Exhibit No.: 125

Exhibit No.: 125

Exhibit No.: 125

Data Center

Missouri Public

Service Commission

Type of Exhibit: Supplemental Direct Testimony Sponsoring Party: The Empire District Electric Co.

Case No.: ER-2014-0351

Date Testimony Prepared: November, 2014

Before the Public Service Commission of the State of Missouri

Supplemental Direct Testimony

of

Todd W. Tarter

November, 2014



Date Williams Reporter XF
File No. FR-2014-6351

TODD W. TARTER SUPPLEMENTAL DIRECT TESTIMONY

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

1 I. INTRODUCTION

- 2 Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.
- 3 A. Todd W. Tarter, My business address is 602 S. Joplin Avenue, Joplin, Missouri.
- 4 Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?
- 5 A. I am employed by The Empire District Electric Company ("Empire" or "Company"). My
- 6 title is Manager of Strategic Planning.
- 7 Q. ARE YOU THE SAME TODD W. TARTER WHO FILED DIRECT TESTIMONY
- 8 HEREIN?
- 9 A. Yes. I filed Direct Testimony to support Empire's proposal to continue its Fuel Adjustment
- 10 Clause ("FAC") in this case, to support Empire's estimate of the ongoing level of on-system
- fuel and purchased power ("FPP") costs as part of this case, and to describe the adjustments
- for normalized coal and tire-derived fuel inventory balances and other fuel and purchased
- power test year adjustments. In addition, my Direct Testimony provides the information
- required by 4 CSR 240-3.161(3) for continuation of the FAC.
- 15 Q. WHAT IS THE PURPOSE OF YOUR SUPPLEMENTAL DIRECT TESTIMONY
- 16 IN THIS CASE?
- 17 A. My Supplemental Direct Testimony provides additional supporting information for the
- 18 continuation of Empire's FAC. In particular, I propose a revised exemplar customer notice
- 19 (Supp. Sch. TWT-5), provide additional heat rate test information (Supp. Sch. TWT-7),
- and provide additional explanation of environmental matters, including a projected

TODD W. TARTER SUPPLEMENTAL DIRECT TESTIMONY

- 1 position of forecasted environmental investment allowances, purchases, and sales (Supp.
- 2 Sch. TWT-11).

3 II. ADDITIONAL SUPPORTING INFORMATION FOR EMPIRE'S FAC

4 CONTINUATION REQUEST

- 5 Q. PLEASE DESCRIBE SUPPLEMENTAL SCHEDULE TWT-5.
- 6 A. In addition to the normal notice requirements for a general rate filing, pursuant to
- 7 Commission Rules 3.161(3)(A) and 20.090(2)(D), Empire has prepared a notice that
- 8 describes the request to continue the existing FAC. Empire's original exemplary notice is
- 9 attached to my Direct Testimony as Sch. TWT-5. Empire proposes adding an additional
- sentence, and Empire's revised exemplary notice is attached hereto as Supplemental Sch.
- 11 TWT-5.
- 12 Q. HOW DOES SUPPLEMENTAL SCHEDULE TWT-7 DIFFER FROM SCHEDULE
- 13 TWT-7 ATTACHED TO YOUR DIRECT TESTIMONY?
- 14 A. Pursuant to Commission Rule 3.161(3)(Q), the original Schedule TWT-7 and the
- Supplemental Schedule TWT-7 attached hereto provide data regarding the heat rate testing
- performed on Empire's generation units during the 24 months prior to the filing of
- 17 Empire's Direct Testimony, Supplemental Schedule TWT-7 includes the test dates and
- heat rate figures for the Iatan 1 and Iatan 2 units, while Schedule TWT-7 attached to my
- Direct Testimony refers to the filing of Kansas City Power & Light Company for the
- information on the heat rate tests for these units. Information on Riverton 7 has also been
- 21 removed from Supplemental Schedule TWT-7, as Riverton 7 was removed from service in
- 22 June of 2014.
- 23 O. PLEASE DESCRIBE SUPPLEMENTAL SCHEDULE TWT-11 ATTACHED

TODD W. TARTER SUPPLEMENTAL DIRECT TESTIMONY

1 HERETO.

- 2 A. Commission Rule 3.161(3)(S) provides that "(i)f emissions allowance costs or sales
- 3 margins are included in the RAM request and not in the electric utility's environmental
- 4 cost recovery surcharge, a complete explanation of forecasted environmental investments
- and allowances purchases and sales" must be included in a utility's direct testimony.
- 6 Pursuant to this Rule, Schedule TWT-11 provides a description of environmental matters
- and a table of a projected position for purchasing and selling emission allowances.
- 8 O. DOES THIS CONCLUDE YOUR SUPPLEMENTAL DIRECT TESTIMONY?
- 9 A. Yes, at this time.

