BEFORE THE SOUTH DAKOTA PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE CONSIDERATION OF THE NEW PURPA STANDARDS	)))	**Docket No. EL08-028**

DIRECT TESTIMONY OF BLACK HILLS POWER, INC.

Black Hills Power, Inc. ("Black Hills Power" or the "Company"), a South Dakota corporation, submits its direct testimony for the new PURPA Standards set forth in the Energy Independence and Security Act of 2007. Black Hills Power is a public utility as defined under SDCL § 49-34A-1, with a business address of P.O. Box 1400, 625 Ninth Street, Rapid City, SD 57709 and has interest in this docket as the consideration and implementation of the new PURPA Standards has an effect on its electric utility business. Black Hills Power's testimony will answer the questions provided by Commission Staff by letter dated April 29, 2009. Black Hills Power states as follows:

I. INTEGRATED RESOURCE PLANNING (IRP)

Q: ARE YOU CURRENTLY REQUIRED TO GO THROUGH AN IRP PROCESS IN ANY OF YOUR REGULATED JURISDICTIONS? IF YES;

a. WHICH JURISDICTION(S)?

A: Black Hills Power is not required to go through an IRP process in any of the jurisdictions it operates in.

Q: WERE YOU PREVIOUSLY REQUIRED TO GO THROUGH AN IRP PROCESS IN ANOTHER JURISDICTION THAT NO LONGER REQUIRES IT?

A: No.

Q: SHOULD THE COMMISSION ADOPT AN IRP PROCESS?

A: An IRP process does not need to be adopted at this time. Black Hills Power performs IRPs on an as-needed basis, usually when there is a need for new generation. Black Hills Power is always evaluating its resources and looking at needs between full scale plans. The IRP process requires many resources, including the assistance of outside consultants, and therefore Black Hills Power believes that conducting an IRP to meet a filing requirement is not a prudent use of resources and not a fair cost to be passed on to customers. If the Commission adopts an IRP process it should have flexibility and ensure that customers will not be burdened with unnecessary costs.

Q: IF THE COMMISSION ADOPTED AN IRP PROCESS IN SOUTH DAKOTA:

a. HOW SHOULD ENERGY EFFICIENCY RESOURCES BE INTEGRATED?

A: If an IRP process is adopted, energy efficiency resources should be a component of potential resources considered as part of the planning.

Q: HOW OFTEN SHOULD THE PLAN BE REVISED/ REVIEWED?

A: If an IRP process is adopted, the IRP should be reviewed when necessary and filed with the Commission when a significant change in planning occurs, at a minimum every five years.

b. HOW WOULD THIS BENEFIT YOU?

A: An IRP process would not benefit Black Hills Power because it already conducts resource planning based on need. Utilities know best how to meet the needs of their customers and should be permitted to run their business in the most efficient manner.

c. HOW WOULD YOU BE NEGATIVELY AFFECTED?

A: An IRP process would negatively affect Black Hills Power because it becomes an administrative process instead of a process based on need. Utilities will review planning needs on an on-going basis regardless of an official process, but there may not be a need to formally produce a lengthy plan for mandated time frames. For example, if a utility has sufficient generation to meet its needs for the next ten years, it would not be necessary to undergo a full IRP process every four years.

II. RATE DESIGN MODIFICATIONS TO PROMOTE ENERGY EFFICIENCY INVESTMENTS

Q: IF A FEDERAL OR STATE ENERGY EFFICIENCY RESOURCE STANDARD IS ESTABLISHED, WHAT IS THE BEST WAY TO MEET THE TARGET?

A: The best way to meet a target is to have a scaled time frame for compliance. Utilities need time to develop programs to effectively reduce

demand in their service territories and to avoid rate shock for implementing the programs.

a. OR WILL SEVERAL PROGRAMS NEED TO BE EMPLOYED?

A: Mostly likely there is not one demand side management program that will work across all customer classes, so multiple programs should be employed.

b. IF SO, WHAT ARE THOSE PROGRAMS?

