

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-2019-0010
Date Testimony Prepared: October 18, 2018

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

Direct Testimony

of

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



Liberty Utilities[®]
EMPIRE DISTRICT

Empire Exhibit No. 1
Date 4-8-19 Reporter TU
File No. EA-2019-0010

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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,
4 64801.

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

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

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

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

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

1 engineering and commercial operations to my previous role. In this role, I am
2 accountable for budgeting and accounting of capital, operating, and maintenance
3 expenses for Empire’s generation, transmission and distribution assets, both individually
4 and jointly-owned.

5
6 **II. PURPOSE**

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

8 A. The purpose of my testimony is to provide background information surrounding the
9 Company’s application for certificates of convenience and necessity (CCN) for authority
10 to acquire two wind generation projects that will be constructed in or near Empire’s
11 service territory (the “Wind Projects”) by Tenaska Missouri Matrix Wind Holdings, LLC
12 and Steelhead Missouri Matrix Wind Holdings, LLC (“Tenaska/Steelhead”).

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

15 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

16 **III. BACKGROUND**

17 **Q. BEFORE GETTING INTO THE DETAILS OF THE PROJECTS, CAN YOU**
18 **DESCRIBE THE ORIGIN OF THIS APPLICATION?**

1 A. The origins of this matter started in late 2016 as Empire continued to evaluate its
2 generation fleet and determine the best way to meet its future needs while being
3 responsive to emerging trends in renewable energy. Empire continually reviews the
4 performance of its generation fleet with regulatory reviews conducted annually through
5 the formal integrated resource plan process with detailed analysis performed every three
6 years as part of its triennial filings. Empire has always looked for ways to build,
7 construct and operate in a reliable, cost efficient way for its customers, and together with
8 its new parent Algonquin Power & Utilities Corp. (APUC)'s experience in the renewable
9 energy space and tax equity financing, fresh ideas were brought to the table for
10 consideration. Out of these discussions, the Empire team built on the thought process
11 introduced in its 2016 IRP filing related to low-cost wind in the SPP footprint and began
12 developing a more detailed plan to consider, and perhaps capitalize, on these trends and
13 capabilities in a manner that provides significant benefit to customers.

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

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

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

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

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

3 A. On October 31, 2017, Empire filed its Customer Savings Plan, which was assigned File
4 No. EO-2018-0092. In that matter, Empire proposed to acquire up to 800 MW of wind
5 generation strategically located in or near its service territory in conjunction with a tax
6 equity partner and to retire its Asbury coal generation plant, all to deliver substantial
7 savings to Empire's customers for years to come. In that docket, Empire and certain
8 other parties entered into a Non-Unanimous Stipulation in which Empire agreed to reduce
9 its proposed acquisition of wind generation assets from 800 MW to 600 MW and to delay
10 the retirement of Asbury. While the Commission did not adopt the Non-Unanimous
11 Stipulation, in its July 11, 2018 Order in Case No. EO-2018-0092, the Commission found
12 that "Empire's proposed acquisition of 600 MW of additional wind generation assets is
13 clearly aligned with the public policy of the Commission and this state," Rep. Ord., p. 20,
14 and that "Empire is authorized to record its capital investment to acquire wind generation
15 assets as utility plant in service subject to audit in Empire's next general rate case." *Id.* at
16 24. The Company subsequently concluded its negotiations to acquire the wind
17 generation assets and entered into the Purchase and Sale Agreements with
18 Tenaska/Steelhead that we are presenting for the Commission's consideration.

19
20 **IV. TARTAN FACTORS**

21 **Q. WHAT FACTORS DOES THE COMMISSION USUALLY CONSIDER IN**
22 **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.
21 Empire's operations are regulated by the utility regulatory commissions of these four
22 states as well as the Federal Energy Regulatory Commission. The area embraces 119
23 incorporated communities in 21 counties in the four-state area. Empire has owned

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

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

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

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

22 A. Yes. Empire has an investment grade credit rating and is part of a corporate family that is
23 also investment grade and has nearly \$9 billion in assets.

