

**BEFORE THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS**

**DIRECT TESTIMONY
OF
KELLY B. HARRISON
WESTAR ENERGY
ON BEHALF OF PRAIRIE WIND TRANSMISSION LLC**

DOCKET NO. 08-PWTE-1022-COC

I. INTRODUCTION

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Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. Kelly B. Harrison. 818 South Kansas Avenue, Topeka, Kansas
66612.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING?

A. Prairie Wind Transmission, LLC (Prairie Wind).

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

A. Westar Energy, Inc. I am Vice President, Transmission Operations
and Environmental Services. I am responsible for transmission
planning, construction and operations and environmental services.
I am also President of Prairie Wind.

**Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND
AND PROFESSIONAL EXPERIENCE.**

1 A. I received a B.S. Degree in Electrical Engineering in 1981, an M.S.
2 Degree in Engineering Management Science in 1985 and an
3 M.B.A. in 1994, all from Wichita State University. Following my
4 graduation in 1981, I began work at Kansas Gas and Electric
5 Company (KG&E) as an engineer in the System Planning
6 department. I held various engineering positions until 1987 when I
7 was promoted to Supervisor of Planning and Forecasting in the
8 Rate department. I was promoted to Manager of Planning and
9 Forecasting in 1988, and I remained in that position after the
10 acquisition of KG&E by The Kansas Power and Light Company
11 (now Westar) in March 1992. From March 1992 until October
12 1999, I held various positions in the Regulatory Affairs department.
13 In October 1999, I became Senior Director, Restructuring and
14 Rates. In 2001, I was named Executive Director, then Vice
15 President, Regulatory in December 2001. In March 2006, I
16 assumed my current responsibilities.

17 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

18 A. I will describe the structure of and members in Prairie Wind and the
19 reasons that Westar decided to participate in the Prairie Wind joint
20 venture. I will also discuss the certificate Prairie Wind is requesting
21 in this docket. I will summarize the benefits and costs of Prairie
22 Wind's proposed transmission project. Finally, I will discuss the

1 approach Prairie Wind anticipates using to recover the costs
2 associated with the proposed transmission project.

3 Prairie Wind is presenting three other witnesses in support of
4 its filing. Lisa Barton, Vice President, Transmission Strategy and
5 Business Development for American Electric Power Service
6 Corporation (AEPSC), will describe the proposed 765 kV
7 transmission facilities, including the technology that will be utilized
8 and the benefits associated with use of 765 kV facilities. Ms.
9 Barton will also discuss American Electric Power Company, Inc.'s
10 (AEP) experience in building and operating 765 kV transmission
11 facilities and some of the advanced technologies that will be
12 incorporated into this project. Mark Ruelle, Chief Financial Officer
13 of Westar, describes the structure of the joint venture between
14 Westar and Electric Transmission America, LLC (ETA), the plan for
15 operation of Prairie Wind and the anticipated capital structure of
16 Prairie Wind, both during construction and after the project goes
17 into service. Finally, Wayne Irmiter, Chief Accounting Officer of
18 MidAmerican Energy Holdings Company (MEHC), will discuss
19 MEHC's interest in the project and its ability to assist in financing.

20 **II. DESCRIPTION OF PRAIRIE WIND AND ITS MEMBERS**

21 **Q. PLEASE DESCRIBE PRAIRIE WIND.**

22 A. Prairie Wind is a limited liability company organized in Delaware. It
23 is qualified to do business in the state of Kansas for the purpose of
24 siting, constructing, owning, operating and maintaining bulk electric

1 transmission facilities in the state of Kansas. Westar owns a 50%
2 membership interest in Prairie Wind. The remaining 50%
3 membership interest in Prairie Wind is owned by ETA. ETA is a
4 joint venture between AEP Transmission Holding Company, LLC
5 (ATHC), a wholly owned subsidiary of AEP, and MEHC America
6 Transco, LLC (MAT), a wholly owned subsidiary of MEHC.

7 **Q. PLEASE DESCRIBE THE TRANSMISSION SYSTEM**
8 **CURRENTLY OWNED BY WESTAR.**

9 A. Westar has nearly 1100 miles of 345 kV lines, 306 miles of 230 kV
10 lines, 329 miles of 161 kV lines, 480 miles of 138 kV lines, 1052
11 miles of 115 kV lines, and 1095 miles of 69 kV lines. Westar also
12 has 1664 miles of 34.5 kV lines that are classified as transmission.
13 Westar's transmission facilities are integrated into the Eastern
14 Interconnection, an interconnected electric transmission network
15 that traverses the United States from the plains to the east coast
16 and from the Gulf of Mexico to Canada. Additionally, the Eastern
17 Interconnection includes some portions of Canada.

