Exhibit No.
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Witness: Todd W. Tarter
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Docket No. 15-EPDE-228-ACA
Date Testimony Prepared: January 2015

Before the Kansas Corporation Commission

Direct Testimony

Of

Todd W. Tarter

In Support of the
Annual Energy Cost Adjustment ACA Filing

January 2015

****Denotes Confidential****

PUBLIC VERSION

TABLE OF CONTENTS
OF
TODD W. TARTER
THE EMPIRE DISTRICT ELECTRIC COMPANY
BEFORE THE
KANSAS CORPORATION COMMISSION
DOCKET NO. 15-EPDE-228-ACA

SUBJECT **PAGE**

DIRECT TESTIMONY
OF
TODD W. TARTER
THE EMPIRE DISTRICT ELECTRIC COMPANY
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Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Todd W. Tarter and my business address is 602 South Joplin Avenue, Joplin, Missouri.

POSITION

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

A. I am presently employed by The Empire District Electric Company ("Empire") as the Manager of Strategic Planning. I have held this position since September, 2004 where I primarily work with fuel and purchased power projections, energy efficiency and integrated resource planning ("IRP").

PURPOSE

Q. WHAT IS THE PURPOSE OF YOUR SUPPLEMENTAL TESTIMONY IN THIS PROCEEDING?

A. My testimony will support Empire's request to the Kansas Corporation Commission ("Commission") for an order approving the Annual Cost Adjustment ("ACA") factor submitted to the Commission as part of Empire's approved Energy Cost Adjustment ("ECA") tariff.

Q. ARE THERE ANY MAJOR CHANGES DURING THE ACA PERIOD (NOVEMBER 2013 – OCTOBER 2014) THAT SHOULD BE NOTED?

A. Yes. The Southwest Power Pool's Integrated Marketplace ("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. 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.

Q. DID EMPIRE CONSIDER THE SPP IM IN ITS CALCULATION OF THE 2015 ECA FORECAST?

A. Yes. Empire has made an adjustment for anticipated SPP IM savings outside of the supply model used in the Kansas ECA forecast. This SPP IM adjustment reduces the model generated energy cost. It was determined that this "post processing" approach would be best for this annual filing since the SPP IM has been in place for less than one year. While Empire has analyzed the market approach with models, it will take time for

the SPP IM to mature, to gain history and for modelers to gain confidence in the market based modelling approach. Additionally, Empire believes that for the purpose of developing an overall normalized energy cost for establishing a new ECA in this filing, it was important to model the system consistent with previous filings and make the SPP IM adjustment exogenous to the generation model for transparency purposes. There are no guaranteed percent savings values from the SPP IM, and any such values are estimates at this time. But since the SPP IM is in place, Empire wanted to recognize expected market savings while forecasting the Kansas ECA. In this case, Empire selected a 3 percent savings level for the SPP IM based on SPP cost benefit studies and our initial internal modeling. Empire also has the ability to adjust the monthly Kansas ECA estimates throughout the year for significant events.

BACKGROUND

Q. PLEASE PROVIDE A GENERAL BACKGROUND OF THE FILING AND WHY IT IS BEING MADE AT THIS TIME.

A. On October 4, 2005, Empire and the Staff of the Commission reached a settlement agreement in Docket No. 05-EPDE-980-RTS ("980 Docket"). One of the specific terms of the agreement reached with the Staff involved the implementation of an ECA for Empire's Kansas retail customers. Part of the terms of the ECA tariff approved by the Commission requires Empire to file an annual "true-up" of its Kansas energy costs. In this particular instance, Empire and the staff of the Commission ("Staff") have reached

an agreement to make this annual ECA true-up as a formal application for approval with the Commission.

Q. PLEASE DESCRIBE EMPIRE'S ELECTRIC OPERATIONS.

A. Empire operates an integrated electric system that covers portions of four separate states, Kansas, Missouri, Oklahoma and Arkansas. Empire provides electric service in an area of approximately 10,000 square miles in the southwest corner of Missouri and the adjacent corners of Kansas, Oklahoma, and Arkansas. Empire's operations are regulated by the utility regulatory commissions of these four states as well as the Federal Energy Regulatory Commission ("FERC"). The service area contains 119 incorporated communities in 21 counties in the four-state area. Empire was incorporated in 1909 as a Kansas corporation.

Q. PLEASE GENERALLY DESCRIBE EMPIRE'S ELECTRIC SYSTEM OPERATING CHARACTERISTICS.

A. In previous years Empire was somewhat different than many of the other electric utilities in Kansas; in that it had dual (winter/summer) system peaks that almost equaled each other. This situation is very unusual in the state of Kansas where most if not all of the other utilities are strongly summer peaking. In 2014 Empire's system peak was 1,162 megawatts ("Mw") and occurred in January. This marked the third time in the past twenty-five years that Empire has had its annual peak occur in the winter season and the second time that Empire has "winter peaked" in the past five years. Summer peak demand months of July and August, peaks were approximately 88 and 93 percent of the winter peak demand in 2014. The following table displays the actual Empire peak

demands by month for the twelve-months ending October 2014 along with the Net System Input in megawatt-hours ("Mwh") for each month. This is the twelve-month ACA period or true-up period that Empire's ECA tariff specifies be used to true-up its energy costs at this time.

Month	Peak-Mw	Percent of Annual Peak	NSI-Mwh
Nov-2013	859	74	414,996
Dec-2013	992	85	521,525
Jan-2014	1162	100	552,681
Feb-2014	1071	92	480,930
Mar-2014	1041	90	450,307
Apr-2014	760	65	358,608
May-2014	788	68	399,711
Jun-2014	956	82	443,509
Jul-2014	1017	88	474,558
Aug-2014	1083	93	521,811
Sep-2014	1005	86	415,473
Oct-2014	859	69	363,343

This winter/summer peak relationship also affects fuel procurement and power plant operation. Empire must be prepared to meet high levels of demand for energy on a year around basis and not just in the summer air conditioning season.