AFFIDAVIT OF TODD W. TARTER

EXEMPLARY NOTICE

On August 29, 2014, The Empire District Electric Company ("Empire" or "Company") filed revised electric service tariff sheets with the Missouri Public Service Commission ("PSC"), which would increase the Company's Missouri jurisdictional annual gross revenues by \$24.3 million, or approximately 5.5 percent. For a residential customer using 1,000 kilowatt-hours of electricity a month, the proposed increase would be approximately \$9.87 each month.

The Company is also asking to continue the use of the Fuel Adjustment Clause ("FAC"), with an updated base cost of energy and other modifications. The difference between actually incurred fuel costs and this base cost would be billed or credited to each customer based on the customer's monthly energy usage. The continuation of the FAC will allow the Company to adjust customers' bills twice each year, on June 1 and December 1, based on the varying costs of fuel used to generate electricity at the Company's generating units and electric energy the Company purchases on behalf of its customers.

Local public hearings have been set before the PSC as follows:

dates, times, locations

Each public hearing will begin with a question-and-answer session.

If you wish to comment or secure information, you may contact: the Office of the Public Counsel, P.O. Box 2230, Jefferson City, Missouri, 65102, telephone 1-866-922-2959, e-mail OPCService@ded.mo.gov; or the Missouri Public Service Commission, P.O. Box 360, Jefferson City, Missouri, 65102, telephone 1-800-392-4211, email PSCInfo@psc.mo.gov.

The Commission will also conduct an evidentiary hearing at its office in Jefferson City on *dates*, beginning at 8:30 a.m. each day.

The local public hearings and the evidentiary hearing will be held in buildings that meet accessibility standards required by the American with Disabilities Act. If a customer needs additional accommodations to participate in any of these hearings, please call the PSC's hotline at 1-800-392-4211 (voice) or Relay Missouri at 711, prior to said hearing.

SUPPLEMENTAL SCHEDULE TWT-7

Unit	Date of test	Heat rate (Btu/kWh)
Asbury	7/27/2012	10,907
Riverton 7	*	*
Riverton 8	9/19/2014	12,450
Riverton 9	9/19/2014	16,760
Riverton 10	9/22/2014	15,779
Riverton 11	9/2/2014	15,572
Riverton 12	9/4/2014	10,268
Energy Center 1	9/16/2014	13,417
Energy Center 2	8/19/2014	13,507
Energy Center 3	7/22/2014	10,846
Energy Center 4	7/22/2014	11,025
State Line 1	7/25/2014	11,730
SLCC	8/23/2014	7,040
latan 1	10/3/2013	9,798
latan 2	6/13/2014	8,954
Plum Point	2/20/2013	9,763

^{*} Riverton 7 was removed from service in June 2014

Environmental Matters

We are subject to various federal, state, and local laws and regulations with respect to air and water quality and with respect to hazardous and toxic materials and hazardous and other wastes, including their identification, transportation, disposal, record-keeping and reporting, as well as remediation of contaminated sites and other environmental matters. We believe that our operations are in material compliance with present environmental laws and regulations. Environmental requirements have changed frequently and become more stringent over time. We expect this trend to continue. While we are not in a position to accurately estimate compliance costs for any new requirements, we expect any such costs to be material, although recoverable in rates.

Electric Segment

The Federal Clean Air Act (CAA) and comparable state laws regulate air emissions from stationary sources such as electric power plants through permitting and/or emission control and related requirements. These requirements include maximum emission limits on our facilities for sulfur dioxide (SO2), particulate matter, nitrogen oxides (NOx), carbon monoxide (CO), and hazardous air pollutants including mercury. In the future they will include limits on greenhouse gases (GHG) such as carbon dioxide (CO_2).