1 **V. THE WIND PROJECTS**

2 **Q. FOR WHAT PROJECTS IS EMPIRE SEEKING CCNS?**

3 A. Empire is seeking CCNs in this case for two projects – Kings Point and North Fork
4 Ridge. These Wind Projects are both located in or near Empire’s service territory and
5 will create minimal transmission upgrades and congestion pricing in the Southwest
6 Power Pool Integrated Marketplace.

7 **Q. WHERE WILL THE PROJECTS BE LOCATED?**

8 A. Both the Kings Point and North Fork Ridge facilities and associated generation tie lines
9 are located entirely within the state of Missouri, primarily centered around Joplin.

10 **Q. PLEASE DESCRIBE THE KINGS POINT PROJECT.**

11 A. The Kings Point Wind Farm will be constructed in the southwest portion of state, in
12 particular, southeastern Barton County, southwestern Dade County, northeastern Jasper
13 County and northwestern Lawrence County, Missouri. The point of interconnection for
14 the generation tie lines will be the substation at Empire’s La Russell Energy Center.
15 Kings Point will have a capacity of approximately 150 MW.

16 **Q. PLEASE DESCRIBE THE NORTH FORK RIDGE PROJECT.**

17 A. The North Fork Ridge Wind Farm will be constructed in northwestern Jasper County and
18 southwestern Barton County, Missouri. The point of interconnection for the generation
19 tie lines will be the substation at Empire’s Asbury Power Plant. North Fork Ridge will
20 have a capacity of approximately 150 MW.

21 **Q. HOW DID EMPIRE ARRIVE AT THESE PROJECTS?**

22 A. As the Commission may remember, Empire initiated a request for proposals (RFP) in
23 October of 2017. Through that process and associated negotiations and discussions,

1 Empire ultimately decided that the projects described above were the most advantageous
2 for Empire's customers. Additional information about the RFP and contract negotiation
3 process is found in the Direct Testimony of Todd Mooney.

4 **Q. IS ADDITIONAL INFORMATION ABOUT THE WIND PROJECTS FOUND IN**
5 **EMPIRE'S DIRECT TESTIMONY?**

6 A. Yes. More detailed information about each of these projects can be found in the Direct
7 Testimony of Timothy N. Wilson.

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

9 A. Empire will finance the Wind Projects using a combination of debt, equity, and tax equity
10 financing. Empire will work in conjunction with a tax equity partner in order to finance
11 these projects. Empire witness Todd Mooney explains in his Direct Testimony the
12 advantages of the tax equity financing, the status of the tax equity financing, and how the
13 remainder of the project cost will be financed.

14 **Q. ARE THERE ANY TIMING NEEDS ASSOCIATED WITH THE REQUESTED**
15 **CCNS?**

16 A. Yes. As explained in the Customer Savings Plan case (Case No. EO-2018-0092), there is
17 a timing element in order to take advantage of expiring Production Tax Credits (PTCs).
18 In order to receive the full PTC value, the projects must be completed before the end of
19 2020. Mr. Mooney's Direct Testimony further describes some contractual reasons for a
20 prompt CCN process.

21 **Q. WHAT IS THE PROPOSED CONSTRUCTION TIME LINE FOR THE**
22 **PROJECTS?**

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

4 **Q. WHAT MUST HAPPEN BETWEEN NOW AND THE START OF**
5 **CONSTRUCTION?**

6 A. Obviously, receipt of CCNs for the Wind Projects is the most important prerequisite for
7 construction to commence in the latter part of 2019. However, there are other activities
8 that must be completed and other approvals that must be received prior to the start of
9 construction. Other key approvals include road use and maintenance agreements to be
10 entered into with the counties and townships and Determinations of No Hazard from the
11 Federal Aviation Administration.

12 **Q. IN THE EARLIER CUSTOMER SAVINGS PLAN CASE (CASE NO. EO-2018-**
13 **0092), EMPIRE FIRST PROPOSED TO CLOSE ITS ASBURY GENERATION**
14 **FACILITY. WHAT IS EMPIRE'S CURRENT PLAN IN REGARD TO ASBURY?**

15 A. The Asbury generation facility continues to be operated by Empire in accordance with
16 applicable rules and regulations. Empire continues to monitor Asbury's performance and
17 will review its (and Empire's other generation assets) continued operation in future
18 Electric Utility Resource Planning filings.