Q. PLEASE DESCRIBE THE MAKEUP OF EMPIRE'S SUPPLY-SIDE RESOURCES.

A Empire's current supply-side resources consisted of the following for the ACA true-up period ending October of 2014.

Unit/Purchase	Rated Capacity	Actual Generation Mwh	Energy Cost TME October 2014 ($000)(A)	Average Cost/Mwh	Fuel Type
Asbury	189	1,128,842	29,510	$26.14	Coal
Iatan 1-2	190	1,184,672	20,435	$17.25	Coal
Plum Point (own)	50	261,555	5,520	$21.11	Coal
Riverton 8-12	241	89,347	5,543	$62.04	Natural Gas
Energy Center 1-4	262	94,681	6,394	$67.53	Natural Gas
State Line	391	1,118,719	41,077	$36.72	Natural Gas
Ozark Beach	16	61,754	0	N/A	Hydro
Plum Point PPA	50	265,077	8,715	$32.88	Coal
Wind Farms	15	837,232	28,220	$33.71	Wind
EIS-SPP	0	56,724	2,308	$40.69	Unknown
Spot Market	0	37,677	1,612	$42.79	Unknown
Imbalance	0	173	0	N/A	Unknown
Total	1,404	5,136,453	149,335	$29.07	

(A) This is the cost of Empire resource generation (on-system for November 2013 through February 2014 and total output since the beginning of the SPP IM (March 2014 through October 2014)) and excludes the cost of gas transportation, miscellaneous EIS charges, and WR auxiliary charges, purchased power agreement ("PPA") demand charges, environmental costs, the cost of consumables and SPP IM costs and revenues.

As indicated in the above table Empire's natural gas-fired units were used to provide approximately 25 percent of the overall energy during the ACA period and the fuel cost associated with these gas-fired resources comprised around 36 percent of the overall fuel cost. However, since the SPP IM began during the ACA period (March 1, 2014), this table represents Empire's resource generation and costs for the twelve-month ending period October 31, 2014 and does not include the SPP IM costs or revenues.

Q. HOW WERE THE NATURAL GAS FUEL COSTS SPREAD ACROSS THE ACA PERIOD ENDING OCTOBER 31, 2014?

A. From a planning perspective, the natural gas consumption is usually heavy in the peak months of the summer and winter with lower periods of consumption coming in the typically milder weather shoulder months. Unit outages can be another factor in natural gas consumption. For example, when base load units are not operating, natural gas units may be more likely to be called upon to run. Conversely, when key natural gas units, such as large combined-cycle units, are unavailable due to an outage, then natural gas generation may be negatively impacted. The following table displays the planned natural gas based generation by month in the 2013/2014 operating budget during the ACA period, compared to the actual natural gas generation.

Month	**Planned Mwh**	**Actual Mwh**
Nov-2013	63,654	76,150
Dec-2013	105,722	151,324
Jan-2014	98,574	163,485
Feb-2014	90,349	140,588
Mar-2014	59,080	75,869
Apr-2014	62,179	61,054
May-2014	68,446	73,521
Jun-2014	117,129	45,748
Jul-2014	189,824	124,954
Aug-2014	209,598	156,073
Sep-2014	128,954	114,565
Oct-2014	148,024	146,218
Total	1,341,533	1,329,549

In total the natural gas based generation was very close to expectations with about 1 percent less natural gas-fired energy than Empire had planned for in its original budget(s) for 2013/2014 ACA period

Q. PLEASE DESCRIBE THE RATE STRUCTURES EMPIRE OPERATES UNDER IN ARKANSAS, OKLAHOMA AND MISSOURI.

A. All three states use historical test years to establish base electric rates in a manner similar to the process used in Kansas. In addition, Arkansas, Oklahoma and Missouri use adjustment mechanisms to pass on changes in fuel and energy costs to retail customers.

Q. WHAT IS THE RELATIONSHIP OF THE SALES LEVELS WITHIN EACH OF THE JURISDICTIONS?

A. Missouri is by far the largest jurisdiction with over 82 percent of total sales made by Empire during the twelve months ended October 31, 2014. The following table displays the actual sales levels in the various jurisdictions.

Jurisdiction	Mwh Sales	Ratio
Wholesale	336,734	6.7%
Kansas	234,640	4.6%
Arkansas	154,925	3.1%
Oklahoma	155,569	3.1%
Missouri	4,174,084	82.6%
Total	5,055,953	100.0%

FUEL AND PURCHASED POWER PROCUREMENT PRACTICE SUMMARY

Q. HOW DOES EMPIRE ACQUIRE THE FUEL AND PURCHASED POWER USED TO SUPPLY ELECTRICITY TO ITS CUSTOMERS?

A. 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 plan
- Updates to the annual and five-year business plans as conditions change

Q. PLEASE DESCRIBE THE IRP PROCESS.

A. Empire utilizes the IRP process to develop a long-term strategy to reliably serve its customers at the lowest possible cost while considering other factors such as risk, resource diversity, legal mandates and rate impacts. This planning process uses Empire's entire load in all five of its jurisdictions. 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 have implemented an IRP process. Empire filed its latest IRP in Missouri on July 1st, 2013. In accordance with the IRP filing schedule established in Oklahoma and Arkansas, Empire submitted the IRP in Arkansas in March 2014 and in Oklahoma in May 2014 using the 2013 Missouri IRP as the basis. The preparation of a single IRP enables Empire to avoid a duplication of efforts and costs in what would be a very difficult if not impossible task of developing multiple resource plans for different jurisdictions. 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. In addition, the IRP considers demand-side resources and renewable resources along with traditional supply-side resources.

