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Witness: Blake A. Mertens
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Date Testimony Prepared: October 2017

Direct Testimony

of

Blake A. Mertens

Empire District
A Liberty Utilities Company

Empire Exhibit No. 9
Date 5-09-18 Reporter KF
File No. EO-2018-0092

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I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Blake A. Mertens and my business address is 602 South Joplin Avenue, Joplin, Missouri, 64801.

Q. WHO IS YOUR EMPLOYER AND WHAT POSITION DO YOU HOLD?

A. I am employed by Liberty Utilities Service Corp. as the Vice President Operations - Electric at The Empire District Electric Company ("Empire" or "Company"). My primary responsibilities include power plant operations, fuel supplies, energy procurement and marketing, and energy supply services. I am also responsible for engineering and commercial operations and am accountable for the proper budgeting and accounting of capital, operating, and maintenance expenses for Empire's generation, transmission and distribution assets, both individually- and jointly-owned.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND.

A. I graduated from Kansas State University in 2000 with a Bachelor of Science Degree in Chemical Engineering and a minor in Business. I received a Masters Degree in Business Administration from Missouri State University in December 2007. I am also a professionally licensed engineer in the state of Kansas. I was employed by Black & Veatch Corp. immediately following my graduation from Kansas State University in May of 2000. From June of 2000 through November of 2001, I held roles as a technical analyst and energy consultant for the Strategic Planning Group of Black & Veatch's Power Sector Advisory Services in the Energy Services Division. My duties included

assisting in power plant siting studies, economic analysis of potential power plants using production cost modeling, independent engineering evaluations of plant assets, and market analysis of the California energy crisis of 2000 – 2001. I went to work for Empire in November of 2001 as a Staff Engineer in Energy Supply where my duties included tracking of plant capital and operating & maintenance ("O&M") expenses, involvement in energy supply regulatory issues, evaluation of new generating resource options, assisting in the construction of new plant, and assisting in the modeling and tracking of fuel and purchased power costs. In 2003, my title was changed to Planning Engineer with similar duties but more responsibilities in the area of generation planning. In the fall of 2004, I took a position as Combustion Turbine Construction Project Manager. In this position I was responsible for the construction and commissioning of a 150 megawatt ("MW") combustion turbine at Empire's Riverton Power Plant known as Riverton Unit 12. Riverton Unit 12 went into commercial operation in April of 2007. In the fall of 2006, I took on the position of Manager of Strategic Projects. In this role I was responsible for the management of new generation and major projects for Energy Supply facilities. This included representing Empire's interests at the Iatan, Plum Point and other off-system generation facilities. In January of 2010, my duties were expanded to oversee Empire's environmental and safety departments and my title was likewise changed to Director of Strategic Projects, Safety, and Environmental Services. In April of 2011, I was promoted to Vice President, Energy Supply, responsible for power plant operations, fuel supplies, energy procurement and marketing, and energy supply services. In May 2014, I was named the Vice-President of Energy Supply and Delivery Operations. Finally, in my current role as Vice President Operations - Electric, I have added

responsibility for engineering and commercial operations to my previous role. In this role, I am accountable for the proper budgeting and accounting of capital, operating, and maintenance expenses for Empire's generation, transmission and distribution assets, both individually- and jointly-owned.

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

A. The purpose of my testimony is to describe proposed changes to the Company's generation fleet as a result of the Customer Savings Plan described in Company witness Swain's testimony. Specifically, in the Customer Savings Plan, the Company proposes acquiring up to 800 megawatts ("MW") of wind generation in conjunction with the retirement of the Asbury power plant ("Asbury"). My testimony will discuss why Empire conducted an update to its 2016 Integrated Resource Plan ("IRP") (which in this testimony I refer to as the "Generation Fleet Savings Analysis") and how the Customer Savings Plan provides an even greater level of customer savings than the Preferred Plan identified in the 2016 IRP. I will provide background on Empire's generation fleet and Asbury, in particular. I will provide information on recent developments in wind generation technology, and how the acquisition of wind generation will replace the accredited capacity of Asbury once it is retired. Finally, I will explain how the additional wind generation will be integrated into Empire's fleet without impacting reliability to customers, how Empire intends to operate any wind assets that are brought online as a result of the Customer Savings Plan, and the contracts related to the operation of the new generation.

