

Exhibit No. ____
Issue: Background; Tartan Factors
Witness: Blake A. Mertens
Type of Exhibit: Direct Testimony
Sponsoring Party: The Empire District
Electric Company
Case No. EA-2019-0118
Date Testimony Prepared: November 18,
2018

**Before the Public Service Commission
of the State of Missouri**

Direct Testimony

of

**Blake A. Mertens
November 18, 2018**



Liberty Utilities[®]
EMPIRE DISTRICT

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1 **I. INTRODUCTION**

2 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

3 A. My name is Blake A. Mertens and my address is 602 Joplin Street, Joplin, Missouri, 64801.

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

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

12 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL AND PROFESSIONAL**
13 **BACKGROUND.**

14 A. I graduated from Kansas State University in 2000 with a Bachelor of Science Degree in
15 Chemical Engineering and a minor in Business. I received a Masters Degree in Business
16 Administration from Missouri State University in December 2007. I am also a
17 professionally licensed engineer in the state of Kansas. I was employed by Black & Veatch
18 Corp. immediately following my graduation from Kansas State University in May of 2000.
19 From June of 2000 through November of 2001, I held roles as a technical analyst and
20 energy consultant for the Strategic Planning Group of Black & Veatch's Power Sector
21 Advisory Services in the Energy Services Division. Duties included assisting in power
22 plant siting studies, economic analysis of potential power plants using production cost
23 modeling, independent engineering evaluations of plant assets, and market analysis of the

1 California energy crisis of 2000 – 2001. I went to work for Empire in November of 2001
2 as a Staff Engineer in Energy Supply where my duties included tracking of plant capital
3 and operating & maintenance (O&M) expenses, involvement in energy supply regulatory
4 issues, evaluation of new generating resource options, assisting in the construction of new
5 plant, and assisting in the modeling and tracking of fuel and purchased power costs. In
6 2003, my title was changed to Planning Engineer with similar duties but more
7 responsibilities in the area of generation planning. In the fall of 2004 I took a position as
8 Combustion Turbine Construction Project Manager. In this position, I was responsible for
9 the construction and commissioning of a 150 megawatt (“MW”) combustion turbine at
10 Empire’s Riverton Power Plant known as Riverton Unit 12. Riverton Unit 12 went into
11 commercial operation in April of 2007. In the fall of 2006, I took on the position of
12 Manager of Strategic Projects. In this role, I was responsible for the management of new
13 generation and major projects for Energy Supply facilities. This included representing
14 Empire's interests at the Iatan, Plum Point and other off-system generation facilities. In
15 January of 2010, my duties were expanded to oversee Empire’s environmental and safety
16 departments and my title was likewise changed to Director of Strategic Projects, Safety,
17 and Environmental Services. In April of 2011, I was promoted to Vice President, Energy
18 Supply with responsibilities including oversight of our power plant facilities as well as fuel
19 procurement and power marketing. In May 2014, I was named the Vice-President of
20 Energy Supply and Delivery Operations – Electric which added responsibilities associated
21 with our distribution system operations. Finally, in my current role as Vice-President
22 Operations – Electric, I have added responsibility for engineering and commercial
23 operations to my previous role. In this role, I am accountable for budgeting and accounting

1 of capital, operating, and maintenance expenses for Empire’s generation, transmission and
2 distribution assets, both individually and jointly-owned.

3
4 **II. PURPOSE**

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

6 A. The purpose of my testimony is to provide background information surrounding the
7 Company’s application for a certificate of convenience and necessity (CCN) for authority
8 to acquire a wind generation project that will be constructed near Empire’s service territory
9 (the “Wind Project”) by Neosho Ridge Wind Joint Venture, LLC (“NRWJV”).

10 **Q. PLEASE IDENTIFY THE OTHER WITNESSES WHO WILL BE SPONSORING**
11 **TESTIMONY IN THIS PROCEEDING.**

12 A. The following witnesses are also submitting testimony in this proceeding:

Witness	Subject Matter Area
Todd Mooney	Project Selection; Commercial Terms/Structure; Tax Equity and Financing; Timing of CCNs
Timothy N. Wilson	Project Details; General Project Information; and Transmission