Q. PLEASE DESCRIBE THE CAPACITY ADDITIONS EMPIRE IS PLANNING TO MAKE IN THE NEAR FUTURE?

A. In general, the timing of capacity additions is driven in large part by future load growth and the environmental rules enacted by the Environmental Protection Agency (EPA) and how these rules affect the operations at Empire's existing generating units, especially the coal units. In order to comply with current environmental regulations, Empire is taking actions to implement its environmental compliance plan and strategy ("Compliance

Plan"). As part of the Compliance Plan, Empire will convert its existing gas-fired Riverton Unit 12 simple cycle combustion turbine to a combined cycle unit. This is expected to add about 100 MW of capacity. In addition, Empire will be retiring or has already retired units at the Riverton site. On June 30, 2014, Riverton Unit 7 was officially retired from service. At the time of its retirement, Riverton Unit 7 was 64 years old. The unit was rated at 38 MW of capacity. It had operated as a small coal unit for many years before being transitioned to full operation on natural gas in September of 2012. It had not logged any service hours since its transition to natural gas operation. Riverton Unit 8, another former coal unit that was transitioned to full operation on natural gas in September of 2012, along with Riverton Unit 9, a small combustion turbine that requires steam from either Unit 7 or Unit 8 for start-up, will be retired upon the conversion of Riverton Unit 12 to a combined cycle unit. The conversion of Riverton Unit 12 is currently scheduled for the mid-2016 timeframe. The Riverton Unit 12 conversion to combined cycle will essentially replace the capacity that will be lost due to the Riverton Units 7, 8 and 9 retirements. These Riverton unit retirements are directly related to the enactment of new EPA rules and the age and size of the specific units involved.

Riverton Unit 12 is a natural gas-fired Siemens V84.3A2 combustion turbine that was installed at the Riverton power plant in Riverton, Kansas in 2007. It is currently rated at 142 MW for the summer peak season and it is primarily used as a peaking unit. The Riverton combined cycle project will utilize existing site infrastructure and will incorporate the existing Riverton Unit 12 combustion turbine as part of the combined

cycle unit. A heat recovery steam generator ("HRSG") will be installed along with a new steam turbine and a cooling tower to provide cooling water for the condenser. A new control room and control system will also be installed to operate the unit.

Q. HOW DOES THE SECOND STEP OF THE PLANNING PROCESS WORK?

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 O&M 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?

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 weather, number of customers, fuel prices, purchased power prices, plant outages, rail transportation delays, and coal availability. As these refinements are made to the near term forecasts, Empire adjusts its fuel procurement plans as necessary.

EXISTING SUPPLY-SIDE RESOURCES

Q. PLEASE DESCRIBE EMPIRE'S SUPPLY-SIDE RESOURCES IN GREATER DETAIL.

BASE LOAD FACILITIES

A. During the ACA period Empire owned coal-fired generation resources at three locations: (1) the Asbury generating station located near Asbury, Missouri; (2) the jointly-owned Iatan generating station located near Weston, Missouri (12 percent share) and (3) the jointly-owned Plum Point generating station located near Osceola, Arkansas (7.52 percent share).

Empire's Asbury unit is a 189 Megawatt ("MW") primarily coal-fired plant which became operational in 1970. A second small 14 MW unit was added in 1986, but it was retired from service as planned at the end of 2013, during the environmental retrofit project. Originally, it was designed as a mine-mouth plant that burned a high Btu coal from a mine located near the unit. In 1990, in response to the Clean Air Act of 1990, Asbury began burning a blend of approximately 90 to 95 percent lower Btu western coal from Wyoming and 5 to 10 percent of a higher Btu bituminous coal. A Selective Catalytic Reduction (SCR) system went into service on this unit in early 2008. Empire installed a scrubber, fabric filter, and powder activated carbon injection system at the Asbury plant (collectively referred to as the Asbury air-quality control system or AQCS). This project satisfied in-service criteria in December of 2014. The coal for the Asbury coal unit is purchased under a mixture of coal contracts of varying terms and conditions. In the last few years Empire has been burning Tire Derived Fuel ("TDF") at Asbury to take advantage of a NOx exemption for units burning TDF in Missouri. Approximately

1,917 tons of TDF was burned during the ACA period generating about 4,908 Mwh. The cost of TDF, when utilized, is comparable to bituminous coal. Asbury is operated as a base load unit.

Iatan 1 is a large 708 MW coal unit operated by Kansas City Power & Light ("KCPL"). Empire owns 12 percent or 85 MW of this unit. On a variable cost basis, this unit is one of Empire's lowest cost fossil fueled energy resources along with Iatan 2 and Plum Point the newest coal units added to Empire's portfolio. This unit is a base load resource, and Empire does not have the primary responsibility for fuel procurement for this generating unit. Iatan 2, which KCPL declared to be in commercial service at the end of December 2010, is an 850 MW coal unit. Empire owns 12 percent or around 105 MW of this unit. Iatan 2 is a base load resource. Like Iatan 1, Empire is not directly responsible for fuel procurement for this unit. Empire's share of the actual Iatan 1 and Iatan 2 unit output during the ACA period was 1,184,672 Mwh, which was near to the expected output of 1,204,055 Mwh.

Plum Point is a large 665 MW base load coal unit located in Northeastern Arkansas. Empire owns 7.52 percent or around 50 MW of Plum Point. In addition, Empire has entered into a long-term purchased power contract for 50 MW from this unit. This unit went into commercial operation in August 2010. Empire is not directly responsible for the coal procurement at Plum Point.

INTERMEDIATE AND PEAKING RESOURCES

Empire owns natural gas-fired resources at three locations: (1) the Riverton generating station located in Riverton, Kansas; (2) the Energy Center facility located near La

Russell, Missouri; and (3) the State Line generating plant facility located in Jasper County, Missouri near the Kansas state line.