II. THE GENERATION FLEET SAVINGS ANALYSIS

Q. WHY DID EMPIRE CONDUCT THE GENERATION FLEET SAVINGS ANALYSIS?

A. In both Empire's 2016 triennial IRP filing as well as in its annual update filed earlier in 2017, Empire recognized the changing economics associated with wind generation projects in the Southwest Power Pool ("SPP") footprint and performed analysis of these changing economics. The Generation Fleet Savings Analysis is simply a more in-depth continuation of this analysis to determine whether there are any savings that can be achieved for customers. In addition, I would note that the electric utility industry has observed a general trend of declining prices of installed wind generation over the last few years. The major driver came in December 2015, with the extension of the Production Tax Credits ("PTCs") offered on wind generation. These PTCs have created a new drive within the industry to have turbines installed before the PTCs sunset in 2020. As developers create more projects to sell, trying to capture as many PTCs as possible, the pool of buyers of wind projects is also dwindling. The market is becoming saturated and prices are dropping; simply, it is becoming a buyer's market for these types of generation projects. It would be foolish for Empire to ignore the sunsetting of these tax provisions and thus the savings they could provide our customers.

Q. HAVE THERE BEEN ANY ADVANCES IN WIND TECHNOLOGY?

A. Yes. In addition to the extension of PTCs, the wind generation industry has been maturing over the last 10-15 years. As the Original Equipment Manufacturers ("OEMs") learn more about the wind in the United States, the technology and industry has been improving. Some major drivers lowering the overall costs of wind generation are:

- Lower Turbine Pricing – The industry has seen prices decline for new turbines from all OEMs. There is ample production available and highly competitive pricing.

- Improved Turbine Technology – The turbine manufacturers have designed equipment with longer blades to harness more energy. The larger diameter increases production, especially in areas with moderate winds and minimal turbulence. The improved technology has made it possible to develop areas that were formerly considered as inadequate for wind energy. As the high wind areas were the first to be developed, the remaining sites will inherently have lower wind speeds. The turbine OEMs are focusing on these mid-range winds speeds with their design efforts. New models have come out as well as extensions on existing platforms. All of the technological improvements will result in mid-range wind facilities capable of capacity factors similar to or higher than original turbines in the high-range wind areas. These improved capacity factors lower the levelized cost of electricity.

- Improved Construction Efficiencies - This is now a very mature construction market. Ten years ago, there were not that many construction personnel with relevant experience. Wind energy construction is now a commodity with giga-watts of installation experience. Contractors are now able to hire experienced personnel, allowing them to increase productivity thus lowering construction costs.

- Local Manufacturing – The turbine OEMs have been working in the Midwest states for many years. Most OEMs have manufacturing facilities located in the Midwest, lowering transportation and labor costs.

Q. HOW DID THE COMPANY BEGIN WORK ON THE GENERATION FLEET SAVINGS ANALYSIS?

A. The Company engaged planning consultant, ABB Enterprise Software Inc. (ABB), to update some of the factors it considered in the 2016 IRP and to conduct a new analysis using the 2016 IRP model. Specifically, Empire asked ABB to update the 2016 IRP model to include tax equity funding, SPP nodal instead of zonal pricing, and updates to the pricing, technology and useful lives of wind generation resources. ABB was the natural partner to conduct this analysis since ABB has performed integrated resource plan modeling for Empire for more than ten years, as well as for other Missouri electric

utilities. ABB's work is described in detail in the testimony of Company witness McMahon.

Q. WAS WIND MODELED AS A SUPPLY-SIDE RESOURCE IN PREVIOUS IRP'S?

A. Yes. Every preferred plan identified in Empire's integrated resource planning over the last seven years has included wind as a future generation resource for our customers. Empire currently has 255 MW of wind generation in its resource portfolio through power purchase agreements ("PPAs") representing 36 MW of accredited capacity. In addition, Empire has remained open to consider other wind opportunities based on changing assumptions and market conditions as referenced in its 2016 IRP, and more recently in its 2017 annual update.

