formal IRP process has been in place since the early 1990's when Missouri implemented a formal IRP rule. Since that time, Oklahoma and Arkansas also have implemented IRP rules. Empire has thus far been allowed to use the IRP developed for filing in Missouri as the basis for the IRP filings in Oklahoma and Arkansas. The IRP process that Empire uses results in a target list of future resources designed to serve Empire's projected usage and customer levels in all jurisdictions. The process has resulted in a diverse set of resources including base load, intermediate and peaking resources using a mix of fuels from coal to natural gas, and renewable resources. Demand-side management programs are also considered as potential resources as part of the IRP process. Empire filed its latest IRP in Missouri in July 2013, in File No. EO-2013-0547. The most recent IRP annual update report was filed in Missouri in March 2015, in File No. EO-2015-0216.

Q. HOW DOES THE SECOND STEP OF THE PLANNING PROCESS WORK (3.161 (3) (L))?

A. In addition to the long range planning, Empire conducts annual financial and operational planning, which is used to develop a five-year business forecast. This planning process includes detailed load forecast, detailed generation unit modeling, detailed operations and maintenance cost, and capital budget planning, and revenue forecast. This plan is used to assess many things including the ability to raise capital, debt and equity, and the near term impact on the overall cost of service. The detailed generation unit modeling developed in this phase of the planning process is used as the primary source of information for the development of the fuel and purchased power procurement plan.

Q. ARE THE ANNUAL AND FIVE-YEAR BUSINESS PLANS ADJUSTED TO REFLECT CHANGES IN THE BUSINESS ENVIRONMENT (3.161 (3) (L))?

A. Yes. The annual and five-year business plans are periodically refined to take into account changes that have occurred since the plans were initially developed. Empire takes into account changes in such things as load growth, weather, number of customers, fuel prices, purchased power prices, rail transportation delays, and fuel availability. As these refinements are made to the near term forecasts, Empire adjusts its fuel procurement plans as necessary.

Q. IS THE PROPOSED FAC DESIGNED TO PRODUCE A DIFFERENT FUEL ADJUSTMENT RATE FOR DIFFERENT VOLTAGE LEVELS (3.161 (3) (M))?

A. Yes. The proposed FAC includes a feature that reduces the FAR to those customers taking service at primary voltage or higher. The existing expansion factors were based upon the information coming from the periodic line loss studies performed by the Company.

Q. HAS EMPIRE COMPLETED A NEW LINE LOSS STUDY FOR THIS CASE?

A. Not at this time. A new line loss study is currently being developed and is expected to be completed by the end of 2015.

Q. IN ITS DIRECT FILING, HAS THE COMPANY PROVIDED ANY INFORMATION ABOUT THE CHANGE IN BUSINESS RISK RESULTING FROM THE IMPLEMENTATION OF THE PROPOSED FAC (3.161 (3) (N))?

A. Yes, please refer to the direct testimony of Empire Witness Dr. James Vander Weide.

Q. DO YOUR RESPONSES TO THE INFORMATION REQUIRED BY 4 CSR

240.3.161(3), SUBSECTIONS (B) THROUGH (N), IN THIS CASE DIFFER FROM THE INFORMATION FILED IN RESPONSE TO THE INFORMATION AND RESPONSES REQUIRED BY 4 CSR 240.3.161(2) (INFORMATION THAT WAS REQUIRED WHEN THE RATE ADJUSTMENT MECHANISM WAS FIRST ESTABLISHED) (3.161 (3) (O))?

A. In the initial case authorizing Empire's FAC, which was governed by 4 CSR 240-3.161(2), some of the information Empire submitted dealt with the FAC tariff proposed by Empire in Case No. ER-2008-0093. In this case, which is governed by 4 CSR 240-3.161(3), we propose to continue the same basic FAC methodology. All proposed changes to the tariff have been discussed earlier, and the responses and information requirements are tailored to meet the needs of the basic FAC methodology. The components of the FAC have changed some over time, but the proposed FAC in this case contains the same cost components as the existing Empire FAC.

Q. ARE YOU PROVIDING ANY OTHER SUPPLY-SIDE AND DEMAND-SIDE RESOURCE INFORMATION IN SUPPORT OF EMPIRE'S REQUEST TO CONTINUE THE FAC (3.161 (3) (P))?

