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Witness: Timothy N. Wilson
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Case No.: ER-2019-0374
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Before the Public Service Commission
of the State of Missouri

Direct Testimony

of

Timothy N. Wilson

On behalf of

The Empire District Electric Company
A Liberty Utilities Company

August 2019

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TIMOTHY N. WILSON
THE EMPIRE DISTRICT ELECTRIC COMPANY
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I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Timothy N. Wilson, and my business address is 602 S. Joplin Avenue, Joplin, Missouri, 64801.

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

A. I am employed by Liberty Utilities Service Corp. as the Vice President of Strategic Projects and Energy Supply. My primary responsibilities include managing large capital projects in energy supply and operations for The Empire District Electric Company, a Liberty Utilities Company ("Liberty-Empire" or "Company"), and ensuring compliance for Liberty-Empire's generation fleet.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS PROCEEDING?

A. I am testifying on behalf of Liberty-Empire.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND.

A. I graduated from Pittsburg State University in 2000, with a Bachelor of Science in Education, Mathematics and from Missouri State University in 2010 with a Master of Science in Project Management. In October of 1999, I was hired by Liberty-Empire as an Associate Planning Analyst in the Strategic Planning Department. I have held various other positions within the Company including Planning Analyst, Energy

Trader, Energy Supply Planning and Operations Analyst, and Manager of Renewable and Strategic Initiatives. In 2010, I was named Director of Environmental, Projects and Integration Management and held that position until September of 2017 when I was named the Central Region Director of Electric Operations - Services. On June 3, 2019 I was promoted to my current position.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE MISSOURI PUBLIC SERVICE COMMISSION ("COMMISSION") OR ANY OTHER REGULATORY AGENCY?

A. Yes. I have testified on behalf of Liberty-Empire before this Commission and other regulatory commissions, including Arkansas, Kansas and Oklahoma.

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

A. The purpose of my testimony is to discuss capital investments made to the Company's generation fleet since its last rate case (Case No. ER-2016-0023) and to address the Company's plan to retire its Asbury power plant.

II. GENERATION CAPITAL INVESTMENTS

Q. WHAT CAPITAL INVESTMENTS HAS THE COMPANY MADE TO ITS GENERATION FLEET SINCE THE LAST RATE CASE THAT IT SEEKS TO INCLUDE IN RATE BASE?

A. The Company continually seeks to reinvest in its infrastructure to ensure that its generation facilities are providing reliable and adequate service to customers, and, as such, has typical capital investments every year at all of its power plants. Specifically since April 1, 2016 through the end of the test year, March 31, 2019, Liberty-Empire has invested over $45 million in typical capital investments in its generation facilities.

There have been no major generation projects since April 1, 2016 when the Company added an Air Quality Control System ("AQCS") to Asbury and converted Riverton 12 from a simple cycle gas turbine to a combined cycle unit.

III. RETIREMENT OF THE ASBURY POWER PLANT

Q. WHEN WAS THE ASBURY PLANT DEVELOPED?

A. The Company began developing plans to construct the Asbury plant in the late 1960s and it was commissioned in 1970. Asbury Unit 1 is a Babcock & Wilcox cyclone steam generator which originally had a nominal rating of 206 MW and sourced its coal onsite via mine mouth operation.

Q. DOES ASBURY CONTINUE TO OPERATE AS A MINE MOUTH FACILITY?

A. No. In 1990, the plant was converted to use a blend of low-sulfur Wyoming coal and local bituminous coal. This included the installation of a rotary car dumper to unload railcars traveling from the Powder River Basin in Wyoming.

Q. DOES ASBURY BURN OTHER FUELS BESIDES COAL?

A. Yes. It utilizes fuel oil as a startup fuel. In addition, in the early 2000s, the unit began burning tire derived fuel ("TDF") as part of its fuel mix but at this time is not burning any TDF.

Q. HOW HAS ASBURY PERFORMED THROUGHOUT ITS HISTORY?

A. While Asbury has consistently exhibited an availability factor in excess of 90% and a low forced outage rate, today, due to its age, its heat rate (i.e., efficiency) is not as competitive as new, larger coal-fired facilities thus impacting its dispatch profile in the Southwest Power Pool ("SPP") market. In fact, over the last few years, it has seen short periods of economic shutdown due to low cost natural gas and wind generation available in the SPP Integrated Marketplace that it had not seen throughout its history.