13 **III. BACKGROUND**

14 **Q. BEFORE GETTING INTO THE DETAILS OF THE PROJECT, CAN YOU**
15 **DESCRIBE THE ORIGIN OF THIS APPLICATION?**

16 A. The origins of this matter started in late 2016 as Empire continued to evaluate its generation
17 fleet and determine the best way to meet its future needs while being responsive to
18 emerging trends in renewable energy. Empire continually reviews the performance of
19 its generation fleet with regulatory reviews conducted annually through the formal

1 integrated resource plan process with detailed analysis performed every three years as part
2 of its triennial filings. Empire has always looked for ways to build, construct and operate
3 in a reliable, cost efficient way for its customers, and together with its new parent
4 Algonquin Power & Utilities Corp. (APUC)'s experience in the renewable energy space
5 and tax equity financing, fresh ideas were brought to the table for consideration. Out of
6 these discussions, the Empire team built on the thought process introduced in its 2016 IRP
7 filing related to low-cost wind in the SPP footprint and began developing a more detailed
8 plan to consider, and perhaps capitalize, on these trends and capabilities in a manner that
9 provides significant benefit to customers.

10 **Q. WHAT DID THIS PROCESS LOOK LIKE?**

11 A. In early 2017, utilizing traditional generation modeling tools, Empire started looking at
12 what it called its Generation Fleet Savings Analysis ("GFSA") with a particular focus on
13 costs for renewable energy resources including construction cost declines along with tax
14 equity financing and updates to the SPP Integrated Marketplace that occurred in recent
15 years.

16 **Q. WHAT DID THE GFSA RESULTS REVEAL?**

17 A. The modeling indicated that adding wind generation to Empire's portfolio in or near
18 Empire's service territory was not only possible, but brought significant benefits to our
19 customers.

20 **Q. HOW DID EMPIRE BRING THE RESULTS OF THE GFSA ANALYSIS TO THIS**
21 **COMMISSION?**

22 A. On October 31, 2017, Empire filed its Customer Savings Plan, which was assigned File
23 No. EO-2018-0092. In that matter, Empire proposed to acquire up to 800 MW of wind

1 generation strategically located in or near its service territory in conjunction with a tax
2 equity partner and to retire its Asbury coal generation plant, all to deliver substantial
3 savings to Empire’s customers for years to come. In that docket, Empire and certain other
4 parties entered into a Non-Unanimous Stipulation in which Empire agreed to reduce its
5 proposed acquisition of wind generation assets from 800 MW to 600 MW and to delay the
6 retirement of Asbury. While the Commission did not adopt the Non-Unanimous
7 Stipulation, in its July 11, 2018 Order in Case No. EO-2018-0092, the Commission found
8 that “Empire’s proposed acquisition of 600 MW of additional wind generation assets is
9 clearly aligned with the public policy of the Commission and this state,” Rep. Ord., p. 20,
10 and that “Empire is authorized to record its capital investment to acquire wind generation
11 assets as utility plant in service subject to audit in Empire’s next general rate case.” *Id.* at
12 24. The Company subsequently concluded its negotiations to acquire the wind generation
13 asset and entered into the Purchase and Sale Agreement with NRWJV that we are
14 presenting for the Commission’s consideration. The Company also recently entered into
15 two Purchase and Sale Agreements with Tenaska and Steelhead to purchase the North Fork
16 Ridge and Kings Point wind projects which also total 300 MW of wind generation. Those
17 projects are the subject of File No. EA-2019-0010, which is also for a CCN.
18 Contemporaneous with the filing of this CCN application, Empire has filed a Motion to
19 Consolidate this CCN docket with the existing File No. EA-2019-0010.

20
21 **IV. TARTAN FACTORS**

22 **Q. WHAT FACTORS DOES THE COMMISSION USUALLY CONSIDER IN**
23 **REVIEWING APPLICATIONS FOR CCNS?**

1 A. I am not an attorney, however, I have been advised by counsel that the Commission will
2 generally consider what has been referred to as the *Tartan* factors. Those five factors are
3 as follows: (1) need for the service; (2) the applicant’s qualifications to provide the
4 proposed service; (3) the applicant’s financial ability to provide the service; (4) the
5 economic feasibility of the proposal, and; (5) promotion of the public interest.

6 **Q. WILL YOU BE ADDRESSING THE TARTAN FACTORS?**

7 A. Yes. I will address Empire’s qualifications, Empire’s financial ability to provide the
8 service, need for the service, and the public interest. Empire witness Todd Mooney will
9 address the economic feasibility of the project.