Q. WHEN ANALYZING WIND ASSETS, WHAT WAS DIFFERENT DURING THIS PROCESS THAN EMPIRE'S HISTORICAL VIEW ON WIND?

A. As Mr. McMahon explains in detail, the economics of the market have changed since the analysis from the last IRP was completed. In addition to the changes in the market, Empire is now part of a corporate family that has experience using tax equity financing, and has been able to share that expertise with Empire. For example, an Empire affiliate, Liberty Utilities (CalPeco Electric) LLC successfully utilized tax equity financing to support the development of the 50 MW Luning Solar project to provide renewable energy for Liberty CalPeco's 50,000 customers in Lake Tahoe, California. Liberty CalPeco is in the process of obtaining regulatory approval in California to add 10 MW for a total of 60 MW. As a result of this financing structure, Empire expects that only approximately 40% of the total capital cost of the eventually constructed wind projects will be included in

rate base, with the remainder being financed by the tax equity partner. However, as the PTCs are phased out post 2020, the potential contribution from tax equity financing will decline. Company witness Mooney explains the details of tax equity in his testimony.

Q. WHY DOES THE CUSTOMER SAVINGS PLAN PROPOSE ACQUIRING WIND GENERATION ASSETS AS OPPOSED TO ENTERING INTO PPAS FOR ADDITIONAL WIND CAPACITY?

A. By owning and operating the wind generation assets, Empire is in a position of control over the generation of electricity for its customers. This is an important distinction from a PPA. As Company witness Mooney explains, Empire is in a unique position to benefit from Algonquin Power & Utilities Corp.'s expertise in owning and managing wind farms, and its expertise developing such opportunities with tax equity partners, which will deliver substantial savings to the Company's customers over the life of the wind generation assets.

In comparison, PPAs typically have terms of approximately 20 years. If Empire were to enter into such a PPA, it would receive no value for its customers from the wind generation unit after the PPA had terminated. In this case, Empire's customers will receive the benefits of the wind generation assets over their entire lifetime, which we anticipate will extend well beyond 20 years. Further, the counterparty to a PPA would markup the costs under the PPA which we believe is less desirable for customers compared to utility ownership of the generation asset, particularly in partnership with tax equity which maximizes customer savings.

Finally, ownership of assets versus being in a lease, rent, or pay for use situation with an asset or energy seller inherently creates healthier utilities and provides better

local economic development opportunities for our cities, communities, and customers. With an ownership structure, Empire views wind generation as a long-term investment opportunity that provide benefits to our customers, shareholders, and employees.

Q. WHY WERE RETIREMENT OPTIONS OF EXISTING UNITS CONSIDERED IN THE ANALYSIS PERFORMED BY THE COMPANY?

A. The purpose of any resource planning analysis is to evaluate the least cost option to meet customers' needs. Just as Empire evaluated the potential of replacing Asbury with natural gas fired combined cycle capacity in previous IRP analyses, Empire felt that, due to the changing market dynamics with a unit of Asbury's size and efficiency (as discussed below), it would be prudent to take another look at the continued operation of the Asbury unit. The ABB analysis allowed not only the Asbury unit to be evaluated for retirement, but also evaluated other aging units such as Energy Center Units 1 and 2.

Q. WHAT DID THE GENERATION FLEET SAVINGS ANALYSIS CONCLUDE REGARDING THE FUTURE OF THE ASBURY FACILITY?

A. As discussed by Mr. McMahon, the Generation Fleet Savings Analysis allowed the ABB model to keep Asbury operational only if it was economic to do so. That is, if the model determined that Asbury was no longer economic to remain online, the model would retire Asbury and recover the return on and of the remaining plant balance through a regulatory asset over a thirty year period. All the lowest cost plans that were identified by the Generation Fleet Savings Analysis include both significant additions of wind in conjunction with the retirement of Asbury. Included with my testimony is **Direct Attachment BAM-1** which demonstrates the economics of wind generation versus Asbury, which are compelling. Given the results of the Generation Fleet Savings

Analysis, the Company decided to seek approvals to retire Asbury and create a regulatory asset for the return on and of the remaining plant balance of Asbury in conjunction with the acquisition of up to 800 MW of strategically located wind generation.

Q. IS THE CUSTOMER SAVINGS PLAN IN THE BEST INTEREST OF EMPIRE'S CUSTOMERS?

A. Yes. The Generation Fleet Savings Analysis shows that the acquisition of up to 800 MW of new, strategically located wind generation in conjunction with the retirement of Asbury and the creation of a regulatory asset to recover the return on and of net plant balances is the least cost option for our customers. Further, based on my experience, it does not pose any reliability concerns as Empire's other diverse resources, along with all the generation resources across the entire SPP footprint, provide the non-intermittent capacity to provide our customers stable energy resources.

