

Direct Testimony and Exhibit  
Eric Egge

Before the South Dakota Public Utilities Commission  
of the State of South Dakota

In the Matter of the Application of  
Black Hills Power, Inc., a South Dakota Corporation

For a 230 kV Transmission Line and  
Associated Substation Modification  
Facility Permit

Docket No. EL14-\_\_\_\_

June 30, 2014

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**Exhibits**

Exhibit EE - 1 – Diagram of the Common Use System

**I. INTRODUCTION AND QUALIFICATIONS**

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

A. My name is Eric Egge. My business address is 409 Deadwood Avenue, P.O. Box 1400, Rapid City, South Dakota, 57701.

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

A. I am employed by Black Hills Utility Holdings Company (“BHUH”) as Director, Electric Transmission Service.

**Q. FOR WHOM ARE YOU TESTIFYING ON BEHALF OF TODAY?**

A. I am testifying on behalf of Black Hills Power, Inc. (“Black Hills Power” or the “Company”).

**Q. PLEASE DESCRIBE YOUR EDUCATION AND BUSINESS BACKGROUND.**

A. I graduated from North Dakota State University in 2000 with a Bachelor of Science degree in Electrical Engineering. I am currently a Registered Professional Engineer in the State of South Dakota. I was hired by Black Hills Corporation (“BHC”) in 2004 as a Transmission Planning Engineer and have been in my current position since September 2011. I have over 10 years of electric utility industry experience in areas of transmission operations, regional reliability coordination, long-range transmission planning, and North American Electric Reliability Corporation (“NERC”) and Federal Energy Regulatory Commission (“FERC”) regulatory compliance. I have also represented BHC on a number of regional and sub-regional transmission groups including the Colorado Coordinated

Planning Group (“CCPG”), WestConnect Planning Management and Steering Committees, Northern Tier Transmission Group Planning Committee and the Western Electricity Coordinating Council (“WECC”) Technical Studies Subcommittee.

**Q. WHAT ARE YOUR PRIMARY RESPONSIBILITIES IN YOUR CURRENT POSITION?**

A. I am responsible for the long-range transmission planning function for BHC’s regulated utilities including Black Hills Power, Cheyenne Light, Fuel and Power Company and Black Hills/Colorado Electric Utility Company, LP. In particular, the long-range transmission planning functions include the development of an overall transmission strategy that ensures safe, reliable and economic transmission services for our customers. I am also responsible for the 24/7 system operations center, NERC compliance, and FERC compliance relating to the electric transmission system, the Open Access Transmission Tariff, and Large Generator Interconnection Procedures.

**II. PURPOSE OF TESTIMONY**

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

A. The purpose of my testimony is to provide the South Dakota Public Utilities Commission (“Commission”) with a brief description of the Common Use System (“CUS”) electric transmission network. I also provide a summary of the activities the Company, in coordination with its CUS partners and neighboring utilities, undertakes to ascertain when investments to the CUS are necessary. Lastly, I

explain the reasons that additions to the CUS transmission system are warranted at this time.

### **III. COMMON USE SYSTEM**

**Q. PLEASE DESCRIBE THE CUS.**

A. The CUS comprises the 230 kV transmission system in northeast Wyoming and western South Dakota that is owned by Black Hills Power, Basin Electric Power Cooperative (“BEPC”) and Powder River Energy Corporation (“PREC”) under the jurisdiction of a FERC-approved Joint Open Access Transmission Tariff (“JOATT”). This system is comprised of 230 kV transmission lines and substations in the geographic area bounded by Sheridan, WY, Douglas, WY, Scottsbluff, NE and Rapid City, SD. Please refer to Exhibit EE – 1 – Diagram of the Common Use System for addition detail.

**Q. WHO ADMINISTERS THE JOATT AND OPERATES THE CUS?**

A. Black Hills Power is responsible for administration of the JOATT and operation of the CUS transmission system through agreements with BEPC and PREC.

### **IV. EVALUATION OF CUS INVESTMENT NEED**

**Q. PLEASE DESCRIBE THE METHODS THE CUS OWNERS USE TO DETERMINE WHEN INVESTMENTS IN THE CUS ARE REQUIRED.**

A. Black Hills Power, on behalf of and in coordination with the CUS owners and neighboring utilities, performs annual power flow and dynamic stability analyses on the CUS transmission system to evaluate the overall capability of the existing electric facilities to serve the projected system peak load five and ten years into the

future. Through these planning studies, Black Hills Power is able to identify specific limitations associated with the existing CUS transmission and distribution facilities that may prevent the Company from providing safe and reliable service to the Company's existing customers. It is also through this planning process that the CUS owners will review, consider, and analyze specific system additions and improvements that are required to meet existing and projected future transmission customer needs.