10 **Q. DO YOU BELIEVE THAT EMPIRE IS QUALIFIED TO PROVIDE THE**
11 **SERVICE CALLED FOR BY THE REQUESTED CERTIFICATES OF**
12 **CONVENIENCE AND NECESSITY?**

13 A. Yes. Empire has a vast amount of experience in the generation, transmission, and
14 distribution of electricity. Empire owns and operates an electric utility system located in
15 contiguous portions of Arkansas, Kansas, Missouri and Oklahoma, which is used to serve
16 approximately 172,000 total electric customers.

17 Empire provides electric service in an area of approximately 10,000 square miles
18 in the southwest corner of Missouri and reaches into adjacent corners of the states of
19 Kansas, Oklahoma, and Arkansas. Approximately 153,000 of Empire’s customers are
20 located in Missouri, 10,000 in Kansas, 4,700 in Oklahoma and 4,500 in Arkansas. Empire's
21 operations are regulated by the utility regulatory commissions of these four states as well
22 as the Federal Energy Regulatory Commission. The area embraces 119 incorporated
23 communities in 21 counties in the four-state area. Empire has owned generation capacity

1 of 1,447 MWs and purchased generation capacity of 303 MWs. This includes coal-fired,
2 natural fired, hydroelectric and wind generation assets. Empire owns and operates
3 approximately 1,208 miles of transmission lines and 6,911 miles of distribution lines.

4 **Q. DOES EMPIRE'S OWNERSHIP STRUCTURE PROVIDE ADDITIONAL ASSETS**
5 **OF BENEFIT TO EMPIRE IN REGARD TO THE WIND GENERATION**
6 **PROJECTS?**

7 A. Yes. On January 1, 2017, Empire was acquired by Liberty Utilities (Central) Co., a
8 subsidiary of APUC. APUC consists of two primary operating units: Liberty Utilities Co.
9 (Liberty Utilities), which provides nearly 800,000 customers electric, natural gas, and
10 water services across 12 states (including Empire) and includes a rate-regulated asset
11 portfolio of 1.3 GW of generation capacity, and Liberty Power, which owns a portfolio of
12 over 1.5 GW of hydroelectric, wind, solar, thermal, and natural gas fired generating
13 capacity in the United States and Canada. Since the closing of the acquisition, Empire has
14 been integrated into the Liberty Utilities' family of businesses, which brings benefits and
15 opportunities to Empire's customers based on their experience with developing renewable
16 generation. APUC has developed renewable energy projects with tax equity partners and,
17 as a result, has expertise in these types of transactions.

18 **Q. DOES EMPIRE HAVE THE FINANCIAL ABILITY TO ACQUIRE THE WIND**
19 **PROJECTS FOR WHICH EMPIRE SEEKS CCNS AND TO CONTINUE TO**
20 **PROVIDE SAFE AND ADEQUATE SERVICE TO ITS CUSTOMERS?**

21 A. Yes. Empire has an investment grade credit rating and is part of a corporate family that is
22 also investment grade and has nearly \$9 billion in assets. Empire has the financial ability
23 to acquire the Neosho Ridge as well as the Kings Point and North Fork Ridge projects.

1 **V. THE WIND PROJECTS**

2 **Q. FOR WHAT PROJECTS IS EMPIRE SEEKING A CCN?**

3 A. Empire is seeking a CCN in this case for Neosho Ridge. This Wind Project is located near
4 Empire's service territory and will create minimal transmission upgrades and congestion
5 pricing in the Southwest Power Pool Integrated Marketplace.

6 **Q. WHERE WILL THE PROJECT BE LOCATED?**

7 A. The Neosho Ridge facility and associated generation tie line will be located in the state of
8 Kansas.

9 **Q. PLEASE DESCRIBE THE NEOSHO RIDGE PROJECT.**

10 A. The Neosho Ridge Wind Farm will be constructed in the Neosho County, Kansas,
11 approximately thirty-five miles west of Empire's service territory. The point of
12 interconnection for the generation tie line will be a new substation on Westar's Neosho-to-
13 Caney River 345 kV transmission line. Neosho Ridge will have a capacity of
14 approximately 300 MW.