Q. IS THERE ANY URGENCY TO THE NEED FOR APPROVAL OF THE CUSTOMER SAVINGS PLAN?

A. Yes. As explained by Company witnesses Swain and Mooney, there is a need to act quickly on new wind generation to take advantage of expiring PTCs. Also, as I will explain below, there are new environmental compliance projects required at the Asbury facility that must be undertaken in short-order. Finally, there are approximately 55 Empire employees currently working at the Asbury facility. It is our goal to provide these employees as much time as possible to assess other employment opportunities within Empire while at the same time assuring safe and reliable operation of the Asbury facility up to its retirement date. The sooner we receive Commission approval, the sooner

we can finalize our plans and remove any uncertainty about the future of Asbury for our employees so they can make timely decisions.

III. THE HISTORY OF ASBURY AND THE OPERATIONAL IMPACT OF THE CUSTOMER SAVINGS PLAN

A. HISTORY 1970-PRESENT

Q. WHEN WAS THE ASBURY PLANT DEVELOPED?

A. Empire began developing plans for 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 2000's the unit began burning tire derived fuel ("TDF") as part of its fuel mix. TDF makes up roughly 1% of the fuel usage.

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 SPP market. In fact, over the last few years, it has seen short periods of economic shutdown that it had

not seen throughout its history due to low cost natural gas and wind generation available in the SPP Integrated Marketplace.

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

A. Yes. 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 Air Quality Control Systems ("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 to 218 MW.

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

A. Yes. The need for recent AQCS capital improvements at Asbury was discussed in Empire's 2010 IRP filing with the Missouri Public Service Commission ("MPSC") (Case No. EO-2011-0066). Within that filing, Empire outlined actions needed to implement its compliance plan and strategy (the "Compliance Plan"), which largely followed the "preferred plan" presented at that time. Empire also filed its 2012 IRP Annual Update with the MPSC (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 Empire's 2014 and 2016 rate cases filed with the MPSC, and the cost of the capital improvements were included in Empire's rates in Commission in Cases Nos. ER-2014-0351 and ER-2016-0023. These improvements were also discussed in Arkansas Public Service Commission Docket 15-010-U, Kansas Corporation Commission Docket 15-EPDE-233-TAR and Oklahoma Corporation Commission Cause PUD 201600468.

B. UPCOMING ENVIRONMENTAL COMPLIANCE OBLIGATIONS

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 April 2019. If the Asbury facility is not in compliance with this rule by April 2019, 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. Empire has concluded that, in order to comply with the CCR rule, it will 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 at Asbury.

Q. IS THERE ANY TIME PRESSURE TO MAKE THESE IMPROVEMENTS?

A. Yes. Empire is at a point in time where it must either spend a significant amount of money (between $20 and $30 million) to keep Asbury in compliance or adopt a different resource acquisition strategy. To maintain compliant operations of the plant without the impoundments, the least cost compliance option for the plant would be to build a new landfill and undergo a bottom ash conversion project. Both of these projects require time to construct and have long lead-times. With the short construction window for landfills and long lead-time for bottom ash conversion equipment, Empire must decide now between investing additional capital into Asbury and retiring the facility. In addition, as mentioned above and discussed by Mr. Mooney, the window is also closing for the ability to take advantage of tax incentives for new wind generation.

Q. HAS THE ENVIRONMENTAL PROTECTION AGENCY PETITIONED FOR A REVIEW OF THESE RULES?

A. On September 18, 2017, EPA filed a motion with the U.S. Court of Appeals for the District of Columbia Circuit seeking a 120-day delay for the coal ash litigation oral arguments that were scheduled for October 17. Ten days prior to that, EPA told the court that it planned to act on industry requests to reconsider parts of the 2015 Coal Combustion Residuals Final Rule under the Resource Conservation and Recovery Act. EPA stated that "[a]s to the many issues presented in this case, it would be exceedingly difficult for litigation counsel for EPA to represent at oral argument EPA's conclusive position as to various aspects of these issues, while EPA is in the process of reconsidering its position on those very issues." Environmental groups represented in the litigation opposed EPA's request to put the litigation on hold and the court ultimately settled on a one-month delay.

While EPA has indicated that it intends to reconsider parts of the coal ash disposal regulation, the Agency has yet to announce how that reconsideration will occur or whether compliance deadlines will be delayed. (EPA has already extended compliance deadlines by two years for the related Effluent Limitation Guidelines regulation, for which the agency also commenced reconsideration actions.) If compliance deadlines are not extended, utilities will be required on that date to report results of groundwater monitoring studies that could trigger facility closure or corrective action measures under the regulation.