There are five gas turbines at Riverton with a total capacity of about 241 MW. These units are peaking resources and tend to operate only during extreme weather periods. In April of 2007, the newest natural gas-fired generating unit was added at the Riverton site. This unit, known as Riverton 12, has a capacity rating of approximately 142 MW. As mentioned earlier, this unit will be converted to a combined cycle unit by mid-2016, but it operated as a simple cycle unit during the ACA period. Three of the gas units at the Riverton plant are small units that average about 15 MW each and typically only run during extreme peak conditions. The other unit at the Riverton site, Riverton 8, was installed in 1954, and was designed to burn coal or natural gas. The Riverton plant ended its 62-year coal burning era on September 18, 2012 when it transitioned Units 7 & 8 fully to natural gas operation. As described earlier, Unit 7 was subsequently removed from service on June 30, 2014.

Empire has four gas-fired turbines at the Energy Center generation facility. Two of these units have capacity ratings in excess of 80 MW each, and are approximately 13,000 Btu/Kwh machines that were completed in 1978 and 1981. They also tend to operate only during the summer on-peak hours, but due to their ability to burn fuel oil as a back-up fuel, they can also operate during extreme winter conditions for economic or gas transportation curtailment reasons. Empire also has two 49 MW FT8 twin pack aero-derivative units at the Energy Center. The FT8 units have full load heat rates of around 10,500 Btu/Kwh. The FT8 units also have quick start capability and are typically on line

at full load in less than 10 minutes. These units are used primarily for two purposes, peaking and load balancing. The State Line facility consists of State Line unit 1 and the jointly-owned State Line combined cycle. State Line 1 is a 94 MW 1995 vintage combustion turbine with a full load heat rate of around 12,000 to 13,000 Btu/Kwh. Empire operates the 499 MW State Line combined cycle unit which is jointly owned with Westar Generation Inc. Empire has a 60 percent ownership share in the combined cycle unit, or about 297 MW, while Westar's ownership share is 40 percent. It is a 2X1 (two by one) unit consisting of two gas turbines and one steam turbine. The unit has the ability to operate in 1X1 mode (one gas turbine and the steam turbine) or 2X1 mode (two gas turbines and the steam turbine). The dispatch of this unit is very sensitive to both market prices and weather.

OTHER RESOURCES

Empire also owns and operates the Ozark Beach hydro facility located near Forsyth, Missouri. It has a capacity of about 16 MW and has averaged about 54,689 MWh's of annual output over the past three years. The output of this unit is limited by the water released upstream from Table Rock Lake by the Corp of Engineers and the level of water maintained by the Corp of Engineers on Bull Shoals Lake, which is downstream from the Ozark Beach facility.

At the end of 2005, Empire began receiving output from the 150 MW Elk River Wind Project located in Butler County, Kansas via a purchased power agreement ("PPA"). Empire has a contractual commitment to purchase 100 percent of the output from this project for 20 years. Near the end of 2008, Empire began receiving output from 105

MWs of the Meridian Way Wind Project located in Cloud County, Kansas. This is also a 20-year PPA. During the ACA period ending October 31, 2014, Empire purchased 837,232 Mwh, representing about 16 percent of its overall on-system energy requirements from the two wind farm PPAs. The energy is purchased at a fixed annual cost.

SPOT ENERGY PURCHASES

Prior to the SPP IM, Empire participated in the wholesale market to identify energy purchase opportunities that would lower energy costs. An energy trading desk is manned to call potential counterparties, compare opportunities and develop alternatives. When a decision on a spot market purchase is made, Empire also takes into account generation and transmission constraints and costs. Empire is a member of the Southwest Power Pool ("SPP") and is a network transmission service customer of SPP. Since the SPP IM began, bilateral contracts may still occur, although less frequently. In addition, Empire participated in the energy imbalance market implemented by SPP in 2007 until the advent of the SPP IM in March of 2014

Q. HOW ARE THE NEAR TERM, ONE AND FIVE-YEAR FUEL REQUIREMENTS DETERMINED?

A. Empire utilizes a chronological dispatch model known as PROSYM to develop a least cost hourly dispatch to serve its customers. Empire utilizes this model under a license agreement it has with the models owner, Ventyx, an ABB Company. The PROSYM model takes into account coal prices, natural gas prices, purchased power prices, generating plant efficiencies, generating plant outages and many of the other

characteristics of the Empire's generation resources and develops a least cost dispatch using a weather normalized load forecast. The model output includes the projected Mwh generation from each generation unit, projected fuel usage, and the number of unit starts and stops. Monthly reports are generated from this output and are used to develop plans for the acquisition of the fuel required to operate the generating units.

Q. HOW DID THE EMPIRE RESOURCE OUTPUT COMPARE TO EXPECTATIONS DURING THE ACA PERIOD?

A. In general, the unit and purchase output was very close to expectations during the ACA period. However, the Plum Point unit did experience an unplanned outage during the ACA period. Empire owns 50 MW of the coal-fired Plum Point unit and purchases another 50 MW through a long-term PPA. Plum Point was on a forced outage from May 11, 2014 through August 6, 2014 due to an electrical fault in the generator potential transformer cubicle. When it was brought back on line, the unit transitioned well through startup, but a tube leak a few days later required another four day forced outage in mid-August.

COAL AND FREIGHT

Q. WHAT APPROACH DOES EMPIRE USE TO PURCHASE ITS COAL REQUIREMENTS?

A. Empire conducted a competitive coal acquisition process and selected several suppliers to meet the majority of its Western coal requirements for multiple years going forward. Empire's western coal is delivered under transportation contracts with Burlington Northern and Kansas City Southern. Empire also has a train lease to supplement

deliveries and additional lease trains can be obtained as needed. Empire also has a train lease to supply its portion of the Plum Point railcars. All of the western coal used at the Asbury site is delivered to Empire's Asbury facility. Empire procures a majority of its bituminous coal (higher Btu) requirements on a competitive basis.

