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

In the Matter of the Petition for Declaratory Ruling of Black Hills Power, Inc.

Docket No. EL 11-

# BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF SOUTH DAKOTA

IN THE MATTER OF THE PETITION FOR DECLARATORY RULING OF	)	SUPPLEMENT TO PETITION FOR
BLACK HILLS POWER, INC.	)	DECLARATORY RULING
	)	
	)	EL 11

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### I. Executive Summary

Black Hills Power, Inc. ("Black Hills Power" or the "Company") is being proactive in its evaluation of whether to add, at this time, renewable generation resources to its supply side resources. The Company has, to date, done a good job of planning its supply side energy resources. The Company has sufficient capacity to serve its South Dakota customers in the short term and, with continued planning, the medium and long term.

But the Company, along with other utilities, operates in uncertain times. What will happen to future coal prices? Natural gas prices? Environmental costs? Will there be a required renewable energy standard in South Dakota? Or on the Federal level? Will Federal tax incentives related to renewable projects expiring in 2012 be extended? What will the costs be in the future to construct wind projects? Will the future costs of the major components be significantly higher than present costs? Will there be regulation available for a wind project? Will good wind farm locations be available? What will it cost to transmit that energy to the Company's customers? Because of these many uncertainties, the Company must continually engage in evaluation and planning regarding its supply side energy resources.

Adding a reasonably priced renewable project now is, in the Company's opinion, the right decision in an uncertain future. The reasons for the decision are many: First, the recent recession has led to a present opportunity to purchase wind project components at significantly lower prices. Second, a good site for the wind project is presently available at a reasonable price and comes to the Company at an advanced stage of development. Third, there are federal incentives that expire in less than two years that will reduce the cost of adding wind to the Company's resource mix. Fourth, there is presently available bonus depreciation, which will also reduce the cost of adding wind. Fifth, the Company has a present opportunity to contract with Western Area Power Administration for the regulation service for the wind project - and this regulation service may not be available in the future or be available at a reasonable cost. Sixth, the Company's supply side resources include substantial coal generation, and diversification into a non-coal project such as wind, will better protect the Company from the uncertain future costs of such things as carbon taxes or cap and trade, or the Industrial Boiler National Emission Standards for Hazardous Air Pollutants ("Boiler Standards"), which from a practical standpoint will force the retirement of older, less environmentally friendly generation facilities. Finally, this wind project will help the Company meet the South Dakota Renewable Energy Objective by 2015. And while this objective is voluntary, it reflects that the South Dakota legislature - and we believe, the Company's customers and the citizens of South Dakota - want South Dakota utility providers to move towards more renewables, even if the cost to do so is slightly higher than the projected cost of the Company's non-renewable resources.

The proposed construction of a 20 megawatt wind project by the Company is prudent, consistent with public policy, and justified by the economics.

# II. Type and description of proposed facility and proposed site

### 1. **Description**

The proposed wind energy project ("BHP Wind Project" or "Project") is located near Belle Fourche, South Dakota in Butte County. The site consists of approximately 4,200 acres. While the Company only intends to construct the Project with a nameplate capacity rating of approximately 20 MW, the site will allow for possible expansion up to approximately an additional 30 MW.

Renewable Solutions and PNE Wind USA, Inc. through their joint venture, Butte Windfarm, LLC (collectively "Developer") have been involved in the development of the site since 2009. Black Hills Power has had an interest in studying the potential for wind generation near this site since 2006. The data derived from a meteorological tower ("MET Tower") Black Hills installed near the site in June of 2006 has been utilized by the Developer in determining the suitability of the site for a wind project. Developer has worked with all affected landowners and obtained all necessary rights, title and interest in land to access the site, build necessary transmission facilities and construct the wind turbines. In addition, Developer has begun permitting and obtaining approvals necessary to develop the site.

Over the course of the recent recession, the Company has seen the market for wind turbines decline. In addition, production tax credits ("PTC") under Internal Revenue Code Section 45 are available for the construction of renewable energy generation projects. The PTC is available only to generation that is originally placed into service prior to the end of 2012. The combination of the turbine market, the availability of the PTC, bonus depreciation and the development of this site in particular make this an optimal time to develop the Project. Therefore, Black Hills Power has or will enter into an option to purchase the Developer's rights to the Project. Black Hills Power will be the sole owner of the BHP Wind Project following the exercise of its option. All agreements entered into and permits received by Developer will be assigned to Black Hills Power.