C. RELIABILITY CONSIDERATIONS OF THE CUSTOMER SAVINGS PLAN

Q. WOULD THE RETIREMENT OF ASBURY CAUSE ANY RELIABILTY CONCERNS?

A. No. Empire's plan would be to replace Asbury's accredited capacity (198 MWs) as an Empire network resource with the accredited capacity associated with the 800 MW of new wind generation included in the Generation Fleet Savings Analysis. Because SPP's method to determine wind generation's accredited capacity is site dependent based on the coincident generation produced by the facility and the utility's top 10% peaking hours averaged over a five year period, it is impossible to say exactly what the wind farms' accredited capacity will ultimately be; however, the two wind farms Empire currently has PPA's with (Elk River and Meridian) exhibit about 15% accredited capacity as a percent of the total wind farms name plate capacity. Utilizing this percentage as a proxy, Empire expects the accredited capacity for the new wind generation to replace a large part of the capacity lost if Asbury is retired.

Q. WILL EMPIRE STILL BE ABLE TO MEET ITS RELIABILITY REQUIREMENTS IF ASBURY IS RETIRED?

A. Yes. As stated earlier, Empire has a diverse fleet of generation resources including natural gas combustion turbines, natural gas-fired combined cycles, jointly owned coal fired facilities, and hydro facilities that can be dispatched on a non-intermittent basis. Excluding Asbury these resources total in capacity 1233 MW compared to Empire's historical all-time peak of 1199 MW. In addition to these resources, the benefits provided by participating in the SPP Integrated Marketplace and its associated reliability metrics provide assurances that Empire can maintain its historically high reliability standard.

D. DELIVERABILITY AND DISPATCH OF NEW WIND GENERATION

Q. WHAT IS UNIQUE ABOUT THE PROPOSED LOCATIONS OF THE WIND PROJECTS?

A. Empire intentionally focused its wind acquisition strategy on projects that would be in or near the Empire service territory in order to minimize any material transmission upgrades and congestion costs.

Q. ARE THERE ANY CHALLENGES ASSOCIATED WITH INCORPORATING 800 MW OF ADDITIONAL WIND INTO EMPIRE'S GENERATION PORTFOLIO?

A. Yes. When adding any generation to the system, there will be an impact to the system dynamics. The SPP's Network Impact Study, which we expect to be complete at least a year from the time specific projects are selected, will provide a system-wide look to identify what infrastructure will be needed to incorporate new generation. However,

integration of renewable energy is not something new to Empire or the SPP. Wind forecasting has improved significantly over recent years, and the SPP Integrated Marketplace has been able to adapt to higher penetrations of wind within the SPP footprint. Empire will work with the SPP through its study process to understand any potential impacts to the system thus mitigating any reliability issues for our customers. In short, we don't expect customer reliability to be impacted.

Q. HAS THE COMPANY TAKEN STEPS THROUGH THE REQUEST FOR PROPOSAL PROCESS TO ENSURE THAT PROJECTS ACHIEVE DELIVERABILITY TO EMPIRE CUSTOMERS?

A. Yes. Each facility will be required to have an executed Large Generator Interconnection Agreement with SPP and Empire will apply for Network Resource status for each wind farm to ensure deliverability to Empire's customers.

Q. HOW WILL THE WIND FACILITIES BE DISPATCHED INTO THE SPP INTEGRATED MARKETPLACE?

A. Just as Empire does with its other generation resources, Empire will bid these units into the SPP Integrated Marketplace for dispatch in a manner that is beneficial for Empire's customers.

Q. DID THE GENERATION FLEET SAVINGS ANALYSIS CONSIDER THE COST OF WIND DELIVERABILITY?

A. Yes. The Generation Fleet Savings Analysis considered the cost of delivering the wind generation to Empire customers. This was done by including a cost of transmission upgrades needed for the additional wind generation and the impact of transmission congestion. The model assumed that the system impact upgrades (as per the SPP

Generation Interconnection Agreement process) are included in the capital costs of the project. This assumes normal system upgrades and projects that have higher than normal system impacts will likely price themselves out of the market. In addition to the system impact study costs, there is the possibility of upgrades associated with network transmission service to ensure that a transmission path exists from source to sink.