Compliance Plan

In order to comply with current and forthcoming environmental regulations, we are taking actions to implement our compliance plan and strategy (Compliance Plan). The Mercury Air Toxic Standards (MATS) and the Clean Air Interstate Rule (CAIR) and its subsequent replacement rule, both regulations which we discuss further below, are the drivers behind our Compliance Plan and its implementation schedule. The MATS require reductions in mercury, acid gases and other emissions considered hazardous air pollutants (HAPS). They became effective in April 2012 and require full compliance by April 16, 2015 (with flexibility for extensions for reliability reasons). The Cross State Air Pollution Rule (CSAPR - formerly the Clean Air Transport Rule, or CATR) was first proposed by the Environmental Protection Agency (EPA) in July 2010 as a replacement of CAIR and was set to take effect on January 1, 2012. CSAPR was stayed by the D.C Circuit Court of Appeals in late December 2011, then vacated by court order in August 2012. On April 29, 2014, the U.S. Supreme Court (the Court) reversed the D.C Circuit Court of Appeals judgment, and remanded the case back to the D.C. Circuit Court for further proceedings consistent with the Court's opinion. In light of the Supreme Court's decision upholding the EPA's approach to implementing the good neighbor provision in CSAPR, on June 26, 2014, the EPA moved to lift the stay entered in late December 2011. On October 23, 2014, the D.C. Circuit Court of Appeals granted the EPA's motion to lift the stay on CSAPR. The EPA is currently reviewing the court's order to determine whether any further guidance or administrative action is necessary to begin implementation of CSAPR, including guidance on compliance phases and timing. In the meantime, however, CAIR will remain in effect. We anticipate compliance costs associated with the MATS and CAIR (and eventually CSAPR) regulations to be recoverable in our rates.

Our Compliance Plan largely follows the preferred plan presented in our Integrated Resource Plan (IRP), filed in mid-2013 with the MPSC. As described above under New Construction, we are in the process of installing a scrubber, fabric filter, and powder activated carbon injection system at our Asbury plant. The addition of this air quality control equipment is expected to be completed by early 2015. This addition required the retirement of Asbury Unit 2, a steam turbine rated at 14 megawatts that was used for peaking purposes. Asbury Unit 2 was retired on December 31, 2013.

In September 2012, we completed the transition of our Riverton Units 7 and 8 from operation on coal and natural gas to operation solely on natural gas. Riverton Unit 7 was permanently removed from service on June 30, 2014. Riverton Unit 8 and Riverton Unit 9, a small combustion turbine that requires steam from Unit 8 for start-up, are planned to be retired upon the conversion of Riverton Unit 12, a simple cycle combustion turbine, to a combined cycle unit. This conversion is currently

scheduled to be completed in mid-2016. Once our Asbury and Riverton projects are completed, our generating fleet aggregate emissions will be in compliance with CSAPR's emission limits as originally proposed. However, the current version of CSAPR is likely to be revised to be consistent with the April 29, 2014 U.S. Supreme Court decision.

See "New Construction" above for project costs for both of these projects.

Air Emissions

The CAA regulates the amount of NOx and SO2 an affected unit can emit. As currently operated, each of our affected units is in compliance with the applicable NOx and SO2 limits. Currently, NOx emissions are regulated by the CAIR and National Ambient Air Quality Standard (NAAQS) rules for ozone (discussed below). SO2 emissions are currently regulated by the Title IV Acid Rain Program and the CAIR.

CAIR:

The CAIR generally calls for fossil-fueled power plants greater than 25 megawatts to reduce emission levels of SO2 and/or NOx in 28 eastern states and the District of Columbia, including Missouri, where our Asbury, Energy Center, State Line and Iatan Units No. 1 and No. 2 are located. Kansas was not included in CAIR and our Riverton Plant was not affected. Arkansas, where our Plum Point Plant is located, was included for ozone season NOx but not for SO2.