NATURAL GAS AND RELATED TRANSPORTATION

Q. PLEASE DESCRIBE HOW EMPIRE ACQUIRES ITS NATURAL GAS REQUIREMENTS.

A. All of Empire's natural gas-fired generation resources are located on the Southern Star Central Gas Pipeline ("SSCGP"). Empire currently has over 75,000 MMBtu/day firm production zone capacity and more than 85,000 MMBtu/day market zone capacity. If natural gas transportation is not available, most of Empire's simple cycle gas turbines have the ability to operate on fuel oil. Empire acquires physical natural gas on both a long-term monthly basis and daily basis. Typically these physical purchases are competitively bid when possible. If a particular physical gas contract request is very limited in terms of responding suppliers, the price quoted by the supplier is compared to the prices available on the NYMEX as adjusted for delivery on SSCGP to ensure that the price quoted by the physical supplier is competitive with other alternatives.

Prior to the current ACA period, Empire secured storage rights on SSCGP through a five year contract. These storage arrangements began in April of 2011. This contract provides Empire with the ability to store about one billion cubic feet (BCF) of natural gas. The ability to store natural gas will have both risk management (mitigate price volatility) and operational (volume) benefits for Empire.

MANAGING PRICE VOLATILITY OF NATURAL GAS

Q. HOW HAS EMPIRE'S MANAGEMENT CHOSEN TO MANAGE NATURAL GAS PRICE VOLATILITY?

A. Empire works diligently to mitigate the price volatility associated with changes in natural gas pricing. Empire developed and implemented a Risk Management Policy (RMP) during 2001 to manage this volatility. The RMP outlines the instruments that may be used to help manage volatility. In general terms, Empire's RMP allows the use of NYMEX Futures, Swaps, and Physical purchases to help manage price volatility. The RMP includes a minimum annual quantity of natural gas whose price must be established in advance through either a financial instrument and/or physical gas contract. For example, Empire has currently established the price on the following quantities of natural gas for the upcoming calendar years (as of November 14, 2014).

Year	Hedge Percentage	Dekatherms	Average Price
2015	63%	6,060,000	$4.35
2016	43%	4,076,000	$4.10
2017	20%	2,082,900	$4.13
2018	11%	965,000	$4.20

Source: November 14, 2014 Natural Gas Position Report

2013 PROCUREMENT PLAN FOR 2014

Q. PLEASE DESCRIBE THE STATUS OF THE NATURAL GAS PROCUREMENT PROCESS AT THE BEGINNING OF THE CURRENT ACA PERIOD.

A. Empire's RMP called for the price of a minimum of 60% of its expected 2014 natural gas usage to be established by December 31, 2013. As of December 31, 2013, Empire had **_____** MMBtu of its 2014 calendar year natural gas requirements either physically purchased at a fixed price or financially hedged out of a total expected natural gas requirement of **_____** MMBtu. The **_____** MMBtu represented about 60% of Empire's anticipated 2014 natural gas requirement, and carried an average cost of $**_____**/MMBtu. Of the **_____** MMBtu, a total of **_____** MMBtu was to be purchased under physical contracts and **_____** MMBtu was hedged using financial instruments. The financial instruments used were a combination of Nymex contracts and associated basis swaps or swap transactions with Over the Counter ("OTC") counterparties. After burning the natural gas it has physically purchased, Empire will buy its additional physical gas requirements on an intra-month daily or weekly basis on a competitive basis to balance the system natural gas requirements.

Q. ARE THE BENEFITS AND COSTS OF EMPIRE'S ENERGY RISK MANAGEMENT POLICY RECORDED ON THE GENERAL LEDGER?

A. Yes. The results of Empire's risk management policies, including the settlement of financial hedges, are reflected in the fuel expense accounts on the general ledger, namely accounts 501 and 547 in accordance with Generally Accepted Accounting Principles ("GAAP"). The gains/losses arising from the periodic settlement of the financial instruments have been eliminated from the Kansas ECA filing as have the gains/losses that arose from the periodic sale of excess natural gas during the ACA period. This is in

accordance with an agreement reached with the staff of the Kansas Corporation Commission ("KCC") and approved by the KCC in Docket No. 07-EPDE-712-ACA.

Q. WERE THE ATTACHMENTS TO THE ACA APPLICATION PREPARED BY YOU OR PREPARED UNDER YOUR DIRECT SUPERVISION?

A. Yes. These attachments were prepared under my direct supervision.

Q. PLEASE DESCRIBE THE ATTCHAMENTS?

A. The main attachments to the ACA application, which supports the ACA, as filed, consist of 18 schedules which display the actual energy costs incurred by Empire during the ACA period beginning November of 2013 through October 31, 2014. In addition, these attachments display the actual ECA revenue billed to the Kansas retail customers during the ACA true-up period to arrive at the (over)/under ACA recovery balance. Also included in the attached schedules is an analysis of the off-system sales profits flowed through the ECA to the Kansas retail customers during the ACA period. The attached schedules also display a monthly energy cost forecast for calendar year 2015 as required by Empire's ECA tariff. This monthly forecast of 2015 energy costs was developed using the Prosym model that was discussed earlier. This forecast included the exclusion of the effect of the financial instruments Empire had in place to hedge the price of natural gas for calendar year 2015.

Q. WHAT WAS THE (OVER)/UNDER RECOVERY BALANCE AT THE END OF OCTOBER 2014 AS FILED?

A. As displayed on Attachment A, Schedule 2, there was an over recovery at October 31, 2014 of $340,635. The overall ACA balance has been adjusted to reflect the exclusion

of the gains/losses associated with the financial instruments used to hedge natural gas purchases during the ACA period and the gains/losses associated with any sale of excess natural gas.