A: Programs that would help reduce usage would be in the areas of: rate design, i.e. time of use rates; rebates and incentives for implementing alternative forms of energy, i.e. solar or small wind generators; and, education and financial incentives for energy efficiency. For industrial customers, programs that help them use energy during off peak times or targeted at increasing energy efficiency.

Q: SOME STATES HAVE CREATED AN INDEPENDENT ORGANIZATION, FUNDED THROUGH A CHARGE TO CUSTOMERS BASED ON A PERCENTAGE OF SALES, WHICH DEVELOPS AND MONITORS ENERGY EFFICIENCY PROGRAMS. WHAT ARE YOUR THOUGHTS ON AN INDEPENDENT ORGANIZATION ADMINISTERING ENERGY EFFICIENCY PROGRAMS?

A: Black Hills Power does not believe a separate organization is necessary. Utilities should be permitted to run their business in a way that provides

safe, reliable, economical power to customers and a fair return to shareholders.

a. WHAT PERCENT OF SALES SHOULD CUSTOMERS CONTRIBUTE IF THAT BENCHMARK IS EMPLOYED?

A: Passing on costs to customers is always difficult, especially in the current economic period. Customers basic necessities continue to increase and they often do not realize a significant benefit from the implementation of government processes.

b. HOW WOULD LARGE DIFFERENCES AMONG UTILITIES' SALES AFFECT PROGRAMS?

A: Economies of scale are important in demand side management as the greater the volume of sales, the greater impact small reductions in use make to overall demand. It will be more difficult for small utilities to implement effective programs than larger ones. South Dakota's low population density and small service territories make it challenging to have effective demand side management programs because the reduction in use is so small that it does not delay the need for a new generating resource very long.

c. SHOULD THERE BE A BASELINE STANDARD FOR PROGRAMS AND THEN AN "ADDER" BASED ON PERCENTAGE OF REVENUE?

A: Generally, program goals are not established in this manner. A reasonable approach for establishing program goals would be to base program targets

on a percentage of sales (e.g., one quarter to one half of one percent of sales). In addition, the company believes it is reasonable to develop a program portfolio so that every customer class has an opportunity to participate in at least one program.

Q: WHAT ALTERNATIVE MECHANISMS BESIDES DECOUPLING WOULD PROMOTE ENERGY EFFICIENCY INVESTMENTS?

A: As an alternative to decoupling, the Company believes that cost recovery and regulatory incentives should be linked and contain the following:

- a DSM variance account which is used to true up the variance between estimated spending built into rates and actual spending;
- a mechanism to adjust for margins the utility loses if the DSM program is more successful in the period after rates were set; and,
- a shared savings or incentive mechanism which rewards the Company for DSM performance.

a. HOW DO THEY COMPARE TO DECOUPLING?

A: The three components described above –a DSM variance account, a mechanism to capture lost margins, and an incentive program that rewards the Company for its performance – are easier and quicker to implement and modify than a decoupling procedure. Typically, decoupling is addressed in a more formal regulatory proceeding involving all utilities in the state. As such, it could be quite a time-consuming process to develop rules surrounding and implementing revenue decoupling mechanisms. A

complimentary approach is to increase the recovery of fixed costs through monthly customer charges.

Q. ENERGY EFFICIENCY CAN OCCUR IN A NUMBER OF WAYS INCLUDING UTILITY PROGRAMS AND IMPROVEMENTS MADE SOLELY BY CUSTOMERS. HOW SHOULD CREDIT BE GIVEN APPROPRIATELY FOR EFFICIENCY IMPROVEMENTS?

A: Properly designed evaluation plans will assist in the determination of how credit should be allocated for efficiency improvements. Properly designed evaluation plans will identify both free riders and free drivers, which when netted out will determine how much credit should be attributed to utility programs versus customer actions.

a. HOW CAN SUCH CREDIT BE DETERMINED?

A: See, previous answer.

b. WITHOUT SUCH A DETERMINATION CAN THE COMMISSION TREAT ALL PARTIES FAIRLY?