SO2 allowance allocations under the Title IV Acid Rain Program are used for compliance in the CAIR SO2 Program. The alternate plans in our Integrated Resource Plan (IRP) assumed costs for other emissions such as SO2, NOx and mercury. In our most recent five-year business plan (2014-2018), which assumes normal operations while maintaining compliance with permit conditions, we anticipate that it will be economically beneficial to purchase allowances for some of these pollutants. We do not expect the cost of these allowances to be material.

Based on the April 29, 2014 U.S. Supreme Court decision, the current version of CSAPR (CAIR's replacement) is likely to be revised to be consistent with the court's opinion.

Mercury Air Toxics Standard (MATS):

As described above, the MATS standard became effective in April 2012, and requires compliance by April 2015 (with flexibility for extensions for reliability reasons). For all existing and new coal-fired electric utility steam generating units (EGUs), the MATS standard will be phased in over three years, and allows states the ability to give facilities a fourth year to comply. On March 28, 2013, the EPA finalized updates to certain emission limits for new power plants under the MATS. The new standards affect only new coal and oil-fired power plants that will be built in the future. The update does not change the final emission limits or other requirements for existing power plants.

National Ambient Air Quality Standards (NAAQS):

Under the CAA, the EPA sets NAAQS for certain emissions considered harmful to public health and the environment, including particulate matter (PM), NOx, CO, SO2, and ozone which result from fossil fuel combustion. Our facilities are currently in compliance with all applicable NAAQS.

In January 2013, the EPA finalized the revised PM 2.5 primary annual standard at 12 ug/m³ (micrograms per cubic meter of air). States are required to meet the primary standard in 2020. The standard should have no impact on our existing generating fleet because the regional ambient monitor results are below the PM 2.5 required level. However, the PM 2.5 standards could impact future major modifications/construction projects that require additional permits.

Ozone, also called ground level smog, is formed by the mixing of NOx and Volatile Organic Compounds (VOCs) in the presence of sunlight. Based on the current standard, our service territory is designated as attainment, meaning that it is in compliance with the standard. A revised Ozone

NAAQS is expected to be proposed by the EPA late in 2014 and the final rule is expected in October 2015.

Greenhouse Gases (GHGs):

As the EPA began to prepare for future regulations, GHG emissions have been reported for several years under the Mandatory GHG Reporting Rule. EDE and EDG's GHG emissions for each year, including 2013, have been reported to the EPA as required.

A series of actions and decisions including the Tailoring Rule, which regulates carbon dioxide and other GHG emissions from certain stationary sources, have further set the foundation for the regulation of GHGs. However, because of the uncertainties regarding the final outcome of the GHG regulations (discussed below), the ultimate cost of compliance cannot be determined at this time. In any case, we expect the cost of complying with any such regulations to be recoverable in our rates.

In April 2012, the EPA proposed a Carbon Pollution Standard for new power plants to limit the amount of carbon emitted by EGUs. This standard was rescinded, and a re-proposal of standards of performance for affected fossil fuel-fired EGUs was published in January 2014. The proposed rule applies only to new EGUs and sets separate standards for natural gas-fired combustion turbines and for fossil fuel-fired utility boilers. The proposal would not apply to existing units, including modifications such as those required to meet other air pollution standards which are currently being undertaken at our Asbury facility and at the Riverton facility with the conversion of simple cycle Unit 12 to combined cycle. The final rule is expected in January 2015.

On June 2, 2014, the EPA released the proposed rule for limiting carbon emissions from existing power plants. The "Clean Power Plan" requires a 30% carbon emission reduction from 2005 baseline levels by 2030 and requires fossil-fuel fired power plants across the nation, including those in Empire's fleet, to meet state-specific goals to lower carbon levels. The EPA has identified four building block strategies to achieve the best system of emission reduction (BSER). Included in these strategies are the following: making fossil fuel power plants more efficient; using lower-emitting sources (such as natural gas combined cycle units); using more renewables and keeping nuclear sources; and using power more efficiently. States will use the building blocks to craft their compliance plans or may work with other states in developing a regional approach to compliance, in which case additional time is given for implementation.

At this time, the comment period has been extended to December 1, 2014. The EPA is scheduled to issue the final rule for existing power plants by June 1, 2015. Each state must submit its initial compliance plan by June 30, 2016 with additional time available by request until June 2017 for a single state or June 2018 for a multi-state approach. Currently, state and industry representatives including Empire are collaborating to evaluate future impacts of the rule as proposed by the EPA.