### 2. Wind Turbines

The proposed BHP Wind Project will consist of approximately 7-12 wind turbines and the associated balance of plant and other facilities with an

expected nameplate capacity rating of approximately 20 MW. The Company sent a request for proposals on wind turbines for this Project in April 2011 and is currently negotiating with the two lowest bidders to finalize a purchase agreement for turbines.

#### 3. Transmission line

Black Hills Power will build a 69kV line into the BHP Wind Project. The length of the 69kV line will be approximately three miles. Developer has procured rights of way for the 69kV line from affected landowners. These rights will be assigned to Black Hills Power upon the exercise of its option.

# 4. Proposed Site

- a. The BHP Wind Project will be located north of the City of Belle Fourche. Attached as Exhibit ML-1 is a general vicinity map showing the location of the Project.
- b. The site is attractive for a wind project because it is close to an existing transmission line, has few environmental impacts, no expected adverse impact to neighboring landowners and has commercial grade wind.
- c. Black Hills Power has confirmed that Developer has begun the work to obtain all necessary permits and other governmental approvals necessary to develop a wind project on the site. A listing of all approvals and permits underway is attached as Exhibit RK-1. Black Hills Power will need to obtain a final 'no hazard determination' from the Federal Aviation Administration and a building permit from Butte County prior to the start of construction.
- d. The area surrounding the BHP Wind Project is primarily agricultural. The Developer has undertaken initial environmental studies on the site.

# III. Description of wind project opportunity

# 1. State renewable objective:

Many states have enacted renewable portfolio standards that mandate that a minimum amount of renewable energy be included in utility resource portfolios by a date certain, often with the required percentage increasing over time.

While South Dakota has not enacted a renewable portfolio standard, it has adopted a renewable, recycled, and conserved energy objective that ten percent of all electricity sold at retail within the state by the year 2015 be obtained from renewable, recycled, and conserved energy sources. See SDCL 49-34A-101. As a retail provider of electricity, the Company is subject to this objective. The objective is voluntary.

At the present time, approximately 6 percent of the Company's retail electricity sales are obtained from renewable, recycled and conserved energy sources. If this Petition is approved by the Commission, and the BHP Wind Project is constructed as presently proposed, approximately 9 percent of the Company's retail electricity sales will be obtained from renewable, recycled and conserved energy sources.

SDCL 49-34A-104 provides that before using new renewable, recycled and conserved energy to meet the objective, the retail provider shall make an evaluation to determine if the use of new renewable, recycled, and conserved energy is "reasonable and cost effective considering other electricity alternatives." That statute further provides that after making such an evaluation and considering the state renewable energy objective, the retail provider may "use the electricity alternative that best meets the provider's resource or customer needs." Id.

The Company has determined that its use of renewable energy from the BHP Wind Project is reasonable and cost effective considering other electricity alternatives, and that use of such renewable energy is an appropriate alternative to meet the Company's expected resource or customer needs.

# 2. Description of utility's existing operations and general service in SD

The Company is a regulated electric utility engaged in the generation, transmission and distribution of electricity to approximately 66,000 customers (69,000 customers including private area lighting) in western South Dakota, northeastern Wyoming, and southeastern Montana with a service territory of approximately 9,300 square miles. Approximately 90 percent of the Company's retail electric revenues are generated in South Dakota.

# 3. Description of current resource mix

The Company owns interests in electric generating plants with a gross capacity totaling 490.9 MW. Of that total, 300.9 MW or approximately 61% come from generating plants fueled by coal. The Osage Power Plant near Osage, Wyoming is included in this total, although operations at the Osage power plant were suspended in 2010. The remainder of the 490.9 MW is composed of natural gas and oil generation.