A: In the first year or two of a program, it is not efficient or effective to conduct a robust evaluation of the utility's programs. Instead, deemed, predetermined, or agreed-to savings should be used to calculate net benefits from the utility's programs. Evaluations are used to adjust savings percentages on a prospective basis. The best available information will be used to develop savings levels for the utility's programs from the onset and adjustments will be made when additional

data on customer participation and energy usage behavior becomes available.

Q: WHAT FORUM SHOULD BE USED TO ADJUST RATES FOR NEW CONSUMPTION PATTERNS?

A: The forum to adjust rates due to new consumption patterns would be through an adjustment clause, or a rate case. An adjustment clause would be a more effective tool so that a full rate case does not have to be filed.

Q: WHAT METHODS CAN BE USED TO DETERMINE IF A SALES DECLINE WAS DUE TO ENERGY EFFICIENCY OR OTHER POSSIBLE FACTORS (WEATHER, ECONOMY, LOSS OF LARGE CUSTOMER, ETC.)?

A: The challenge of determining if energy efficiency programs are working is the tracking issue. Meters that collect real-time or 15-minute interval usage data become necessary for the residential and small commercial class. This requires Advanced Metering Infrastructure (or "AMI") technology. Metered usage data could then be normalized to account for anomalies of weather, economy, etc.

Q: CAN A DECOUPLED RATE PROMOTE ELECTRICITY USAGE EFFICIENCY, OR PERHAPS REDUCE ELECTRICITY USAGE THROUGH A TRANSFER OF ENERGY USAGE FROM THE CUSTOMER TO ANOTHER ENTITY, OR FROM FUEL SWITCHING?

A: It's been the Company's experience that decoupled rates have been used more as a response to the effects of energy efficiency programs (i.e., usage reductions) rather than as a means to promote energy efficiency.

a. IN EFFECT COULD RATE DESIGN INDUCE GREATER OVERALL ENERGY USAGE EVEN THOUGH ELECTRICITY USAGE IS REDUCED?

A: Yes, if one resource becomes too expensive, customers will switch to something different. For example, if electric heating becomes too expensive, a customer may install a natural gas or propane furnace, resulting in the same or more energy being consumed.

Q: DESCRIBE IN DETAIL HOW THE COMMISSION SHOULD PROCEED IN REVIEWING (i) THROUGH (vi) BELOW, INCLUDING ANY OPTIONS FOR DOING SO. WHAT QUESTIONS SHOULD BE ASKED IN EACH CATEGORY TO OBTAIN INFORMATION WHICH SHOULD BE PART OF THE COMMISSION'S CONSIDERATION? BE SPECIFIC FOR EACH CATEGORY.

(B) POLICY OPTIONS—IN COMPLYING WITH SUBPARAGRAPH (A), EACH STATE REGULATORY AUTHORITY AND EACH NONREGULATED UTILITY SHALL CONSIDER:

(i) REMOVING THE THROUGHPUT INCENTIVE AND OTHER REGULATORY AND MANAGEMENT DISINCENTIVES TO ENERGY EFFICIENCY;

A: Black Hills Power does not advocate removing the throughput incentive (i.e., by shifting from a fixed-variable to a fully-variable design for the energy charge). Shareholders would like to realize the earnings potential implicit in a fixed-variable energy charge as energy consumption in the commercial and industrial sectors return to normal or above-normal levels once the economy recovers from the present recession.

(ii) PROVIDING UTILITY INCENTIVES FOR THE SUCCESSFUL MANAGEMENT OF ENERGY EFFICIENCY PROGRAMS;

A: Utilities should be permitted to recover their costs of implementing demand side management programs. In addition, when demand is reduced, sales and revenue are reduced so the base cost of providing service may go up, creating cost under-recovery. Incentives such as bonuses for implementing and sustaining energy efficiency programs would be good as well as recovery for providing incentives to customers.