Q. HOW DOES THE INITIAL FORECAST OF KANSAS ECA ENERGY COSTS COMPARE TO THE ACTUAL KANSAS ECA ENERGY COSTS FOR THE CURRENT ACA PERIOD?

A. The actual Kansas ECA average energy cost, including the natural gas transportation, for the twelve-months ending October 31, 2014 were higher than those originally forecast in the last ACA filing. The average energy cost originally forecast was $28.30 per Mwh. The actual energy costs came in at $30.75 per Mwh, $2.45 per Mwh, or about 8.7% higher than the original forecast. In terms of overall cost, the ACA period energy costs were $7.8 million versus a budget of $7.2 million. The primary reasons for this differential in cost were due to a colder than normal winter and the Plum Point coal-fired base load unit being on an unplanned outage for the majority of the summer season.

Q. DOES ATTACHMENT A CONTAIN AN ANALYSIS OF THE OFF-SYSTEM SALES GROSS PROFIT AND THE RELATED OVER/ (UNDER) PASS THROUGH TO EMPIRE'S KANSAS RETAIL CUSTOMERS?

A. Yes. Attachment A, Schedule 4, displays an analysis of the actual pass through of the Kansas share of actual off-system sales gross profit. As indicated, Empire passed through to its Kansas retail customers $201,770 of off-system sales gross profit during the ACA period ending October 31, 2014. The target pass through to Empire's Kansas retail customer base was $197,462. Thus, there is a balance of $4,308 of off-system

sales gross profit that needs to be incorporated into the ACA factor for calendar year 2015. This has been done on Attachment A, Schedule 2. As indicated the energy cost over recovery of $344,943 and the excess recovery of off-system sales gross profit of $4,308 have been combined to arrive at an ACA factor of $0.00145/Kwh for calendar year 2015 as filed. This ACA factor is designed to remain constant for each month of calendar year 2015.

Q. WAS THERE A NEW FACTOR D DEVELOPED TO REFLECT A PASS THROUGH OF THE KANSAS SHARE OF OFF-SYSTEM SALES GROSS PROFIT FOR THE 12-MONTHS ENDING OCTOBER 31, 2014?

A. Yes. The Kansas share of off-system sales gross profit for this 12-month period was negative $50,860. This amount was used to develop a new factor D for the upcoming calendar year of 2015 of $0.00022/Kwh. This calculation is displayed on Attachment A, Schedule 5. This off-system sales factor will remain constant for each month of calendar year 2015.

Q. PLEASE DESCRIBE THE FORECAST OF ECA FACTORS FOR THE UPCOMING CALENDAR YEAR OF 2015.

A. Attachment A, Schedule 1, displays the forecast of the ECA factor for each month for calendar year 2015. This forecast combines the results of the (over)/under recovery of eligible energy costs, the over/(under) flow through of off-system sales gross profit and the Kansas ECA forecast of 2015 fuel and energy costs to arrive at a monthly forecast of 2015 Kansas ECA factors. As indicated, these factors range from a high of $0.03198 in April of 2015 to a low of $0.02956 in September of 2015. The forecast of energy costs

for 2015 also incorporates Empire's current estimate of fuel prices excluding the impact of the financial instruments used to hedge Empire's natural gas requirements for calendar year 2015 and the inclusion of the cost of air quality control consumables.

CONCLUSION

Q. DO THE ENERGY COSTS REFLECTED IN THE EMPIRE ACA, CONSTITUTE A FAIR, REASONABLE AND EFFECTIVE METHOD OF PROCURRING THE FUEL AND ENERGY REQUIREMENTS FOR THE COMPANY AND EMPIRE'S KANSAS ELECTRIC CUSTOMERS?

A. Yes, I believe it does, and the calculation of the ACA has been made in accordance with the Empire ECA tariff authorized by the Commission. It also reflects the actual results of a reasonable and effective management policy related to the operation of Empire's generating units and a structured approach to the acquisition of fuel for the generating units that has been in place for a number of years. The fuel acquired for the units was acquired in the competitive marketplace under competitive conditions. I believe that approval of the ACA factor that has been proposed by Empire for calendar year 2015 in its entirety is reasonable, prudent and in the public interest and would urge such action by the Commission.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes it does.

Empire District Electric Co.
Annual ACA Calculation
For The ECA Year Ending 12/31/2015

Attachment A
Schedule 1

		January-15	February-15	March-15	April-15	May-15	June-15	July-15	August-15	September-15	October-15	November-15	December-15
Fuel	F=	$ 10,389,617	$ 8,502,678	$ 7,719,195	$ 6,094,525	$ 6,785,729	$ 8,629,292	$ 11,390,771	$ 11,291,604	$ 7,823,494	$ 6,717,145	$ 7,341,129	$ 9,453,683
Purchased Power	P=	$ 3,575,839	$ 3,483,078	$ 4,422,880	$ 4,628,478	$ 3,652,672	$ 3,692,320	$ 3,177,359	$ 3,387,092	$ 3,332,695	$ 3,935,461	$ 3,645,322	$ 4,352,855
Interchange	NI=											-	-
Emission Allowance/AQCS	E=	$ 360,385	$ 353,677	$ 357,317	$ 353,099	$ 357,317	$ 359,171	$ 357,317	$ 360,381	$ 356,104	$ 340,327	$ 359,167	$ 357,317
Total ECA Eligible Costs		$ 14,325,840	$ 12,339,432	$ 12,499,392	$ 11,076,103	$ 10,795,718	$ 12,680,783	$ 14,925,447	$ 15,039,077	$ 11,512,293	$ 10,992,933	$ 11,345,619	$ 14,163,855
Kansas ECA Billed KWH	S=	23,799,710	19,926,205	18,675,954	15,653,187	16,224,173	20,237,878	23,633,761	23,591,858	18,388,453	16,346,771	16,863,029	22,016,403
Total Company Billed KWH		483,879,313	412,679,912	398,862,545	346,420,814	358,275,190	419,680,571	486,244,569	488,973,386	389,423,738	360,163,351	380,998,165	471,048,007
Kansas Jurisdiction Factor	KF=	4.919%	4.828%	4.682%	4.519%	4.528%	4.822%	4.860%	4.825%	4.722%	4.539%	4.426%	4.674%
Average Cost per KWH Sold-Kansas		2.961	2.990	3.134	3.198	3.013	3.021	3.069	3.076	2.956	3.052	2.978	3.007
Credit for Off-system Sales Profits		0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022
Annual Settlement Factor		0.145	0.145	0.145	0.145	0.145	0.145	0.145	0.145	0.145	0.145	0.145	0.145
Total ECA per KWH Sold-Kansas	cents per KWH	3.128	3.157	3.301	3.365	3.180	3.188	3.236	3.243	3.123	3.219	3.145	3.174