Set forth below is the Company's current resource mix:

		Ownership	Gross	
Fuel		Interest	Capacity	Year
<u>Type</u>	<u>Location</u>	<u>%</u>	(MW)	<u>Installed</u>
Coal	Gillette, WY	100	90.0	1995
Coal	Gillette, WY	20	72.4	1978
Coal	Osage, WY	100	34.5	1948-1952
Coal	Rapid City, SD	100	25.0	1960
Coal	Gillette, WY	100	21.8	1969
Gas	Gillette, WY	100	40.0	2000
Gas	Rapid City, SD	100	40.0	2002
Oil	Rapid City, SD	100	10.0	1965
Gas/Oil	Rapid City, SD	100	100.0	1977-1979
Coal	Gillette, WY	52	57.2	2010
	Type Coal Coal Coal Coal Coal Gas Gas Gil Gas/Oil	Type Location Coal Gillette, WY Coal Gillette, WY Coal Osage, WY Coal Rapid City, SD Coal Gillette, WY Gas Gillette, WY Gas Rapid City, SD Oil Rapid City, SD Gas/Oil Rapid City, SD	Fuel Interest  Type Location % Coal Gillette, WY 100 Coal Gillette, WY 20 Coal Osage, WY 100 Coal Rapid City, SD 100 Coal Gillette, WY 100 Gas Gillette, WY 100 Gas Rapid City, SD 100 Gas Rapid City, SD 100 Oil Rapid City, SD 100 Gas/Oil Rapid City, SD 100	Fuel         Interest         Capacity           Type         Location         %         (MW)           Coal         Gillette, WY         100         90.0           Coal         Gillette, WY         20         72.4           Coal         Osage, WY         100         34.5           Coal         Rapid City, SD         100         25.0           Coal         Gillette, WY         100         21.8           Gas         Gillette, WY         100         40.0           Gas         Rapid City, SD         100         40.0           Oil         Rapid City, SD         100         10.0           Gas/Oil         Rapid City, SD         100         100.0

Several years ago, the cost of renewable technologies were not necessarily cost competitive. The costs for many renewable technologies have become more cost competitive.

The Company has taken several proactive steps to increase its utilization of renewable energy. The Company purchases wind energy from the Happy Jack and Silver Sage facilities located outside Cheyenne, Wyoming.

# 4. Federal and State policies and incentives

There are a number of federal and state policies that had or will have an impact on the resource mix of the Company. These include the Boiler Standards, carbon tax or cap and trade legislation, and renewable portfolio standards. There are currently available federal tax incentives and bonus depreciation.

Wyodak is a 362 MW mine-mouth coal-fired plant owned 80 percent by PacifiCorp and 20 percent (or 72.4 MW) by Black Hills Power.

#### a. Boiler Standards

On March 21, 2011, the Environmental Protection Agency finalized its emissions rule for industrial, commercial and institutional boilers and process heaters. Compliance is required by March 21, 2014.

The rules require compliance with emissions limits or work practice standards, and operating limits. Compliance must be demonstrated on a continuous basis.

As a result of the Boiler Standards, the Company will likely have to retire its coal fired generation facilities set forth below no later than March 21, 2014.

			average	
Plant	Fuel type	total capacity	net capacity	start date
Ben French (SD)	coal	25.0	22.0	1960
Neil Simpson I (WY	Y)coal	21.8	16.0	1969
Osage (WY)*	coal	<u>34.5</u>	<u>33.0</u>	1948
Total		81.3	71.0	

<sup>\*</sup>operations suspended in 2010

### b. Carbon taxes

The U.S. Supreme Court decision in April of 2007 that the Environmental Protection Agency has the authority to regulate carbon and other greenhouse gases as pollutants impacted most, if not all, electric utilities. Electric utilities that burn fossil fuels – coal as regards the Company – must seriously contemplate, in their planning, the impact of a "carbon tax" or a "cap and trade" program for carbon emissions.

Any carbon tax or cap and trade legislation will likely have a negative impact on customer rates. The Company included assumptions regarding a carbon tax or cap and trade legislation in its most recent integrated resource plan.

Many utilities have expected U.S. Congressional action with regard to reducing emissions. The older coal fired generation facilities of the Company (e.g. those listed above) have greater carbon emissions than do the newer, more technologically advanced coal fired facilities owned by the Company.

### c. Federal renewable energy standard

Legislation was recently introduced in the senate that would enable a federal renewal energy standard which would require utilities to generate 25% of their electricity from renewable energy sources by 2025.

### d. Federal tax incentives

As introduced in Section II. 1., production tax credits are available to the Company for this Project.