A. Yes. Based on the Company's most recently approved budget, adjusted by the recent retirements of Riverton Units 8 and 9, I am providing the following information as required by the various subparts of 4 CSR 240-3.161(3)(P):

- Schedule TWT-6, page 1, which is a list of the supply-side and demand-side resources that the Company expects to use to meet its load for the next four (4) years;
- Schedule TWT-6, page 2, which shows the expected dispatch (generation levels) of the supply-side resources that Empire expects to utilize for the next four (4) years and

explains why these expected dispatch levels are appropriate;

- Schedule TWT-6, page 3, which shows the expected heat rates for each supply-side resource that the Company expects to utilize for the next four (4) years; and
- Schedule TWT-6, page 4, which shows the fuel types utilized in each of Empire's supply-side resources.

Q. HAS EMPIRE CONDUCTED ANY HEAT RATE TESTING ON ITS GENERATION UNITS DURING THE PREVIOUS TWENTY-FOUR MONTHS (3.161 (3) (Q))?

A. Yes. The heat rate test results are included as Schedule TWT-7.

Q. PLEASE PROVIDE ANY ADDITIONAL INFORMATION THAT DEMONSTRATES THAT EMPIRE HAS A LONG-TERM RESOURCE PLANNING PROCESS IN PLACE (3.161 (3) (R)).

A. Empire filed its most recently completed IRP in Missouri on July 1, 2013, in File No. EO-2013-0547 ("2013 IRP"). Pursuant to Commission Rule 4 CSR 240-22.080(9), Empire and the interested parties to the case submitted a joint filing regarding the 2013 IRP on January 31, 2014. On March 12, 2014, the Commission issued an order approving the remedies to the alleged IRP deficiencies and concerns proposed in the joint filing, which were developed by the signatories. The Commission's order became effective on March 22, 2014, and the file was closed on March 23, 2014. Following the 2013 IRP, Empire filed IRP Annual Update Reports in March 2014 (File No. EO-2014-0243) and March 2015 (File No. EO-2015-0216). Empire conducted annual update workshops with the stakeholders following both Annual Update Report filings. Empire plans to file its next IRP in Missouri in 2016.

Q. PLEASE PROVIDE A DESCRIPTION OF FORECASTED ENVIRONMENTAL INVESTMENTS AND ALLOWANCES PURCHASES AND SALES (3.161 (3) (S)).

A. Empire is currently subject to two sets of regulations which utilize emissions allowances. They are the Acid Rain program and the Cross State Air Pollution Rule ("CSAPR"). Under these programs, each year, a set number of emissions allowances are provided to Empire for each of the affected plants. Due to the construction of the AQCS at the Asbury plant, Empire anticipates being able to comply with these regulations with the allowances provided. At this time, Empire has no plans to sell any banked allowances, which are used to help ensure compliance with existing regulations. Therefore, based on current market conditions, the Company expects little to no costs or revenue over the next four years related to emissions allowances. Additional environmental information is provided as Schedule TWT-8.

Q. HAS ANY OTHER INFORMATION BEEN ORDERED BY THE COMMISSION IN THE PREVIOUS GENERAL RATE PROCEEDING FOR THE CONTINUATION OF THE FAC (3.161 (3) (T))?

A. I am not aware of any additional required information.

III. REVIEW OF FUEL AND PURCHASED POWER EXPENSE FOR BASE RATES AND THE FAC BASE FACTOR

Q. IS EMPIRE PROPOSING AN UPDATED FAC BASE FACTOR FOR THIS CASE?

A. Yes. Empire has analyzed the FPP cost level for base rates with a computer production cost model that will be discussed later in this testimony. On an average cost basis, Empire estimates that ongoing FPP cost is slightly higher than the average costs agreed to by the parties in Case No. ER-2014-0351.

Q. HOW DOES THE PROPOSED FAC BASE FACTOR COMPARE TO THE EXISTING FAC BASE FACTOR?

A. The existing FAC base factor, established in Case No. ER-2014-0351, is $0.02684 per kWh. Empire's most recent estimate is $0.02688 per kWh. This is a difference of $0.00004 per kWh or about 0.15%. A summary of the model run to help rebase the FAC can be found as Schedule TWT-9, and a comparison of the existing and proposed FAC base factor is included as Schedule TWT-10.