Q. DID THE COMPANY ASSUME SOME AMOUNT OF CONGESTION COSTS IN THE GENERATION FLEET SAVINGS ANALYSIS?

A. Yes. As our regulators are aware, within the SPP Integrated Marketplace, the locational marginal price ("LMP") is comprised of the system energy price plus congestion and loss components. This means that the LMP that a generator receives will be different for different locations on the SPP system primarily due to congestion. For purposes of the Generation Fleet Savings Analysis, Empire wanted to ensure that an appropriate level of congestion pricing was incorporated into the analysis so that the full cost of deliverability was factored in when assessing the economics of the projects. Empire assumed various levels of congestion pricing depending on how close the wind project was to the Empire service territory and comparable congestion pricing at nearby generating facilities.

IV. AFFILIATED AGREEMENTS WITH RESPECT TO THE NEW WIND GENERATION

Q. WILL THERE BE AGREEMENTS WITH AFFILIATES WITH RESPECT TO THE OPERATION OF THE NEW WIND GENERATION?

A. Yes. There are a number of agreements with affiliates relating to the operation of the new wind generation. Those agreements, which will be between Empire (or Liberty Utilities Service Corp.) and the Wind Project Co., include the following:

Asset Management Agreement: Under this agreement, employees of Liberty Utilities Service Corp. ("Service Corp.") that provide services to Empire will provide all asset management services to the Wind Project Co., including (a) management of all agreements for the Wind Project Co.; (b) management of energy/financial reporting; (c) management of all banking/financing agreements; (d) management of all landowner/local tax/municipal issues; (e) management of all government permits/regulatory issues including NERC/FERC; (f) management of all reporting for lenders/investors; (g) project management services; (h) optimization of performance of the wind farm; (i) obtaining insurance and other professional services necessary for the wind farm, and; (j) state/federal regulatory management/reporting services for the Wind Project Co.

Balance of Plant Operations and Maintenance Agreement: Under this agreement, employees of Service Corp. that provide services to Empire will provide the balance of plant O&M services to the Wind Project Co. including operations and maintenance services for the main substation and collection system and access for road maintenance.

Energy Services Agreement: Under this agreement, employees of Service Corp. that provide services to Empire will provide energy management services to the Wind Project Co. including: (a) acting as the market participant; (b) daily/periodic scheduling services for the wind farm; (c) managing all hedge agreements, and; (d) representing the wind farm in SPP activities.

Q. HOW WILL GOODS AND SERVICES BE PRICED UNDER THE AFFILIATED CONTRACTS?

A. Because the goods and services provided under the affiliated contracts for the new wind generation are goods and services currently provided to Empire by Service Corp. under their Affiliate Services Agreement, the goods and services under these affiliated contracts will be priced in the same manner that they are currently priced by Service Corp., which consist of direct and indirect costs.

Q. WILL THERE BE ANY OTHER CONTRACTS ASSOCIATED WITH THE OPERATION OF THE WIND FARM(S) TO BE ACQUIRED?

A. Yes. As is typically the case with the development of wind assets, there will be a Turbine Supply Agreement in which the Turbine Original Equipment Manufacturer (OEM) will agree to provide turbines with performance guarantees. There will also be a Long Term Service Agreement in which the Turbine OEM will provide for planned maintenance, a performance warranty, 24/7 remote monitoring of turbine performance, and will address un-planned repairs.