The BHP Wind Project is eligible for the 50 percent bonus depreciation under the Tax Relief, Unemployment Insurance Reauthorization and Job Creation Act of 2010, which provides for a fifty percent bonus depreciation for equipment placed in service after December 31, 2011 and through December 31, 2012.

# 5. Turbine prices

The costs of wind turbines have softened considerably over the past 18 months. Capital costs for wind projects have decreased 25-40% over this time.

Bids have been received from four turbine manufacturers. The Company intends to further negotiate with the two best bidders for further price reductions. The Company believes that it will ultimately contract for very favorable pricing on the cost of the turbines.

# 6. **Regulation**

An intermittent energy source is any source of energy that is not continuously available due to some factor outside direct control. Examples of intermittent sources include wind and solar power. Effective use of intermittent sources in an electric power grid usually relies on using the intermittent sources to displace fuel that would otherwise be consumed by non-renewable power stations, or by such things as hydroelectricity.

In order for the Company to make the BHP Wind Project economically feasible, it must have a reliable source of electricity to cover the moment to

moment changes in wind velocity and the resulting changes in generation output. This is commonly referred to as "regulation." The Company has undertaken to determine what source of regulation will be available regarding the BHP Wind Project, and has determined that Western is able to provide sufficient regulation, using hydroelectricity, to the Company at a reasonable price. The reasonable cost of regulation is a critical component to any wind project, and in this case, there is a limited window of opportunity regarding the regulation resource.

### IV. <u>Estimated construction costs</u>

#### 1. Estimated construction costs

The estimated cost of the Project is approximately \$38 million. Set forth below is a summary of the estimated cost of the Project.

	Total
Engineering	\$780,000
Wind Turbine Generators	\$19,330,000
Other Equipment and Collection Substation	\$2,587,000
Construction Contracts & Project	
Management	\$8,298,000
Transmission and Interconnection Facility	\$3,452,000
Indirect Costs	\$3,338,000
Contingency	\$214,000
Total	\$38,000,000

Attached hereto as Exhibit ML-4 is the detailed budget for the Project.

# a. Bidding process

Requests for bids will be used for the procurement of major equipment. The generator step-up transformer for the Project is also out for bids. These procurement efforts will lock down over 55% of the expected total project cost.

# b. Construction to be managed by affiliate

The construction of the Project will be managed by Black Hills Service Company, LLC ("BHSC"), a wholly owned subsidiary of Black Hills Corporation. Over the years, affiliates of Black Hills Corporation have managed the construction of approximately 1,736 MW of generation, and have consistently built facilities on time and on or under budget. BHSC's role in the self-build capacity include coordinating the selection and procurement of equipment for the plant, managing the construction, start-up and commissioning of the plant, containing costs, implementing safety programs and procedures and maintaining the project cost and schedule. BHSC provides these services to the Company at its cost, without any profit mark-up.

## 2. Comparison to costs of similar projects

The Company believes that it will able to construct the Project at or below the industry standards for typical costs to construct a wind project.

# V. <u>Estimated construction and in-service dates</u>

### 1. Estimated date of commencement of construction

Construction of the Project will commence as soon as a favorable ruling is received from the PUC, and is anticipated to be September 1, 2011.

### 2. **Duration of construction**

Set forth below is a summary of key milestones of the construction of the Project:

**Key Milestones - Construction** 

Schedule Activity	Start Date	Duration	Completion Date
Detailed Engineering Complete	May 2011	4 months	Sep 2011
Award Wind Turbine Generators	Sep 2011	10 months	Jul 2012
Site Mobilization	Sep 2011	1 month	Sep 2011
Civil Work Complete	Sep 2011	4 months	Dec 2011
Foundations Complete	Apr 2012	2 months	Jun 2012
WTG Erection	July 2012	2 months	Aug 2012
Transmission line Construction	May 2012	2 months	Jun 2012

# 3. Estimated/required in-service date

The Project must and will be in service by December 31, 2012.

## VI. <u>Effect of project – Community impact</u>

### 1. Construction jobs

The construction of the Project will be managed by the project management team of BHSC. The Company anticipates contracting with subcontractors to construct the Project including building roads, constructing the 69kV line and facilities as well as constructing the wind turbines. Approximately 40 workers will be on the site over the course of the construction.