Q. PLEASE PROVIDE A DESCRIPTION OF THE FAC BASE FACTOR CHANGES.

A. As mentioned, the proposed FAC base factor is a slight increase over the existing FAC base factor. However, the net FPP expense is actually lower in the proposal by about 1.2% due in part to the inclusion of the new Riverton Combined Cycle unit. On Schedule TWT-10, the net FPP expense that I am referring to, is comprised of native load costs from the SPP market and all fuel and purchased power costs to generate the energy sold into the SPP market, as offset by the revenue received for the energy sold into the SPP market and ARR/TCR. The lower net FPP expense, however, is more than offset by increases in the other energy cost components such as consumables, which now includes ammonia for the new Riverton Combined Cycle unit, and a portion of RTO transmission costs and a reduction in REC credits.

Q. PLEASE BRIEFLY DESCRIBE THE MODELED FUEL AND PURCHASED POWER EXPENSE PROCESS THAT EMPIRE DEVELOPED FOR THIS CASE.

A. Empire considered all eligible FAC cost components, updated all annualized and normalized model assumptions from the last case (Case No. ER-2014-0351) and included a full year of operation from the Riverton Unit 12 combined cycle unit. Additionally, Empire utilized its production cost model to simulate the SPP IM approach. That is, Empire resources were dispatched against price curves with their dispatched generation sold into the SPP market with these resources receiving revenue based on the market approach. Empire's native load was supplied from the SPP market and not from Empire resources. Multiple sets of hourly market prices were utilized, and the market prices were correlated to the natural gas prices within the model.

Q. WHAT PRODUCTION COST MODEL DID EMPIRE USE FOR ITS REVIEW OF THE ONGOING LEVEL OF FUEL AND PURCHASED POWER EXPENSES FOR THIS CASE?

A. This ongoing level of expense was developed by running the hourly production cost computer model known as PROSYM using normalized sales levels, growth, weather and outage data, and projected fuel and purchased power prices. Other FPP cost components that are eligible for the FAC are added outside the PROSYM model.

The PROSYM model is an hourly chronological computer model that calculates net FPP expense by dispatching Empire's resources for sale into the market, calculating revenue using a market based approach, and supplying the cost of native load energy requirements from the SPP market. The model commits resources based on fuel costs, unit start-up costs, and variable operation and maintenance ("O&M") costs after accounting for operational characteristics of a utility system that may override economic dispatch. Empire has been using chronological production costing models for projection purposes since 1991. Empire has used the PROSYM model in its nine previous rate case filings in Missouri. Empire recently began using this computer model to model the SPP IM approach.

Q. BREIFLY DESCRIBE THE "SPP IM APPROACH" TO MODELING FPP EXPENSE.

A. The SPP IM went live on March 1, 2014. The SPP IM is a full-scale energy market consisting of a day-ahead market, real-time balancing market and transmission congestion market. Within the SPP IM, SPP not only commits and dispatches generation to serve load, but also acts as a consolidated balancing authority in order to effectively operate a market-based reserve market. The expected result of the SPP IM is a more efficient commitment and dispatch of regional generation and operating reserves across the SPP footprint, resulting in anticipated shared savings among pool members. The SPP IM includes the following features:

- A Day-Ahead Market with Transmission Congestion Rights;
- A Reliability Unit Commitment process;
- A Real-Time Balancing Market;
- The incorporation of price-based Operating Reserves procurement; and
- The former Balancing Authorities within the SPP footprint combined to form a Consolidated Balancing Authority.

In previous general rate case filings, Empire has modeled the FPP expense with a computer model based on a pre-SPP IM market approach. For this rate case filing, Empire has used a production cost model to model the SPP IM approach.

Q. PLEASE BRIEFLY DESCRIBE THE SOUTHWEST POWER POOL.

A. SPP was founded in 1941 by eleven regional power companies, including Empire, to facilitate regional reliability and dependability during wartime manufacturing efforts. More than 60 years later SPP was approved as a Regional Transmission Organization

("RTO") by the Federal Energy Regulatory Commission ("FERC") in 2004 and as a Regional Entity in 2007. SPP is one of nine North American Independent System Operators/Regional Transmission Organizations ("ISOs/RTOs"). SPP provides or will provide services to about 95 members in 14 states. Services include reliability coordination, tariff administration, regional scheduling, transmission expansion planning, compliance, training, contract services and market operations. With regard to market operations, the Energy Imbalance Service ("EIS") market, an initial step toward a full-scale energy market, was introduced within SPP in February 2007. The EIS created a wholesale energy market that provided an infrastructure for asset owners to combine resources and gain access to lower, more transparent pricing. The newest market evolution within SPP is the previously described SPP IM.