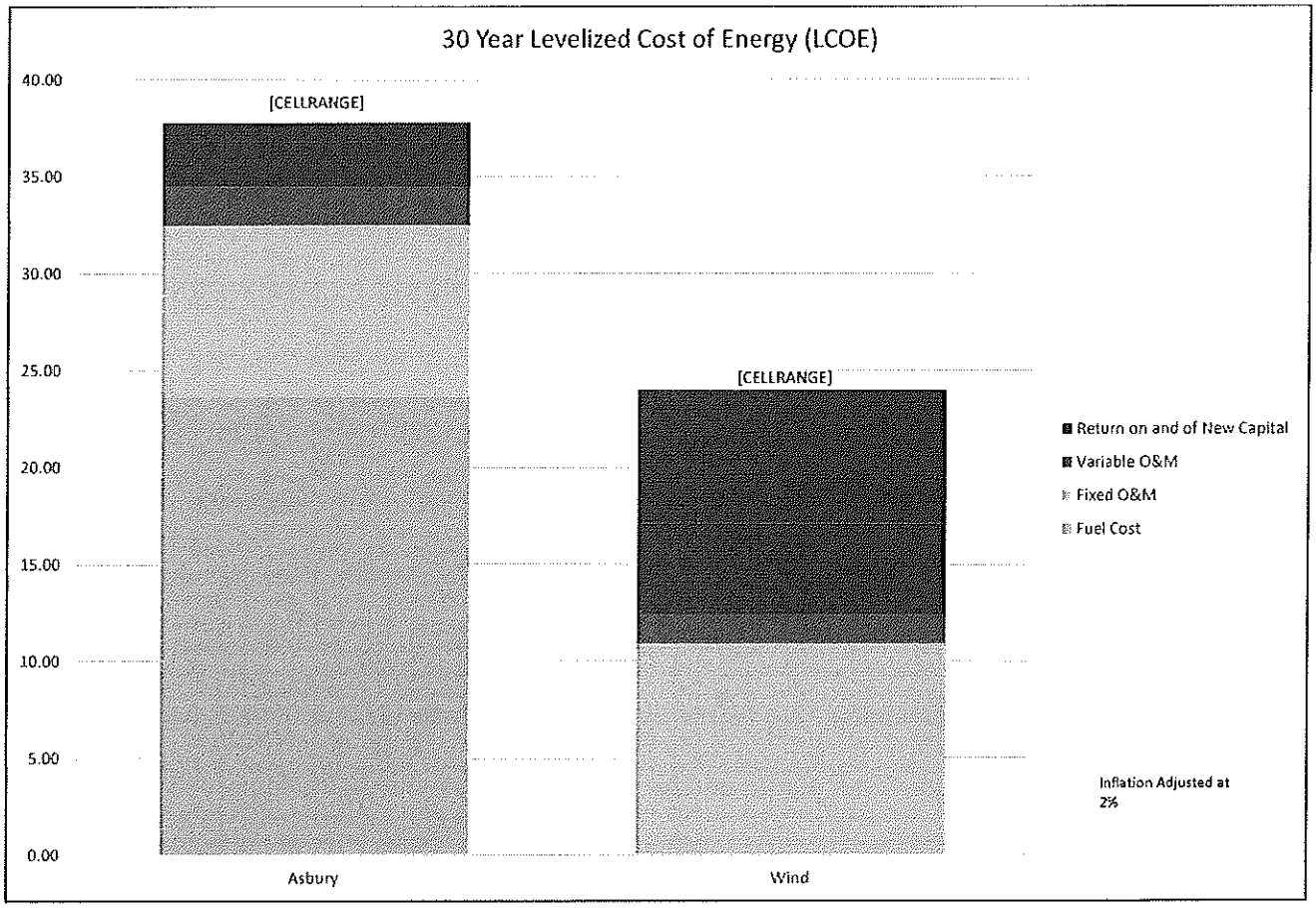
V. CONCLUSION

Q. BASED ON YOUR EXPEREIENCE, WILL THAT PORTION OF EMPIRE'S CUSTOMER SAVINGS PLAN WHICH CALLS FOR EMPIRE TO INVEST IN WIND GENERATION AND RETIRE ASBURY BENEFIT CUSTOMERS?

A. Yes. In my opinion, Empire's Customer Savings Plan will benefit customers. From my perspective as Vice President Operations - Electric, Empire's proposal to: (1) acquire wind generation at a significant discount using the tax equity partnership structure proposed in the plan to replace the accredited capacity at Asbury, and; (2) retire Asbury and recover its remaining investment in that plant over 30 years with a net additional savings to the customers due to the avoided costs if the plant is retired, will benefit customers through lower future energy costs without any negative impact to Empire's ability to provide those customers reliable service.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, it does.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35.00
30.00
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15.00
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5.00
0.00
[CELLRANGE]
[CELLRANGE]
Asbury
Wind
Return on and of New Capital
Variable O&M
Fixed O&M
Fuel Cost
Inflation Adjusted at 2%

AFFIDAVIT OF BLAKE A. MERTENS

STATE OF MISSOURI)
) ss
COUNTY OF JASPER)

On the 30th day of October, 2017, before me appeared Blake A. Mertens, to me personally known, who, being by me first duly sworn, states that he is Vice President – Electric Operations of Empire District – Liberties 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.

Blake A. Mertens

Subscribed and sworn to before me this 30th day of October, 2017.

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.