Also, on June 2, 2014, the EPA released the proposed carbon pollution standards for modified and reconstructed stationary EGUs. The proposed rule focuses on electric utility steam generating units and natural gas-fired stationary combustion turbines. The comment period ended October 16, 2014 and the EPA anticipates issuing a final rule in June 2015.

Water Discharges

We operate under the Kansas and Missouri Water Pollution Plans pursuant to the Federal Clean Water Act (CWA). Our plants are in material compliance with applicable regulations and have received all necessary discharge permits.

The Riverton Units 7 and 8 and latan Unit 1, which utilize once-through cooling water, were affected by regulations for Cooling Water Intake Structures issued by the EPA under the CWA Section 316(b) Phase II. In 2007, the United States Court of Appeals remanded key sections of these CWA

regulations to the EPA. The EPA suspended the regulations. Following a series of court approved delays, the EPA announced its final rule on May 19, 2014 but has not established an effective date of the regulation. Court challenges are expected. We expect the regulations to have a limited impact at Riverton given the planned retirement of unit 8 scheduled in 2016. A new intake structure design and cooling tower will be constructed as part of the Unit 12 conversion at Riverton. Impacts at latan 1 could range from flow velocity reductions or traveling screen modifications for fish handling to installation of a closed cycle cooling tower retrofit. Our new latan Unit 2 and Plum Point Unit 1 are covered by the proposed regulation, but were constructed with cooling towers, the proposed Best Technology Available. We expect them to be unaffected or minimally affected by the final rule.

Surface Impoundments

We own and maintain coal ash impoundments located at our Riverton and Asbury Power Plants. Additionally, we own a 12% interest in a coal ash impoundment at the latan Generating Station and a 7.52% interest in a coal ash impoundment at Plum Point. On April 19, 2013, the EPA signed a notice of proposed rulemaking to revise its wastewater effluent limitation guidelines and standards under the CWA for coal-fired power plants. The proposal calls for updates to operating permits beginning in July 2017. Once the new guidelines are issued, the EPA and states would incorporate the new standards into wastewater discharge permits, including permits for coal ash impoundments. We do not have sufficient information at this time to estimate additional costs that might result from any new standards. All of our coal ash impoundments are compliant with existing state and federal regulations.

In June 2010, the EPA proposed to regulate coal combustion residuals (CCRs) under the Federal Resource Conservation and Recovery Act (RCRA). In the proposal, the EPA presented two options: (1) regulation of CCR under RCRA subtitle C as a hazardous waste and (2) regulation of CCR under RCRA subtitle D as a non-hazardous waste. It is anticipated that the final regulation will be published in late 2014. We expect compliance with either option to result in the need to construct a new landfill and the conversion of existing ash handling from a wet to a dry system(s) at a potential cost of up to \$15 million at our Asbury Power Plant. This preliminary estimate will likely change based on the final CCR rule and its requirements. We expect resulting costs to be recoverable in our rates.

As a result of the transition from coal to natural gas fuel for Riverton Units 7 and 8, the former Riverton ash impoundment has been capped and closed. Final closure as an industrial (coal combustion waste) landfill was approved on June 30, 2014 by the Kansas Department of Health and Environment (KDHE).

We have received preliminary permit approval in Missouri for a new utility waste landfill adjacent to the Asbury plant. Our Detailed Site Investigation (DSI) will be finalized in late 2014. Receipt of the final construction permit for the waste landfill is expected in early 2016.

Renewable Energy

Missouri regulations currently require Empire and other investor-owned utilities in Missouri to generate or purchase electricity from renewable energy sources, such as solar, wind, biomass and hydro power, or purchase Renewable Energy Credits (RECs), in amounts equal to at least 5% of retail sales in 2014, increasing to at least 15% by 2021. We are currently in compliance with this regulatory requirement as a result of generation from our Ozark Beach Hydroelectric Project and purchased power agreements with Cloud County Windfarm, LLC, located in Cloud County, Kansas, and Elk River Windfarm, LLC, located in Butler County, Kansas. The regulations also require that 2% of the energy from renewable energy sources must be solar; however, we are exempted by statute from that solar requirement. As noted in our Annual Report on Form 10-K for the year ended December 31, 2013, the Earth Island Institute, d/b/a Renew Missouri, and others challenged our solar exemption by filing a complaint with the MPSC. The MPSC dismissed the complaint and Renew Missouri filed a notice of appeal seeking review by the Missouri Supreme Court. The case against Empire and the

MPSC was brought before the Missouri Supreme Court for oral argument on September 18, 2014, and the final decision is pending.