15 **Q. HOW DID EMPIRE ARRIVE AT THIS PROJECT?**

16 A. As the Commission may remember, Empire initiated a request for proposals (RFP) in
17 October of 2017. Through that process and associated negotiations and discussions,
18 Empire ultimately decided that the projects described above were the most advantageous
19 for Empire's customers. Additional information about the RFP and contract negotiation
20 process is found in the Direct Testimony of Todd Mooney.

21 **Q. IS ADDITIONAL INFORMATION ABOUT THE WIND PROJECT FOUND IN**
22 **EMPIRE'S DIRECT TESTIMONY?**

1 A. Yes. More detailed information about this project can be found in the Direct
2 Testimony of Timothy N. Wilson.

3 **Q. HOW WILL THESE PROJECTS BE FINANCED?**

4 A. Empire will finance the Wind Project using a combination of debt, equity, and tax equity
5 financing. Empire will work in conjunction with a tax equity partner in order to finance
6 these projects. Empire witness Todd Mooney explains in his Direct Testimony the
7 advantages of the tax equity financing, the status of the tax equity financing, and how the
8 remainder of the project cost will be financed.

9 **Q. ARE THERE ANY TIMING NEEDS ASSOCIATED WITH THE REQUESTED**
10 **CCNS?**

11 A. Yes. As explained in the Customer Savings Plan case (Case No. EO-2018-0092), there is
12 a timing element in order to take advantage of expiring Production Tax Credits (PTCs). In
13 order to receive the full PTC value, the projects must be completed before the end of 2020.
14 Mr. Mooney's Direct Testimony further describes some contractual reasons for a prompt
15 CCN process.

16 **Q. WHAT IS THE PROPOSED CONSTRUCTION TIME LINE FOR THE**
17 **PROJECTS?**

18 A. Construction is planned to start in the latter part of 2019. This should allow for the Wind
19 Projects to be commercially operational and in service by the end of 2020 in order to fully
20 qualify for the PTCs.

21 **Q. WHAT MUST HAPPEN BETWEEN NOW AND THE START OF**
22 **CONSTRUCTION?**

1 A. Obviously, receipt of the CCN for the Wind Project is the most important prerequisite for
2 construction to commence in the latter part of 2019. However, there are other activities
3 that must be completed and other approvals that must be received prior to the start of
4 construction. Other key approvals include road use and maintenance agreements to be
5 entered into with the counties and townships and Determinations of No Hazard from the
6 Federal Aviation Administration.

7 **Q. IN THE EARLIER CUSTOMER SAVINGS PLAN CASE (CASE NO. EO-2018-**
8 **0092), EMPIRE FIRST PROPOSED TO CLOSE ITS ASBURY GENERATION**
9 **FACILITY. WHAT IS EMPIRE’S CURRENT PLAN IN REGARD TO ASBURY?**

10 A. The Asbury generation facility continues to be operated by Empire in accordance with
11 applicable rules and regulations. Empire continues to monitor Asbury’s performance and
12 will review its (and Empire’s other generation assets) continued operation in future Electric
13 Utility Resource Planning filings.

14
15 **VI. NEED FOR SERVICE**

16 **Q. PLEASE DESCRIBE HOW THE PUBLIC INTEREST WILL BE SERVED BY A**
17 **GRANT OF THE REQUESTED CERTIFICATES.**

18 A. The proposed Wind Project will take advantage of real opportunities that exist today to add
19 generation capacity to Empire’s fleet at reduced cost given the availability of Production
20 Tax Credits, which in turn will provide low cost energy for Empire’s customers for years
21 to come.

22 Further, the Wind Project satisfies the stated public policy objective of conserving
23 natural resources and pursuing renewable energy sources as reflected in the State Energy

1 Policy and the Renewable Energy Standards (RES). The Commission summarized this
2 benefit as follows in its Report and Order in Case No. EO-2018-0092:

3 It is the public policy of this state to diversify the energy supply through the
4 support of renewable and alternative energy sources. In past decisions, the
5 Commission has stated its support in general for renewable energy
6 generation, which provides benefits to the public. Empire's proposed
7 acquisition of 600 MW of additional wind generation assets is clearly
8 aligned with the public policy of the Commission and this state.
9

10 Rep. Ord., p. 20.

11
12 **Q. DOES EMPIRE HAVE AN IMMEDIATE CAPACITY REQUIREMENT THAT**
13 **WOULD BE SATISFIED BY THE WIND PROJECT?**

14 A. No. However, the Wind Project brings capacity benefits to Empire customers. Because
15 SPP's method to determine wind generation's accredited capacity is site-dependent and
16 based on the coincident generation produced by the facility and the utility's top 10%
17 peaking hours averaged over a five year period, it is impossible to say exactly what the
18 Wind Project's accredited capacity will ultimately be; however, the two wind farms with
19 which Empire currently has power purchase agreements (PPA) (Elk River and Meridian
20 Way) exhibit about 15% accredited capacity as a percent of the total wind farms name plate
21 capacity.