Q. HAS THE PLANT UNDERGONE ANY ENVIRONMENTAL COMPLIANCE PROJECTS DURING THE PAST DECADE?

A. Yes. The plant was originally constructed with an electrostatic precipitator ("precipitator") for removal of fly ash. In the mid 1970's, an additional set of precipitators was installed. A selective catalytic reduction system was installed in 2008 to reduce nitrogen oxide emissions in order to comply with provisions of the Clean Air Interstate Rule. In 2014, in order to continue operating in compliance with the Mercury Air Toxic Standards and the Cross State Air Pollution Rule, Asbury was required to retrofit the plant with an AQCS that included the addition of a circulating dry scrubber to reduce sulfur dioxide emissions, a pulsejet fabric filter to reduce particulate emissions, powder activated carbon injection to control mercury emissions, conversion from forced draft to balanced draft, a new stack, and the upgrade of the steam turbine to increase efficiency. The upgraded steam turbine increased nominal output by approximately 11 gross MW, offsetting the additional auxiliary load due to the AQCS.

Q. WERE THOSE CAPITAL IMPROVEMENTS DISCUSSED DURING PREVIOUS RATE CASES OR IRP PROCEEDINGS?

A. Yes. The need for the AQCS at Asbury was discussed in the Company's 2010 Integrated Resource Plan ("IRP") filing (Commission Case No. EO-2011-0066). Within that filing, the Company outlined actions needed to implement its compliance plan and strategy (the "Compliance Plan") which largely followed the IRP "preferred plan" presented at that time. The Company also filed its 2012 IRP Annual Update with the Commission (Case No. EO-2012-0294) describing the updated costs and schedule based on actual contracts and approved five-year business plan. The 2013 triennial IRP (Case No. EO-2013-0547) again included discussion of the AQCS retrofit and updated

modeling. These capital improvements were the subject of testimony in the Company's 2014 and 2016 rate cases filed with the Commission, and the cost of the capital improvements were included in the Company's rates in Case Nos. ER-2014-0351 and ER-2016-0023.

Q. ARE THERE NEW ENVIRONMENTAL COMPLIANCE CAPITAL INVESTMENTS REQUIRED AT ASBURY?

A. Yes. Effective October 19, 2015, the EPA promulgated a final rule to regulate the disposal of coal combustion residuals ("CCRs") as a non-hazardous solid waste under federal law. Under this CCR rule, Asbury will be prohibited from placing any CCR in its existing surface impoundments after October 2020. If the Asbury facility is not in compliance with this rule by October 2020, the Company would be subject to enforcement by states and individual citizens under the citizen suit provisions of applicable federal law. Specifically, the CCR rule requires that surface impoundments must meet specific location restrictions. For example, surface impoundments cannot be located in wetlands and the impoundment must have a base that is at least five feet above the upper limit of the uppermost aquifer underneath the impoundment. Liberty-Empire has concluded that, in order to comply with the CCR rule, it would need to construct a new landfill and convert existing bottom ash handling from a wet to a dry system at a cost in excess of $20 million.

Q. HAS THE COMPANY CONSIDERED THE ECONOMICS OF THE CONTINUED OPERATION OF ASBURY, IN LIGHT OF ENVIRONMENTAL REQUIREMENTS AND OTHER FACTORS?

A. Yes. On June 28, 2019, Liberty-Empire filed its Triennial IRP in which it addressed the Asbury plant. In its Triennial filing, Empire observed that in 2018, Asbury had a 48% average capacity factor and:

> The IRP modeling demonstrates that because of the additional capital investment that would be necessary to meet environmental regulations relating to Asbury's coal ash handling system and the energy market created by the Southwest Power Pool's (SPP) integrated marketplace (IM), which are factors that are generally outside the control of Liberty-Empire, the Asbury plant is not a cost-effective resource for customers going forward. Asbury generates limited energy margin selling into SPP in the hours when it operates. This trend is not expected to materially improve. Asbury has significant non-fuel operations and maintenance costs that currently overwhelm the plant's energy margin. In addition to ongoing maintenance and operations costs, maintaining Asbury beyond 2020 would require a significant incremental capital investment of approximately $20 million. These costs are associated with converting the existing bottom ash handling system at Asbury from a wet to a dry system. Even assuming some value for Asbury's capacity, lower-cost alternatives exist for meeting Liberty-Empire's requirements. In the Preferred Plan, future capacity and energy needs are met by solar, wind, and storage technologies, which are lower-cost than retaining Asbury[1].