Q. PLEASE DESCRIBE HOW THE SPP IM IMPACTS EMPIRE'S OPERATIONS.

A. As a member of SPP, the SPP IM has changed the way that Empire does business. Empire now submits its generation into the SPP market on a daily basis and the SPP market determines the most economical and reliable solution for providing energy to customers. When the SPP IM went live on March 1, 2014, it created one consolidated balancing authority in SPP. Prior to the SPP IM, there were several balancing authorities within SPP. In the past Empire functioned as a balancing authority and dispatched its generators to serve its native load, while buying and selling energy when it was economical to do so, mostly through bilateral contracts. Since the SPP IM began, Empire now purchases energy from the market to serve native load, sells generation into the market, and receives revenue from selling its generation into the market.

IV. NORMALIZED FUEL INVENTORY BALANCES

Q. WHAT ADJUSTMENTS WERE MADE TO NORMALIZE EMPIRE'S RATE BASE FOR FUEL INVENTORY?

A. Empire used the results of the fuel model, which was described earlier, to calculate the annual amount of coal on a MMBtu basis for the various types of coal at each generating plant. To determine the normalized amount of coal inventory, the average daily burn by generating unit must be calculated. The average daily burn is derived by dividing the annualized MMBtu from the fuel model by the difference between 365 days and the number of annual normalized planned outage days. The average daily burn is then multiplied by the target number of days on hand for coal inventory. The target inventory days on hand which Empire expects to maintain is 60 days. The result is then multiplied by the cost of fuel on a $/MMBtu basis to arrive at an annualized dollar value for coal inventory. Also included in inventory balances for the Asbury and Iatan units is an estimated level of basemat coal. The Plum Point inventory excludes basemat coal since the basemat coal has been capitalized as part of the plant. Basemat coal is the bottom layer of a coal pile that is not usable as fuel due to contamination by soil, clay, and other contaminants. The normalization of the fuel inventory resulted in an adjustment that decreased fuel inventory by $1,488,211, on a total company basis. The Missouri jurisdictional adjustment is a decrease of $1,233,131.

V. CUSTOMER GROWTH REVENUE ADJUSTMENT

Q. PLEASE EXPLAIN THE ADJUSTMENT RELATED TO CUSTOMER GROWTH.

A. Staff's accounting schedules (EMS Run) at March 26, 2015, was adjusted to reflect customer growth at December 31, 2014. In addition, Missouri jurisdictional revenues have been adjusted to reflect the amount of revenue that would have been generated if the number of Empire customers existing at June 30, 2015, had been served by the Company for the entire test year. For each customer class except the large power ("LP") class (i.e., large industrial customers), differences between the June 30, 2015 customer counts and the average number of customers billed in each month of the test year were multiplied by the average weather-normalized kWh per customer for that month. The resulting change in kWh sales was multiplied by the class average weather-normalized rate per kWh to obtain the revenue adjustment related to customer growth. The LP class was reviewed on a customer-by-customer basis to calculate the impact of customer growth on revenue. LP customers have a higher usage-per-customer, and changes in LP customer load patterns due to anomalies can have a significant impact on revenue. In total, the customer growth adjustment to revenue resulted in an increase of 6,379,773 kWh in sales and $340,213 in revenue.

VI. SUMMARY

Q. PLEASE PROVIDE A SUMMARY OF YOUR DIRECT TESTIMONY.

A. In this case, Empire is requesting the continuation of its FAC. One section of this testimony provides the information required for an FAC continuation filing. In conjunction with the continuation of the current FAC, Empire has estimated the level of 2016 energy FPP expenses in order to rebase the FAC as part of this case. In its direct filing, Empire is proposing an FAC base factor of $0.02688 per kWh. Finally, this testimony describes fuel inventory and customer growth adjustments.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, at this time.

AFFIDAVIT OF TODD W. TARTER

STATE OF MISSOURI)
) ss
COUNTY OF JASPER)

On the 14th day of October, 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

Todd W. Tarter

Subscribed and sworn to before me this 14th day of October, 2015.

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

Angela M. Cloven

Notary Public

My commission expires: 11/01/2015.