(iii) INCLUDING THE IMPACT ON ADOPTION OF ENERGY EFFICIENCY AS 1 OF THE GOALS OF RETAIL RATE DESIGN, RECOGNIZING THAT ENERGY EFFECIENCY MUST BE BALANCED WITH OTHER OBJECTIVES;

A: The Company agrees with this statement.

(iv) ADOPTING RATE DESIGNS THAT ENCOURAGE ENERGY EFFICIENCY FOR EACH CUSTOMER CLASS;

A: Black Hills Power's rate design could be a useful tool for achieving changes in consumer consumption of electricity.

(v) ALLOWING TIMELY RECOVERY OF ENERGY EFFICIENCY-RELATED COSTS; AND

A: Allowing timely recovery will encourage effective programs.

(vi) OFFERING HOME ENERGY AUDITS, OFFERING DEMAND RESPONSE PROGRAMS, PUBLICIZING THE FINANCIAL AND ENVIRONMENTAL BENEFITS ASSOCIATED WITH MAKING HOME ENERGY EFFICIENCY IMPROVEMENTS, AND EDUCATING HOMEOWNERS ABOUT ALL EXISTING FEDERAL AND STATE INCENTIVES, INCLUDING THE AVAILABILITY OF LOW-COST LOANS, THAT MAKE ENERGY EFFICIENCY IMPROVEMENTS MORE AFFORDABLE.

A: These are all very good ideas, but have costs associated with them which should be permitted to be recovered. Education is important, but most customers will not change their habits unless it affects them monetarily.

III. DIRECTED SMART GRID TESTIMONY FOR IOU'S

Q: WHAT ARE YOUR ORGANIZATION'S GOALS RELATIVE TO SMART GRID TECHNOLOGY?

A: Black Hills Corporation, the parent company of Black Hills Power, expects to research the possibility of implementing smart grid technology at each of its operating electric utilities in Colorado, South Dakota, and Wyoming over the next five years. In southeastern Colorado, Black Hills Energy first began installation of digital meters at retail customer premises in September 2008. These digital meters operate with AMI technology. To date, over 17,000 AMI meters have been installed and energized in the Pueblo area. By year end, this will grow to 56,500 meters. By the end of 2011, all electric customers in Black Hills's Colorado service territory are planned to have AMI meters (approximately 98,000 customers total). These meters produce revenue-quality data and as such, are utilized for customer billings. Beyond Colorado, Black Hills Corporation is studying the potential installation of AMI meters at electric retail premises in South Dakota (approx. 65,000) and Cheyenne, Wyoming (approx. 37,500). AMI meters are generally considered the foundation of a smart grid platform. The meters are capable of two-way communications, and thus can impart an "intelligence" to manage power deliveries and consumption efficiently.

Q: WHAT IS THE VALUE OF EACH SMART GRID GOAL TO YOUR UTILITY?

A: Black Hills Power believes the value is measurable. Black Hills Power's affiliate in Colorado has identified both direct and indirect benefits of AMI meters. Direct benefits may include: automation of meter readings

for both cycle- and off-cycle billings; remote disconnections and reconnections; diversion detections; and real-time event alarm notification. These benefits reduce labor costs as well as other associated fleet costs for meter-reading personnel. The benefits serve to automate distribution functions. Indirect benefits include: back-office automation and efficiencies with customer billings. This also reduces labor costs.

Q: WHAT IS THE VALUE OF EACH SMART GRID GOAL TO YOUR CONSUMERS?

A: In the near term, the customer gains account accuracy, and "on demand" service for off-cycle meter reads and connection or disconnections orders, without a premise visit by utility personnel. With the AMI system, power outage and restoral information can be detected and reacted to without a customer phone call to the utility service center. In the longer term, the customer gains the transparency of real-time usage data, which will enable time-of-use rate plans and/or load-reduction incentive payments. The usage data can be reported to the consumer on Internet or in-home devices. Additionally, home connectivity and pre-payment service plans will be enabled by AMI meter technology. With home connectivity, the AMI meter can interface with appliance controls to directly and automatically perform peak-demand reductions (such as "cycling" of air conditioner usages.) Thus, the AMI meter technology can provide dispatchable demand-side management.