18 **Q. DOES WESTAR HAVE EXPERIENCE IN OBTAINING**
19 **APPROVAL FOR AND CONSTRUCTING EXTRA-HIGH**
20 **VOLTAGE TRANSMISSION FACILITIES IN KANSAS?**

21 A. Yes. Westar has been operating extra-high voltage transmission
22 facilities since the 1960's. Also, as the Commission is aware,
23 Westar recently filed applications under the Kansas Transmission

1 Siting Act in order to construct 345 kV facilities from the Wichita
2 area to Hutchinson to Salina and 345 kV facilities from the Rose Hill
3 substation southeast of Wichita to the Oklahoma border. In order
4 to prepare these applications, Westar conducted extensive
5 economic analyses of the proposed facilities and siting studies in
6 order to determine the preferred routes. Westar also
7 communicated with the public through written correspondence and
8 by holding several open houses in order to obtain public input
9 regarding siting of the proposed facilities. Westar anticipates that
10 the same process would be used by Prairie Wind in siting the
11 proposed 765 kV facilities.

12 **Q. PLEASE DESCRIBE THE OTHER COMPANIES INVOLVED IN**
13 **PRAIRIE WIND.**

14 A. As I stated above, ETA will own the remaining 50% interest in
15 Prairie Wind. ETA is a Delaware LLC in which ATHC, a subsidiary
16 of AEP, and MAT, a subsidiary of MEHC, are equal owners. AEP
17 is one of the largest electric utilities in the United States and owns
18 the nation's largest electricity transmission system. The AEP
19 transmission network includes more 765 kilovolt extra-high voltage
20 transmission facilities than are operating in all other U.S.
21 transmission systems combined. AEP has more experience
22 constructing, operating and maintaining 765 kV transmission
23 facilities than any other utility in the United States. In her

1 testimony, Ms. Barton provides additional information regarding
2 AEP's transmission system and its experience with 765 kV
3 transmission facilities.

4 MEHC is a subsidiary of Berkshire Hathaway Inc. and is
5 engaged in electric, natural gas and renewable energy production
6 and delivery. MEHC's subsidiaries include PacifiCorp, an electric
7 utility operating in the western United States, MidAmerican Energy
8 Company, a Midwest electric and natural gas utility, and the Kern
9 River and Northern Natural gas pipeline systems. Mr. Irmiter
10 provides additional information about MEHC's utility operations.

11 **Q. WHY DID WESTAR AND ETA DECIDE TO CREATE PRAIRIE**
12 **WIND TO CONSTRUCT AND OWN THE PROPOSED**
13 **TRANSMISSION FACILITIES?**

14 A. Prairie Wind allows AEP and MEHC through ETA and Westar to
15 combine their substantial expertise in transmission facilities
16 construction and operation and to bring the best practices of all
17 three companies to the project. While AEP is the recognized leader
18 in 765 kV construction, operation and maintenance in the U.S., the
19 new facilities will be interconnected with Westar and Westar's new
20 wind generation. Due to Westar's local presence, it is best suited to
21 manage certain logistic, regulatory and right-of-way aspects of the
22 project. MEHC has an existing transmission joint venture in Texas
23 with AEP. MEHC utilities are among the largest owners and

1 operators of transmission facilities in the United States, and have
2 significant levels of wind interconnections. MEHC also brings
3 substantial financial strength and business proficiency to the joint
4 venture. By combining forces, Westar and ETA expect that they
5 will be able to complete the project sooner and at a lower cost than
6 might otherwise be possible. ETA and Westar believe that
7 constructive collaborations such as the Prairie Wind joint venture
8 are helpful in achieving needed transmission infrastructure
9 improvement and the Commission should encourage these
10 collaborations.

11 **III. DESCRIPTION OF THE REQUESTED CERTIFICATE OF**
12 **CONVENIENCE AND NECESSITY**

13 **Q. WHAT IS PRAIRIE WIND REQUESTING FROM THE**
14 **COMMISSION IN THIS APPLICATION?**

15 A. Prairie Wind seeks a certificate of public convenience to engage in
16 the business of siting, constructing, owning, operating and
17 maintaining bulk electric transmission facilities in the state of
18 Kansas. At this time, Prairie Wind is requesting a certificate of
19 public convenience only for the proposed project. In the event that
20 Prairie Wind wishes to construct additional transmission projects, it
21 will file a separate application with the Commission to amend its
22 certificate of public convenience.