# 2. Ongoing jobs

The Project will require at least one full time employee following construction.

#### 3. Excise taxes

The site is located in Butte County outside of Belle Fourche city limits. Black Hills Power will pay excise taxes benefitting Butte County.

#### 4. Use of South Dakota vendors

Where possible, the Company is committed to using local vendors both during and after construction. The Company anticipates that vendors will be needed following construction to maintain roads, transmission facilities and the wind turbines.

### VII. Need

#### 1. Reasons

The Project is driven by a combination of public policy and opportunity. As detailed previously in this document, federal initiatives such as the Boiler Standards and possible carbon taxes or renewable portfolio standards have driven the Company to seek generation that will diversify its current resource mix to protect customers from legislation that could adversely affect utilities deriving generation primarily from coal sources. In addition to the public policy reasons to move forward with this Project, the Company has been presented with an opportunity that may not be available in the long term. The Developer has prepared this site to such a degree that the Company will be able to step in and timely begin construction. This

will allow the Company to take advantage of the PTC and bonus depreciation discussed above.

As discussed in the testimony of Kyle White, this generation resource selection was not the result of an integrated resource plan ("IRP") prepared by or on behalf of the Company. The last IRP was completed in 2007 and previously submitted to the Commission in Docket No. EL09-018. That IRP examined the 2008-2027 planning horizon for the Company and its sister company Cheyenne Light, Fuel and Power and determined that wind would be an appropriate resource to be installed over the planning horizon. The 2007 IRP stated that the Company should continue to monitor wind development opportunities, which it has done.

### 2. Estimated Customer Rate Impact:

As shown in the modeling discussed in the testimony of Richard Kinzley and Exhibit RK-3, it is estimated that customer rates will increase by approximately 1.5% in 2013 as a result of this Project.

### VIII. Time is of the essence:

The BHP Wind Project must be in service by the end of 2012 in order to take advantage of the PTC and bonus depreciation. Therefore, the Company is requesting a Commission ruling on this Petition **no later than September 1, 2011,** so the Company may commence construction in order to have the Project in service by the end of 2012.

### IX. Direct Testimony:

The Company is submitting with this Petition, testimony and exhibits from the following witnesses:

Kyle D. White, Vice President of Resource Planning and Regulatory Affairs for Black Hills Power, will address the wind project opportunity and the need for the project.

Mark Lux, Vice President and General Manager of Power Delivery for Black Hills Corporation, will describe the proposed project and provide the estimated project costs.

Richard W. Kinzley, Vice President, Strategic Planning and Development for Black Hills Corporation, will describe the option to purchase and the modeling performed by the Company.

# X. <u>Informational filing under SDCL 49-41B-25.1</u>:

Attached hereto is the Informational Filing Required by SDCL 49-41B-25.1.

### XI. Conclusion:

Wherefore, Black Hills Power, Inc. respectfully requests that that the Commission issue an Order finding the following:

- 1. That Black Hills Power properly evaluated and determined under SDCL 49-34A-101 and 104 that the proposed BHP Wind Project is reasonable and cost effective considering other electricity alternatives; and
- 2. The BHP Wind Project is an appropriate resource addition to meet Black Hills Power's resource or customer needs.

Respectfully submitted,

Kyle D. White

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# **INFORMATIONAL FILING REQUIRED BY SDCL 49-41B-25.1**

Pursuant to SDCL 49-41B-25.1, Black Hills Power, Inc. (the "Company") does hereby make the following informational filing regarding its BHP Wind Project ("Project"), as follows:

Planned Location of Project:

Eight miles north of Belle Fourche, South Dakota, in

Butte County.

Number of Wind Turbines

and Nameplate Capacity:

7-12 turbines, with a total nameplate capacity of

approximately 20 megawatts.

Planned Method of

Interconnection:

A 69kV line, approximately three miles in length, will

be built from the Project to interconnect with the Company's 69kV radial line going to Belle Creek,

Montana.

**Estimated Construction** 

Start Date:

September 1, 2011

**Estimated Construction** 

Completion Date:

December 31, 2012.

Additional information is included in the Company's Petition for Declaratory Ruling being filed with the South Dakota Public Utilities Commission.