Q: WHAT SMART GRID TECHNOLOGY DOES YOUR ORGANIZATION SEE USING TO ACHIEVE ITS GOALS?

A: Black Hills Energy, one of Black Hills Power's affiliates, has adopted the *Elster EnergyAxis*® AMI System for its Pueblo, Colorado service territory. Black Hills Power would use the AMI system that works best in its territory and that is priced competitively. The *Elster* AMI meters are installed at the customers' premises and operate within a wide and local area communication network. For data collection, data from the customers' AMI meters are communicated by a 900 Mhz mesh network technology to field data collectors. This communication occurs six times a day. The data collectors communicate read information, via digital cellular network connectivity, to the BHE Corporate network server for back-office management functions. This communication occurs once daily. Meanwhile, real-time access to AMI meters is available for functions such as off-cycle reads, connect/disconnect orders, and alert notifications.

Q: WHAT SHORT TERM IMPACTS DO YOU SEE SMART GRID TECHNOLOGY HAVING ON RATES?

A: Black Hills Power believes that smart grid technology can mitigate the impact of higher rates that may result from federal mandates as proposed in the American Clean Energy and Security Act (H.R. 2454). Also known as the Waxman-Markey bill, H.R. 2454 proposes that retail electric suppliers can meet a portion of their load requirements with a combination

of renewable energy resources and electricity savings. The combined requirement begins at 6% in 2012 and grows to 20% by 2020. Certain provisions of the Waxman-Markey bill allow the renewable energy portion to be reduced, and the energy efficiency portion increased, from a 75/25% combination to 60/40%, respectively. Because smart grid technology can enable energy efficiency gains – such as consumption decreases triggered by time-sensitive rates or direct control of customers' appliances – higher-cost renewable energy resources can be reduced proportionally. Thus, with smart grid technology, the retail electric supplier can both comply with the law's proposed mandate and minimize the costs to customers.

Q: WHAT LONG TERM IMPACT DO YOU SEE SMART GRID TECHNOLOGY HAVING ON RATES?

A: In the longer-term, a distribution system equipped with functional AMI and smart grid technology should result in a net benefit to the customers. Black Hills Power will only implement new technology if a business case indicates a lower cost of service for the customers served.

Q: WHAT TYPES OF RATE DESIGN WOULD YOU NEED TO INVEST IN SMART GRID TECHNOLOGY?

A: Black Hills Power does not believe a revised rate design has to precede a smart grid technology deployment. Instead, an AMI meter investment can be justified from the operational cost savings as calculated by a business case. Each utility must determine which technologies work for its unique

circumstances on a case by case basis. At this time, Black Hills Power is preparing a business case for AMI in its South Dakota territory. If AMI meters are deployed, time-sensitive rate design (time-of-use or critical peak pricing) can then be implemented because the meter produces the necessary data for designing and billing such rates.

Q: HOW DOES THE PLANNED IEEE STANDARD ON SMART GRID IMPACT YOUR DECISION MAKING ON SMART GRID TECHNOLOGY?

A: The IEEE Standard makes Black Hills Power ensure that the vendor and technology used for AMI can meet the open standard business process and interoperability standards contemplated by the IEEE initiative (Project P2030). For example, the *Elster* system used in Colorado can interface with a Customer Information System ("CIS"), meter data management systems, revenue protection groups, work order management and inventory systems, outage management systems, rate research modules, and eventually SCADA.

Q: WHAT SYSTEM BENEFITS DO YOU SEE FROM INVESTING IN SMART GRID TECHNOLOGY, FOR EXAMPLE, SHORTER OUTAGES, ETC.?

A: Black Hills Power believes that the future "intelligent grid" as enabled by AMI meters, can automatically detect outages, divert the power supply, and self-heal the distribution lines without customer intervention. The

system can thwart cyber threats and thereby protect the reliability of system operations.