As a result of this analysis, and as stated in the Informational Notice filed in this case on August 9, 2019, Liberty-Empire has determined that it will retire the Asbury plant no later than June 2020. Doing so eliminates the needed capital investment to meet the environmental regulations relating to the coal ash handling system and the capital investment that would be needed to rebuild transmission lines as well as any required substation upgrades. In addition, operation and maintenance costs will be reduced at Asbury as a result of its retirement.

Q. ARE THERE ANY OTHER FORESEEABLE DIRECT OR INDIRECT COSTS THAT WOULD BE INCURRED IF ASBURY WERE TO CONTINUE OPERATIONS THAT WERE NOT KNOWN AT THE TIME OF THE 2019 IRP FILING?

[1] *Liberty-Empire's 2019 IRP*, filed June 28, 2019, in Docket No. EO-2019-0049

A. Yes. One of the wind projects – North Fork Ridge – included in the Certificates of Convenience and Necessity granted to Liberty-Empire by the Commission in its customer savings plan docket, File No. EM-2016-0023, will interconnect to Liberty-Empire's transmission system at the Asbury substation. Preliminary results from the interim interconnection study from the Southwest Power Pool have indicated that at least two 161 kV line segments out of the Asbury substation would have to be rebuilt to accommodate the full output of both Asbury and the future wind farm, if Asbury were to continue operating. Liberty-Empire estimates the total cost to rebuild both lines at approximately $27.5 million. The impact to substation equipment has not been fully evaluated at this time, but is not expected to be significant. While these results were not available at the time of the 2019 IRP filing, they nonetheless continue to confirm the appropriateness of retiring Asbury.

Q. WHAT STEPS ARE NECESSARY TO RETIRE THE ASBURY PLANT?

A. The first step was to notify the Company's employees that work at the Asbury plant of the Company's plan to retire Asbury and assure them of their continued employment upon the closure of the plant, which I have done. The second step isto submit formal notification to the Southwest Power Pool of the Company's plan to retire Asbury, which the Company intends to do the week of August 12th. Next, the Company will begin the orderly wind down of the plant operations resulting in its retirement by June 2020.

Q. HAS THE COMPANY CONSIDERED WHETHER THE ASBURY PLANT COULD BE SOLD?

A. Yes. While the Company has not actively marketed the Asbury plant for sale, the Company does not believe that there is a market for the purchase of the plant as the

economics for a potential buyer is no different than what the economics are for Liberty-Empire. However, the Company has hired Black & Veatch, an engineering firm, to search for a potential buyer of the asset as well as explore both the costs of retirement and removal of the asset. We anticipate this process to be complete by September, 2019. The Company will update the parties to this case after the Company has received and reviewed that assessment.

Q. HOW WILL THE COMPANY ULTIMATELY DECIDE THE EXACT DATE ON WHICH ASBURY WILL CEASE OPERATIONS?

A. There are multiple factors that are considered when ultimately deciding when the last megawatt-hour of energy will be generated at any facility; Asbury is no different. As previously mentioned, Liberty-Empire is obligated to notify the SPP which we plan to do the week of August 12, 2019. The facility typically has 50-60 days of coal on the ground which will be a factor in determining its last day of operation as the Company will consider how to economically consume or dispose of any remaining usable coal. Also, and most importantly, we are working with the employees at Asbury on each individual's transition plan as we have committed to ensuring they have an opportunity to continue employment with the Company. As employees begin to transition to other jobs, minimum staffing levels will become an issue as Liberty-Empire must operate the facility in a safe, economic manner. All of these factors, in addition to others, will be taken into consideration in determining the plant's last day of operation.

IV. CONCLUSION

Q. Does this conclude your direct testimony?

A. Yes.

AFFIDAVIT OF TIMOTHY N. WILSON

STATE OF MISSOURI)
) ss
COUNTY OF JASPER)

On the 14 day of August, 2019, before me appeared Timothy N. Wilson, to me personally known, who, being by me first duly sworn, states that he is the Central Region Director of Electric Operations – Services of The Empire District Electric Company – Liberty Utilities Central 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.

Timothy N. Wilson

Subscribed and sworn to before me this 14 day of August, 2019.

ANGELA M. CLOVEN
Notary Public - Notary Seal
State of Missouri
Commissioned for Jasper County
My Commission Expires: November 01, 2019
Commission Number: 15262659

Notary Public

My commission expires: 11/01/19.