Kansas established a renewable portfolio standard (RPS), effective November 19, 2010. It requires 10% of our Kansas retail customer peak capacity requirements to be sourced from renewables in 2012, increasing to 15% by 2016, and to 20% by 2020. We are currently in compliance with this regulatory requirement as a result of purchased power agreements with Cloud County Windfarm, LLC, located in Cloud County, Kansas and Elk River Windfarm, LLC, located in Butler County, Kansas.

Table 1-Projected Position for Purchasing and Selling Emission Allowances

11/18/2014 updated

SO2	CAIR	CSAPR	CSAPR	CSAPR	CSAPR
302		Phase 1	Phase 1	Phase 2	Phase 2
	2014	2015	2016	2017	2018
	Asbury, Energy Ctr, State Line, & Iatan	Acid Rain Allowances	Acid Rain Allowances	Acid Rain Allowances	Acid Rain Allowances
Allowances available	10,267	11,741	11,741	11,741	11,741
Estimated allowances needed for emissions	14,029	1,688	1,702	1,691	1,731
Estimated allowance balance	-3,762	10,053	10,039	10,050	10,010
	Riverton	CSAPR Allowances	CSAPR Allowances	CSAPR Allowances	CSAPR Allowances
Allowances available	3,319	6,663	6,663	5,294	5,294
Estimated allowances needed for emissions	1	1,688	1,702	1,691	1,731
Estimated allowance balance	3,318	4,975	4,961	3,603	3,563

CAIR provisions 2014:

Subject to Acid Rain and CAIR (Asbury, Energy Center, State Line & Iatan)-allowances retired at 2:1 basis.

Subject to only Acid Rain (Riverton)-allowances retired at 1:1 basis.

CSAPR provisions 2015-2018:

Subject to Acid Rain (Asbury, Energy Center, State Line, latan & Riverton)-allowances retire at 1:1 basis.

Subject to CSAPR SO2 Group 1 (Asbury, Energy Center, State Line & latan)-allowances retire at 1:1 basis.

Subject to CSAPR SO2 Group 2 (Riverton)-allowances retire at 1:1 basis.

NO. A	CAIR	CSAPR	CSAPR	CSAPR	CSAPR
NOx Annual		Phase 1	Phase 1	Phase 2	Phase 2
	2014	2015	2016	2017	2018
Allowances available	3,628	2,134	2,134	1,892	1,892
Estimated allowances needed for emissions	4,298	2,132	2,127	1,890	1,889
Estimated allowance balance	-670	2	7	2	3
CAIR provisions 2014:					

Subject to CAIR (Asbury, Energy Center, State Line & Iatan) CSAPR provisions 2015-2018:

Subject to CSAPR (Asbury, Energy Center, State Line, latan & Riverton)

SUPPLEMENTAL SCHEDULE TWT-11

NOx Ozone Season	CAIR	CSAPR	CSAPR	CSAPR	CSAPR
NOX Ozone Season		Phase 1	Phase 1	Phase 2	Phase 2
	2014	2015	2016	2017	2018
Allowances available	1,836	954	954	842	842
Estimated allowances needed for emissions	1,500	949	953	839	841
Estimated allowance balance	335	5	1	3	1
CAIR provisions 2014:					
Subject to CAIR (Asbury, Energy Center, State Line & latan)					
CSAPR provisions 2015-2018:					
Subject to CSAPR (Asbury, Energy Center, State Line, laten & F	Riverton)				

The emissions data for CSAPR is estimated using a break-even analysis with allowance allocations and is not

likely the emissions level the units will actually operate, which is to be determined.

The allowance allocations under CSAPR are likely to be revised after receiving clarity from the state's and EPA.