Empire District Electric Co.
Annual ACA Calculation
For ECA Year Ending 10/31/2014

Attachment A
Schedule 2

		Prior to Integrated Market				Integrated Market								
		Nov 2013	Dec 2013	Jan 2014	Feb 2014	Mar 2014	Apr 2014	May 2014	Jun 2014	Jul 2014	Aug 2014	Sep 2014	Oct 2014	Total
Prior to Integrated Market														
Fuel/Generation	F=	$ 8,893,498.19	$11,941,446.08	$12,966,231.07	$14,970,793.25									$ 48,771,968.59
Purchased Power	P=	$ 4,331,620.70	$ 4,161,476.91	$ 5,331,068.86	$ 6,320,846.93									$ 20,145,013.40
Interchange	NI=	$ (1,416,113.53)	$ (1,709,908.72)	$ (1,787,474.77)	$ (1,818,000.41)									$ (6,731,497.43)
AQCS/Emission Allowance	E=	$ 53,448.06	$ 126,883.92	$ 151,145.56	$ 110,549.36									
Integrated Market														
Generation (includes PPA)						$ 13,455,928.39	$ 12,133,499.42	$ 11,027,279.83	$ 10,438,007.42	$ 13,417,034.97	$ 15,268,064.82	$ 10,629,901.28	$ 9,403,119.44	$ 95,772,835.57
Native Load Costs						$ 18,898,783.86	$ 14,071,226.90	$ 15,018,021.65	$ 14,991,382.40	$ 16,551,999.41	$ 18,260,208.39	$ 12,981,757.29	$ 13,235,747.74	$ 124,009,127.64
EDE Sales						$ (18,829,153.67)	$ (14,891,061.54)	$ (14,435,994.74)	$ (11,670,345.78)	$ (14,289,419.80)	$ (16,850,241.09)	$ (11,433,772.09)	$ (11,553,044.32)	$ (113,953,033.03)
AQCS						$ 165,472.37	$ 114,464.57	$ 139,047.71	$ 78,739.13	$ 131,405.61	$ 183,963.42	$ 4,322.52	$ 69,502.33	$ 886,917.66
SWPA												$ (123,038.37)	$ (3,966.27)	$ (127,004.64)
Emission Allowance		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total ECA Eligible Costs		$11,862,453.42	$14,519,898.19	$16,660,970.72	$19,584,189.13	$ 13,691,030.95	$ 11,428,129.35	$ 11,748,354.45	$ 13,837,783.17	$ 15,811,020.19	$ 16,861,995.54	$ 12,059,170.63	$ 11,151,358.92	$ 168,774,327.76
Kansas Billed KWH		15,931,803	20,334,276	24,703,473	23,617,379	20,856,780	16,325,804	15,438,224	17,632,778	20,253,086	21,248,622	21,920,091	16,470,219	234,732,535
Total Company Billed KWH		342,607,936	444,596,317	521,146,799	490,290,993	448,780,827	367,858,571	348,340,921	386,262,321	437,015,051	447,675,435	458,950,219	360,649,921	5,054,175,311
Kansas Jurisdiction Factor	KF=	4.650%	4.574%	4.740%	4.817%	4.647%	4.438%	4.432%	4.565%	4.634%	4.746%	4.776%	4.567%	4.644%
Kansas Costs Eligible for ECA Recovery		$ 551,604.08	$ 664,140.14	$ 789,730.01	$ 943,370.39	$ 636,222.21	$ 507,180.38	$ 520,687.07	$ 631,694.80	$ 732,682.68	$ 800,270.31	$ 575,945.99	$ 509,282.56	$ 7,862,810.62
ECA Revenue		$ 492,452.03	$ 611,451.68	$ 748,762.27	$ 713,953.37	$ 626,537.67	$ 530,751.89	$ 460,676.60	$ 557,019.46	$ 726,883.26	$ 713,528.73	$ 699,250.90	$ 576,292.96	7,457,560.82
(Over)/Under Recovery as Reported Monthly		$ 59,152.05	$ 52,688.46	$ 40,967.74	$ 229,417.02	$ 9,684.54	$ (23,571.51)	$ 60,010.47	$ 74,675.34	$ 5,799.42	$ 86,741.58	$ (123,304.91)	$ (67,010.40)	$ 405,249.80
Adjustments Bi-Lat Sales		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,500.00	$ -	$ 3,250.00	$ 35,625.00	$ 6,420.00	$ 51,795.00
Adjustments SWPA		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 123,038.37	$ 3,966.27	$ 127,004.64
Adjustments Derivative		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 62,010.28	$ (1,105,406.52)	$ (2,340,250.90)	$ (66,161.70)	$ (100,696.68)	$ (3,550,505.52)
Total Adjustments		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 68,510.28	$ (1,105,406.52)	$ (2,337,000.90)	$ 92,501.67	$ (90,310.41)	$ (3,371,705.88)
Kansas Share of Adjustments		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,127.49	$ (51,224.54)	$ (110,914.06)	$ 4,417.88	$ (4,124.48)	$ (158,717.71)
Adjusted (Over)/Under Recovery		$ 59,152.05	$ 52,688.46	$ 40,967.74	$ 229,417.02	$ 9,684.54	$ (23,571.51)	$ 60,010.47	$ 77,802.83	$ (45,425.12)	$ (24,172.48)	$ (118,887.03)	$ (71,134.88)	$ 246,532.09
Annual Settlement Factor (Over)/Under	ACA=													344,943.27
Off System Profit Factor "D" Over/(Under)	OAV=													(4,307.98)
Total (Over)/Under Recovery Amount For ACA														$ 340,635.29
New ACA Rate													$ per KWH	**$ 0.00145**
New D Factor for Upcoming ECA Year													$ per KWH	**$ 0.00022**