23 **Q. HOW WILL THE REQUESTED CERTIFICATE SERVE THE**
24 **PUBLIC CONVENIENCE AND NECESSITY?**

1 A. If Prairie Wind's application is granted, the Commission will be
2 authorizing Prairie Wind to proceed with siting the proposed 765 kV
3 transmission project. Allowing Prairie Wind to serve as a
4 transmission utility in Kansas and construct this project will benefit
5 Kansas customers because Prairie Wind will have access to the
6 experience and financial strength of AEP and MEH in addition to
7 Westar's financial strength and experience in siting and
8 constructing transmission facilities in Kansas. As Ms. Barton
9 discusses in her testimony, the Southwest Power Pool, Inc. (SPP)
10 has recognized that there is a need for construction of high-voltage
11 transmission in Kansas. By authorizing Prairie Wind to operate as
12 a transmission utility in the state, the Commission will be facilitating
13 that construction through an entity that is highly qualified to
14 construct and operate a 765 kV transmission system.

15 **IV. SUMMARY OF THE PROPOSED 765 KV TRANSMISSION**
16 **PROJECT**

17 **Q. PLEASE DESCRIBE THE TRANSMISSION PROJECT**
18 **PROPOSED BY PRAIRIE WIND IN THIS APPLICATION.**

19 A. Prairie Wind proposes to build approximately 230 miles of new 765
20 kV transmission facilities generally comprised of two segments. It
21 is anticipated that one segment will run west-southwest from a new
22 765 kV or existing substation (belonging to Westar or its subsidiary,
23 Kansas Gas and Electric Company) near Wichita, Kansas to a new
24 765 kV substation near Medicine Lodge, Kansas and then west-

1 northwest to a new or existing station near Spearville, Kansas. The
2 other segment will run from the new Medicine Lodge 765 kV
3 substation south-southwest to the Kansas-Oklahoma border. A
4 map showing the proposed location of the facilities is attached as
5 Exhibit KBH-1.

6 Interconnections from the 765 kV transmission system to
7 existing lower voltage transmission will be required. Prairie Wind
8 anticipates that any improvements at existing lower voltage
9 substations will be a part of the initial project, subject to agreement
10 with incumbent transmission owners. Because the project will
11 interconnect with facilities owned by Sunflower Electric Power
12 Corporation (Sunflower) and Mid-Kansas Electric Company, LLC
13 (MKEC), Prairie Wind has provided copies of this application to
14 Sunflower and MKEC.

15 **Q. WHY WAS 765 KV SELECTED FOR THE PROPOSED**
16 **TRANSMISSION FACILITIES?**

17 A. As discussed by Ms. Barton, power transmission at 765 kV has
18 several important advantages compared with lower voltage
19 transmission. The 765 kV technology selected for application in
20 this project represents the highest alternating current (AC) voltage
21 class in commercial operation in North America and provides the
22 greatest transmission capacity and operating flexibility. This
23 project, much like the 765 kV system pioneered by AEP, will form a

1 high-capacity transmission "backbone" overlaying and
2 strengthening existing systems. It will enhance regional reliability
3 and efficiency.

4 Additionally, a 765 kV grid unloads underlying lower voltage
5 systems and relieves constraints on those systems, thus providing
6 significantly greater operational flexibility to perform maintenance,
7 mitigate the effects of unplanned system contingencies,
8 accommodate additional load, and site new generation. Also, 765
9 kV transmission provides a margin for operating uncertainties
10 inherent in competitive electricity markets.

11 **Q. PLEASE SUMMARIZE THE BENEFITS THE PROPOSED**
12 **TRANSMISSION PROJECT WILL PROVIDE.**

13 A. The proposed transmission facilities will provide:

- 14 • reduced transmission congestion,
- 15 • increased transmission system reliability,
- 16 • wider choice and competition in wholesale generation
17 sales,
- 18 • greater access for Kansas generators to markets outside
19 of Kansas,
- 20 • grid access for renewable energy generation resources,
- 21 • substantially reduced transmission losses,
- 22 • reduced air emissions,
- 23 • economic development,

- 1 • deferral of the need for new electric generation,
2 • deferral of upgrades to the underlying lower voltage network,
3 and
4 • greater transfer capacity with less land use as compared
5 to construction of a 345 kV transmission facilities.

6 Ms. Barton describes the technical aspects and benefits of
7 the proposed project and of 765 kV transmission in greater detail in
8 her testimony.

9 **Q. WHAT IS THE ESTIMATED COST OF THE PROPOSED 765 KV**
10 **TRANSMISSION FACILITIES?**

11 A. It is expected that the project proposed by Prairie Wind will cost
12 approximately \$600 million to complete. The actual cost will be
13 dependent upon a variety of factors such as the selected route and
14 costs of equipment, commodities and other construction elements.