19
20 **VI. NEED FOR SERVICE**

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

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

5 Further, the Wind Projects satisfy the stated public policy objective of conserving
6 natural resources and pursuing renewable energy sources as reflected in the State Energy
7 Policy and the Renewable Energy Standards (RES). The Commission summarized this
8 benefit as follows in its Report and Order in Case No. EO-2018-0092:

9 It is the public policy of this state to diversify the energy supply through
10 the support of renewable and alternative energy sources. In past decisions,
11 the Commission has stated its support in general for renewable energy
12 generation, which provides benefits to the public. Empire’s proposed
13 acquisition of 600 MW of additional wind generation assets is clearly
14 aligned with the public policy of the Commission and this state.

15
16 Rep. Ord., p. 20.

17
18 **Q. DOES EMPIRE HAVE AN IMMEDIATE CAPACITY REQUIREMENT THAT**
19 **WOULD BE SATISFIED BY THE WIND PROJECTS?**

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

1 **Q. WILL THE WIND PROJECTS HELP REPLACE SOME OF EMPIRE'S**
2 **EXISTING RENEWABLE ENERGY SOURCES?**

3 A. Yes. Two of Empire's existing PPAs, for a total of 255 MWs, will expire after the 600
4 MW of wind comes online in December of 2020 - expiration of Elk River wind farm in
5 2025 (150 MW) and Meridian Way wind farm in 2028 (105 MW). These expiring
6 contracts represent all of Empire's current wind capacity and more than 40% of the new
7 capacity that was described in Case No. EO-2018-0092.

8 **Q. WHY IS OWNERSHIP OF THE WIND PROJECTS BENEFICIAL TO**
9 **EMPIRE'S CUSTOMERS?**

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

19 Further, Empire is in a unique position to benefit from APUC's expertise in
20 owning and managing wind farms, and its expertise developing such opportunities with
21 tax equity partners, which will deliver substantial savings to the Empire's customers over
22 the life of the wind generation assets. In comparison, PPAs typically have terms of

1 approximately 20 years. If Empire were to enter into such a PPA, it would receive no
2 value for its customers from the wind generation unit after the PPA had terminated.

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

9 **Q. ARE THERE OTHER REASONS THAT THE PUBLIC INTEREST WOULD BE**
10 **FURTHERED BY THE ACQUISITION OF THE WIND PROJECTS?**

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

13 Adding wind generation to Empire's portfolio significantly reduces
14 financial risk for Empire customers. Wind in the portfolio mitigates the
15 impact that rising fuel and market prices have on Empire's retail rates. In a
16 rising market price environment, Empire would be able to sell wind output
17 at higher prices without any incremental fuel costs. Empire's credible
18 analysis shows that adding up to 600 MW of wind to its portfolio would
19 result in lower risk to that portfolio under three different market scenarios,
20 relative to Empire's current resource plan.

21
22 Rep. Ord., p. 14-15.

23
24 **VII. CONCLUSION**

25 **Q. WILL THE WIND PROJECTS FOR WHICH EMPIRE SEEKS CCNS BENEFIT**
26 **EMPIRE'S CUSTOMERS?**

27 A. Yes. Empire's acquisition of wind generation at a significant discount using the tax
28 equity partnership structure will benefit customers through lower future energy costs

1 without any negative impact to Empire's ability to provide those customers reliable
2 service.

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

4 **A. Yes, it does.**

AFFIDAVIT OF BLAKE A. MERTENS

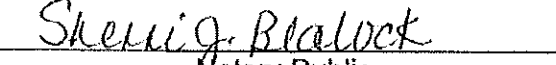
STATE OF MISSOURI)
) ss
 COUNTY OF JASPER)

On the 16th day of October, 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 16th day of October, 2018.



 Notary Public

My commission expires: Nov 16, 2018.