22 **Q. WILL THE WIND PROJECT HELP REPLACE SOME OF EMPIRE'S EXISTING**
23 **RENEWABLE ENERGY SOURCES?**

24 A. Yes. Two of Empire's existing PPAs, for a total of 255 MWs, will expire after the 600
25 MW of wind comes online in December of 2020 - expiration of Elk River wind farm in
26 2025 (150 MW) and Meridian Way wind farm in 2028 (105 MW). These expiring
27 contracts represent all of Empire's current wind capacity and more than 40% of the new
28 capacity that was described in Case No. EO-2018-0092.

1 **Q. WHY IS OWNERSHIP OF THE WIND PROJECT BENEFICIAL TO EMPIRE'S**
2 **CUSTOMERS?**

3 A. By owning and operating the wind generation assets, Empire is in a position of control over
4 the generation of electricity for its customers. An example as to how this is important can
5 be found in the existing PPAs concerning Elk River and Meridian Way. Those contracts
6 were first entered in 2005 and 2008, and the prices in those contracts are now higher than
7 the existing market prices. If Empire were the owner of those facilities, it could retrofit
8 those facilities to make them more efficient for customers, get more energy out of them,
9 and have lower operation and maintenance costs. However, the current owners of those
10 facilities have no economic incentive to do that and would only pass on those costs to
11 Empire, thereby driving the already out of market rates higher.

12 Further, Empire is in a unique position to benefit from APUC's expertise in owning
13 and managing wind farms, and its expertise developing such opportunities with tax equity
14 partners, which will deliver substantial savings to the Empire's customers over the life of
15 the wind generation assets. In comparison, PPAs typically have terms of approximately 20
16 years. If Empire were to enter into such a PPA, it would receive no value for its customers
17 from the wind generation unit after the PPA had terminated.

18 In this case, Empire's customers will receive the benefits of the wind generation
19 assets over their entire lifetime, which Empire anticipates will extend well beyond 20 years.
20 Further, the counterparty to a PPA would markup the costs under the PPA, making the
21 transaction less desirable for customers compared to utility ownership of the generation
22 asset, particularly in partnership with tax equity which maximizes customer savings.

1 **Q. ARE THERE OTHER REASONS THAT THE PUBLIC INTEREST WOULD BE**
2 **FURTHERED BY THE ACQUISITION OF THE WIND PROJECT?**

3 A. Yes. The Commission’s Report and Order in Case No. EO-2018-0092 provided a nice
4 summary of several of these reasons:

5 Adding wind generation to Empire’s portfolio significantly reduces
6 financial risk for Empire customers. Wind in the portfolio mitigates the
7 impact that rising fuel and market prices have on Empire’s retail rates. In a
8 rising market price environment, Empire would be able to sell wind output
9 at higher prices without any incremental fuel costs. Empire’s credible
10 analysis shows that adding up to 600 MW of wind to its portfolio would
11 result in lower risk to that portfolio under three different market scenarios,
12 relative to Empire’s current resource plan.

13
14 Rep. Ord., p. 14-15.

15

16 **VII. CONCLUSION**

17 **Q. WILL THE WIND PROJECT FOR WHICH EMPIRE SEEKS A CCN BENEFIT**
18 **EMPIRE’S CUSTOMERS?**

19 A. Yes. Empire’s acquisition of wind generation at a significant discount using the tax equity
20 partnership structure will benefit customers through lower future energy costs without any
21 negative impact to Empire’s ability to provide those customers reliable service.

22 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

23 A. Yes, it does.

24

AFFIDAVIT OF BLAKE A. MERTENS

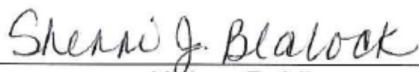
STATE OF MISSOURI)
) ss
COUNTY OF JASPER)

On the 8th day of November, 2018, 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 8th day of November, 2018.



Notary Public

My commission expires: Nov. 16, 2018.