Q: WHAT OPTIONS DO YOU SEE TO ENSURE INTEROPERABILITY?

A: See the previous two responses.

Q: WHAT TIME FRAME DO YOU SEE FOR IMPLEMENTATION OF SMART GRID SYSTEMS?

A: Black Hills Power believes the time frame can only be defined by a business case scenario specific to the service territory and its characteristics. Beyond the customer metering side, it is difficult to forecast the time frame for "upstream" smart grid interfaces with generation and transmission providers. For that, the Company relies on the initiatives contemplated by the Obama Administration for a national intelligent grid, possibly by the year 2015.

Q: WHAT OPTIONS DO YOU SEE FOR PREVENTING RAPID OBSOLESCENCE OF SMART GRID SYSTEMS?

A: Black Hills Power believes that interoperability will prevent or delay obsolescence. Interoperability enables interface with other systems and modules that will foster long-run use and interdependency between transmission and distribution level market participants. In addition, the ability to upgrade the devices remotely is an important consideration in selecting a device.

Q: WHAT COSTS DO YOU SEE ASSOCIATED WITH THE SMART GRID TECHNOLOGIES YOU MAY INVEST IN?

A: There are many categories of costs associated with an AMI metering rollout that should be recognized in a business case. These categories include, but are not limited to equipment, installation labor, software licensing, software maintenance, and system testing and interfacing. The costs can only be justified if a net benefit results for the customers.

Q: HOW DO YOU PLAN TO BALANCE VALUE AGAINST COST FOR EACH OF YOUR SMART GRID GOALS/INVESTMENTS?

A: Black Hills Power relies on two financial metrics: operational cost savings and payback period.

Q: HOW WILL YOUR SMART GRID INVESTMENTS BE SPLIT AMONG, METERING, AUTOMATED SWITCHES, AND SUBSTATION CONTROLS?

A: Black Hills Power does not have the ability to answer this. AMI meters are one component of a smart grid platform. The other components, such as automated switches or substation controls, are discrete investments with their own cost structures. Black Hills Power has not estimated these costs.

Q: WILL YOU IMPLEMENT SMART GRID IN OTHER STATES YOU SERVE BEFORE OR AFTER SOUTH DAKOTA?

A: An affiliate of Black Hills Power is currently implementing AMI in Colorado.

Q: WHAT IMPACT WILL SMART GRID TECHNOLOGY HAVE ON YOUR PORTFOLIO OF GENERATION FACILITIES, I.E., WILL THE FUEL SOURCES SHIFT, ETC.?

A: Black Hills Power expects that fuel sources may shift after smart grid technology is deployed. Specifically, as the technology enables peak demand reductions at the customers' premises, the generation fleet can reduce its operation of peaking turbines. As a result, the fuel mix will shift from natural gas (peaking resource) to coal (baseload resource). The fuel costs will be favorably impacted for the customer because natural gas is a higher cost resource, with greater price volatility, relative to coal at this time.

Q: HOW SHOULD INVESTMENTS MADE OBSOLETE BY SMART GRID TECHNOLOGY BE RECOVERED BY UTILITIES?

A. Black Hills Power believes accelerated depreciation treatment of legacy metering equipment replaced by AMI installations should be the policy direction of state Commissions. Also, NARUC and FERC advocate for more-favorable depreciation rules, i.e., recovery of book value for assets that are retired early for "smart grid" reasons.[1]

[1] *See,* "Principal Characteristics of the Modern Grid" (presentation) from the FERC-NARUC Smart Grid Collaborative Meeting presented by Joe Miller-Modern Grid Strategy Team on July 23, 2008 at http://www.netl.doe.gov/moderngrid/.

Dated this 19th day of June, 2009.

BLACK HILLS POWER, INC.

By: _____

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CERTIFICATE OF SERVICE

I hereby certify that on June 19, 2009, a true and correct copy of the foregoing Direct Testimony of Black Hills Power, Inc. was served via electronic mail, where identified, on the following:

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