ACA Reconciliation
For ECA Year Ending 10/31/2014

Attachment A
Schedule 3

		Nov 2013	Dec 2013	Jan 2014	Feb 2014	Mar 2014	Apr 2014	May 2014	Jun 2014	Jul 2014	Aug 2014	Sep 2014	Oct 2014	Total
ACA Beginning Balance		$ (459,403.46)	$ (341,781.68)	$ (214,466.43)	$ (120,633.28)	$ 159,324.94	$ 213,642.99	$ 225,008.74	$ 318,056.96	$ 433,593.92	$ 431,510.38	$ 452,809.99	$ 380,831.92	$ (459,403.46)
ACA Recovery		$ (58,469.73)	$ (74,626.79)	$ (52,865.41)	$ (50,541.19)	$ (44,633.51)	$ (34,937.26)	$ (33,037.75)	$ (37,734.13)	$ (43,341.58)	$ (45,472.09)	$ (46,908.96)	$ (35,246.23)	$ (557,814.63)
Actual Annual (Over)/Under	ACA=	$ 59,152.05	$ 52,688.46	$ 40,967.74	$ 229,417.02	$ 9,684.54	$ (23,571.51)	$ 60,010.47	$ 77,802.83	$ (45,425.12)	$ (24,172.48)	$ (118,887.03)	$ (71,134.88)	$ 246,532.09
ACA Ending Balance (Over)/Under		$ (341,781.68)	$ (214,466.43)	$ (120,633.28)	$ 159,324.94	$ 213,642.99	$ 225,008.74	$ 318,056.96	$ 433,593.92	$ 431,510.38	$ 452,809.99	$ 380,831.92	$ 344,943.27	$ 344,943.27

Empire District Electric Co.
Off System Profit Factor "D" Reconciliation
For ECA Year Ending 10/31/2014

Attachment A
Schedule 4

		Nov 2013	Dec 2013	Jan 2014	Feb 2014	Mar 2014	Apr 2014	May 2014	Jun 2014	Jul 2014	Aug 2014	Sep 2014	Oct 2014	Total
Kansas ECA Billed KWH	S=	15,931,803	20,334,276	24,703,473	23,617,379	20,856,780	16,325,804	15,438,224	17,632,778	20,253,086	21,248,622	21,920,091	16,470,219	234,732,535
Total Company Billed KWH		342,607,936	444,596,317	521,146,799	490,290,993	448,780,827	367,858,571	348,340,921	386,262,321	437,015,051	447,675,435	458,950,219	360,649,921	5,054,175,311
Off-system Sales Credit Per KWH		$ 0.00031	$ 0.00031	$ 0.00096	$ 0.00096	$ 0.00096	$ 0.00096	$ 0.00096	$ 0.00096	$ 0.00096	$ 0.00096	$ 0.00096	$ 0.00096	
Actual Off-system Sales Margins Cr. Kansas		$ 4,938.86	$ 6,303.63	$ 23,715.33	$ 22,672.68	$ 20,022.51	$ 15,672.77	$ 14,820.70	$ 16,927.47	$ 19,442.96	$ 20,398.68	$ 21,043.29	$ 15,811.41	$ 201,770.29
Kansas Off-system Margins	OAV													($197,462.31)
Over/(Under)														$ (4,307.98)

Empire District Electric Co.
Off System Profit Factor "D"
For ECA Year Ending 10/31/2014

Attachment A
Schedule 5

	Nov 2013	Dec 2013	Jan 2014	Feb 2014	Mar 2014	Apr 2014	May 2014	Jun 2014	Jul 2014	Aug 2014	Sep 2014	Oct 2014	Total
Kansas Billed KWH	15,931,803	20,334,276	24,703,473	23,617,379	20,856,780	16,325,804	15,438,224	17,632,778	20,253,086	21,248,622	21,920,091	16,470,219	234,732,535
Total Company Billed KWH	342,607,936	444,596,317	521,146,799	490,290,993	448,780,827	367,858,571	348,340,921	386,262,321	437,015,051	447,675,435	458,950,219	360,649,921	5,054,175,311
Kansas Jurisdiction Factor-KF	4.650%	4.574%	4.740%	4.817%	4.647%	4.438%	4.432%	4.565%	4.634%	4.746%	4.776%	4.567%	4.644%
Actual Off System Sales Margin-Total Company	$ (454,327.93)	$ (43,888.80)	$ 334.84	$ (575,936.49)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (1,073,818.38)
Kansas Share of Off System Sales Margin-OAV	$ (21,126.25)	$ (2,007.47)	$ 15.87	$ (27,742.86)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (50,860.71)
Rate per KWH												$ per KWH	$ 0.00022

Attachment B

CONFIDENTIAL

AFFIDAVIT OF TODD W. TARTER

STATE OF MISSOURI)
) ss
COUNTY OF JASPER)

On the 14th day of January 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 14th day of January, 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.