**Q. HAS THE COMPANY DETERMINED THAT IT IS NECESSARY TO UPDATE ITS CURRENT TRANSMISSION SYSTEM?**

A. Yes, the Company, along with the other CUS owners, has made a determination that it is necessary to construct a 144 mile long 230 kV transmission line from the PREC-owned Teckla Substation in Campbell County, Wyoming to the Osage Substation in Weston County, Wyoming to the Lange Substation located in Pennington County near Rapid City, South Dakota.

**Q. WHAT ANALYSIS WAS PERFORMED TO IDENTIFY THIS PARTICULAR NEED?**

A. The need for the proposed transmission line was identified through the CUS annual transmission planning process initially in 2006, and has been validated in subsequent study cycles.

**Q. WHAT CONCLUSIONS DID BLACK HILLS POWER REACH AS A RESULT OF TRANSMISSION PLANNING PROCESSES THAT SUPPORT THE NEED FOR A NEW 230 kV TRANSMISSION LINE?**

A. Black Hills Power determined that the proposed 230 kV transmission line is necessary to ensure reliability of the existing regional transmission network under projected transmission system load. In particular, the proposed transmission line is necessary to significantly reduce the need for reliability must-run generation. In addition, the proposed transmission line is required to provide the necessary transmission transfer capability to satisfy a request for 130 MW of firm point-to-point transmission service beginning January 1, 2016.

**Q. PLEASE DESCRIBE THE RELIABILITY MUST-RUN REQUIREMENTS THAT WILL BE SIGNIFICANTLY REDUCED DUE TO THE CONSTRUCTION OF THIS NEW TRANSMISSION LINE.**

A. Under the current Must-Run Generation Requirements for peak demand scenarios, the loss of one of the three existing 230 kV lines serving the Black Hills area would require at least 4 of the 5 generator units in Rapid City to operate at full capacity to protect against the next most severe outage. The proposed transmission line would reduce the required generation to 1 generator unit under this scenario, providing greater reliability margin.

**Q. PLEASE DESCRIBE THE POINT-TO-POINT TRANSMISSION SERVICE REQUEST NEED THAT JUSTIFIES THE CONSTRUCTION OF THIS NEW TRANSMISSION LINE.**

A. One of the CUS's transmission customers has requested 130 MW of long-term firm point-to-point transmission service beginning January 1, 2016 through the JOATT that governs the CUS 230 kV facilities. The available capacity within the

existing 230 kV transmission system will not allow this transmission service commitment to be satisfied. The proposed transmission line will provide the additional capacity needed to meet this firm transmission service commitment.

**Q. DOES BLACK HILLS POWER HAVE AN OBLIGATION TO SATISFY THIS TRANSMISSION SERVICE REQUEST?**

A. Yes. FERC requires transmission service to be offered on a nondiscriminatory basis. Pursuant to the JOATT, Black Hills Power, as the transmission provider, evaluates transmission service requests for completeness and to determine if a System Impact Study is needed. If a completed application is provided and requirements of the System Impact Study, as set forth in Section 19 of the JOATT, are satisfied, then the transmission provider must confirm that it can offer service and execute an agreement for service.

**Q. WHAT RISKS EXIST IF THE APPLICATION IS DELAYED OR DENIED?**

A. As demand grows on the CUS, the amount of Rapid City generation needed to maintain system reliability for the worst-case outage events mentioned above will exceed the available installed generation capacity. Delays in the implementation of the Facility would limit the amount of load growth that could be served in the future. Alternatively, project delays could potentially require the reduction of demand to an acceptable level for the aforementioned scenarios. Additionally, if the Application is denied, Black Hills Power will not be able to satisfy its obligation to provide firm transmission service at the beginning of 2016. Further,

if the application is delayed, Black Hills Power will likewise be unable to satisfy its firm transport obligation because it will not have adequate time to complete construction of the proposed transmission line. For additional information related to construction efforts, please refer to the testimony of Michael J. Fredrich.

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

A. Yes, it does.

STATE OF SOUTH DAKOTA     )  
  ) ss  
COUNTY OF PENNINGTON    )

I, Eric Egge, being duly sworn on oath, depose and state that I am the witness identified in the foregoing prepared testimony and I am familiar with its contents, and that the facts set forth are true to the best of my knowledge, information and belief.

  
\_\_\_\_\_  
Eric Egge

Subscribed and sworn to before me this 26<sup>TH</sup> day of June, 2014.

SEAL



  
\_\_\_\_\_  
Notary Public

My Commission Expires: 11/10/15