15 **Q. IF PRAIRIE WIND'S APPLICATION IS APPROVED, WHAT**
16 **ADDITIONAL STEPS WILL IT TAKE BEFORE BEGINNING**
17 **CONSTRUCTION OF THE PROPOSED 765 KV TRANSMISSION**
18 **FACILITIES?**

19 A. Prairie Wind plans to follow a process similar to the process used
20 by Westar when preparing its two recent Siting Act applications
21 filed with the Commission. Prairie Wind intends to retain a
22 consultant to perform an economic analysis generally of the
23 benefits of a 765 kV overlay in the SPP region and specifically of

1 the economic benefits associated with the proposed transmission
2 facilities. Prairie Wind will also retain a consultant to perform a
3 routing study and assist with the siting process. Prairie Wind will
4 hold open houses and accept written comments from landowners in
5 order to obtain public input throughout the siting process.

6 Prairie Wind will file a “transmission only” certificate
7 application in accordance with the same requirements that apply to
8 retail electric suppliers under the Retail Electric Suppliers Act
9 (RESA), K.S.A. 66-1,170, *et seq.*, (RESA) to traverse the retail
10 service territory of other electric service providers. Prairie Wind’s
11 RESA filing may be combined with its Siting Act application if that
12 course appears practicable. Prairie Wind will also submit a wire
13 stringing application pursuant to K.S.A. 66-183 and K.A.R. 82-12-1,
14 *et seq.*, after design of the facilities is complete.

15 **V. PRAIRIE WIND’S RECOVERY OF COSTS**

16 **Q. HOW WILL PRAIRIE WIND RECOVER ITS TRANSMISSION**
17 **COST OF SERVICE?**

18 A. Prairie Wind will file an application with FERC to implement a
19 formula rate to set its transmission rates. The formula will be
20 designed to update Prairie Wind’s revenue requirements and
21 transmission rates annually.

22 Prairie Wind’s facilities will be placed under the SPP Open
23 Access Transmission Tariff (OATT). SPP will take Prairie Wind’s
24 revenue requirement and associated transmission rates as

1 determined by Prairie Wind's formula rate and will incorporate them
2 into the SPP OATT. Prairie Wind intends to request that SPP use
3 "postage stamp" rates to allocate the costs associated with the
4 proposed 765 kV transmission facilities to SPP zones. SPP will
5 then distribute the revenues from the Prairie Wind postage stamp
6 rate to Prairie Wind, pursuant to the terms of its OATT.

7 **Q. PLEASE DESCRIBE WHAT YOU MEAN BY "POSTAGE**
8 **STAMP" FUNDING.**

9 A. Under the "postage stamp" funding method, the SPP allocates the
10 costs associated with a given project to SPP transmission zones on
11 a load-ratio share basis. To determine the percentage of costs for
12 which a zone is responsible, SPP divides the zone's 12-month
13 average transmission peak by the SPP 12-month average
14 transmission peak.

15 **Q. HOW DOES A PROJECT BECOME "POSTAGE STAMP"**
16 **FUNDED?**

17 A. SPP is currently developing a process under which it will create a
18 portfolio of transmission projects which, when considered in
19 aggregate, have a benefit-cost ratio of one or greater for the entire
20 SPP region. Once a project becomes part of a portfolio, it becomes
21 eligible for "postage stamp" funding. Prairie Wind and Westar
22 intend to continue working with the SPP and the SPP's Cost
23 Allocation Working Group to develop this allocation approach and

1 ensure that the proposed transmission facilities receive this type of
2 funding.

3 **Q. IF THE “POSTAGE STAMP” FUNDING METHOD OF**
4 **ALLOCATION IS USED, WHAT PERCENTAGE OF THE COSTS**
5 **FOR THE PROPOSED TRANSMISSION FACILITIES WILL BE**
6 **ALLOCATED TO KANSAS CUSTOMERS?**

7 A. Transmission zones in Kansas would be allocated approximately
8 22% of the costs of the proposed transmission facilities under a
9 “postage stamp” funding approach. This amount will be added to
10 the rates that SPP charges to Kansas retail and wholesale
11 customers.

12 **Q. WILL THE PROJECT BE BUILT IN THE ABSENCE OF**
13 **“POSTAGE STAMP” RATES?**

14 A. No.

15 **VI. CONCLUSION**

16 **Q. DO YOU HAVE ANY CONCLUDING REMARKS?**

17 A. Yes. Authorizing Prairie Wind to construct, own and operate the
18 proposed 765 kV transmission facilities in Kansas will serve the
19 public convenience and necessity. The 765 kV transmission
20 facilities proposed by Prairie Wind will provide significant benefits to
21 the state and the region. The joint venture between Westar and
22 ETA brings a significant and diverse set of experiences and
23 qualifications to the table and benefits Kansas customers. It also
24 enables the development of an EHV transmission network that will

1 ensure reliable and efficient transmission service for the state and
2 the region in the future. Thus, the Commission should grant Prairie
3 Wind's application for a certificate of convenience and necessity.

4 **Q. THANK YOU.**

