

EXHIBIT D

TESTIMONY OF JIM KECK

Direct Testimony  
Jim Keck

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 Approval of Energy Efficiency Programs, Tariff and Cost Recovery Mechanism in  
South Dakota

*January 26, 2011*

*Table of Contents*

		Page
I.	Introduction & Qualifications	3
II	Purpose Of Testimony	3
III.	Plan Overview	3
IV.	Plan Design, Budget and Benefits	4
V.	Responsibilities	9

1                                   **I.     INTRODUCTION & QUALIFICATIONS**

2       **Q:     Please state your name and business address.**

3       **A:**     My name is Jim Keck. My business address is 409 Deadwood Avenue,  
4       Rapid City, SD 57702.

5       **Q:     By whom are you presently employed and in what capacity?**

6       **A:**     I am employed as Supervisor for Energy Services for Black Hills Power,  
7       Inc. (“BHP” or the “Company”). I am testifying on behalf of BHP in support of  
8       its Energy Efficiency Solutions Plan (the “Plan”).

9       **Q:     What is your educational background?**

10      **A.**     I received a Bachelor of Science degree in electrical engineering from  
11      South Dakota State University in 1979.

12      **Q:     Please describe your professional experience.**

13      **A:**     I have been employed in the utility industry in positions requiring  
14      knowledge of and experience with demand side management, energy services,  
15      customer service and construction service for approximately thirty-one (31) years.

16                                   **II.     PURPOSE OF TESTIMONY**

17      **Q:     What is the purpose of your direct testimony in this proceeding?**

18      **A:**     The purpose of my direct testimony is to sponsor the Plan attached as  
19      Appendix A to the Application of BHP for Approval of Energy Efficiency  
20      Programs, Tariffs and Cost Recovery Mechanism dated January 26, 2011.

21                                   **III.    PLAN OVERVIEW**

22      **Q:     Please describe the Plan.**

23      **A:**     Energy efficiency is relevant to multiple arenas of BHP’s business  
24      operations. Energy efficiency is a consideration in the Company’s planning for

1 the utilization of resources. In addition, it has also been a critical element in  
2 remaining faithful to the principles of environmental stewardship and providing  
3 excellent customer service. BHP is submitting the Application at this time for the  
4 foregoing reasons.

5 The Plan prepared for BHP is composed of two broad categories: residential  
6 programs and non-residential (i.e. commercial and industrial) programs. Each  
7 program is designed to address the needs of various customer types. The  
8 residential program category is further separated into subcategories including a  
9 water heating program, a refrigerator recycling program, heat pumps, residential  
10 home audits, weatherization and school based energy education. The commercial  
11 and industrial energy efficiency program consists of prescriptive (lighting, heat  
12 pumps, motors and variable frequency drives) and custom rebate programs.

13 Offering the comprehensive suite of programs set forth in its Plan will benefit  
14 BHP's customers by assisting them in becoming more energy efficient. The  
15 program is intended to be implemented effective 90 days after an order is received  
16 from the Commission for a term of three years. The Company would like to  
17 launch the programs as early as September 1, 2011.

18 BHP will work with the Commission and other interested parties in this  
19 proceeding towards approval of its Plan and rolling out the programs as soon as  
20 reasonably possible to maximize customer benefits.

#### 21 **IV. PLAN DESIGN, BUDGET AND BENEFITS**

22 **Q: How was the Plan designed?**

23 **A:** BHP relied upon its own experience with its existing energy efficiency  
24 programs and supplemented that with additional expertise from a consultant,

1 Applied Energy Group (“AEG”). BHP also had the benefit of reviewing the  
2 Commission’s concerns and guidance regarding energy efficiency plans  
3 elsewhere within South Dakota and through the Commission’s June 23, 2010  
4 Energy Efficiency Workshops, and subsequent Commission Staff (“Staff”) work  
5 group sessions.

6 The Plan was developed in two phases. In the first phase the Company conducted  
7 a market assessment consisting of the estimation of the three different types of  
8 potentials commonly used to describe savings from energy-efficiency measures  
9 (EEMs): technical, economic, and achievable. In the second phase, the Company  
10 combined the results of this market assessment to develop a portfolio of energy-  
11 efficiency programs for its service area. BHP and AEG relied on a multi-criteria  
12 program development and selection approach. Criteria included the assessment of  
13 potentials, analysis of other utility programs, cost-benefit analysis of the proposed  
14 programs, BHP’s experience with past programs and input from the various  
15 meetings the Company has had in South Dakota with Staff and other interested  
16 parties. Based on all of the above, BHP selected the appropriate level of  
17 programs when weighed against the cost to customers of providing those energy  
18 efficiency programs.

19 **Q: Were you able to incorporate data specific to Black Hills Power in the**  
20 **development of the Plan?**

21 **A:** BHP’s 2008 energy usage data for South Dakota customers was used to  
22 determine the baseline energy use for the Plan. In addition, the average rates for  
23 each class of customer along with avoided energy and demand costs were used in  
24 the cost effectiveness analysis.

1 **Q: Why was 2008 data used to determine baseline usage?**

2 **A:** The analysis was originally run before 2009 usage data was available.  
3 When 2009 data became available, the usage did not significantly differ from  
4 2008 data, therefore BHP chose not to incur the expense of revising the baseline.  
5 The calculated energy savings would not have appreciably changed.

6 **Q: Which energy efficiency measures were considered, but are not**  
7 **included in the plan?**

8 **A:** With the exception of the residential energy audit program, those  
9 measures with a TRC less than 1.0 were not included in the Plan. In addition,  
10 three measures we reviewed with a TRC greater than 1.0 were also not included.

- 11 • Residential demand controllers were not included because the  
12 TRC was less than 1.0 primarily due to the low avoided  
13 demand cost. We plan to review and may include these in  
14 future years.
- 15 • Residential air conditioning TRCs were quite low because  
16 BHP's service area has low humidity and low operating  
17 hours.
- 18 • Residential Energy Star rated washing machine TRCs did not  
19 exceed 1.0.
- 20 • Compact Fluorescent Lamps (CFL) have a TRC of 6.04. We  
21 chose to focus our programs on heating rather than lighting  
22 on the residential side due to the characteristics of the  
23 Company's territory.

- Programmable thermostats have a TRC of 2.69. We believe heat pump set backs may not save as much energy since they will use additional resistance heat when in the recovery mode.
- Energy Star refrigerators have a TRC of 1.79. The majority of refrigerators sold are Energy Star rated. There would be a great number of free riders if BHP included this measure.

**Q: Why was the residential energy audit program included in the Plan?**

**A:** The residential energy audit program was included in the Plan despite the fact that its TRC is below 1.0. BHP believes that the energy audit is an opportunity to introduce energy efficiency to customers, provide a few, low cost measures to them during the audit and provide further education on additional measures that they can implement to achieve greater efficiency. While the TRC for this program falls below 1.0, the total TRC for all residential programs remains above 1.0.

**Q: The savings from residential weatherization efforts are not calculated in the Plan. Can you explain why this is and why BHP chose to include the program in spite of this?**

**A:** The electric energy savings are small for the weatherization measures implemented. If the customers receiving the weatherization have an electric heated home, they will also receive a residential energy audit and be included under the residential energy audit measure savings. The Company has been involved in weatherization programs for three years. Weatherization activities

1 allow Company volunteers to provide low cost, easy to install energy efficiency  
2 measures for low income customers.

3 **Q: Do you expect that the expenditures for each program will exactly**  
4 **match those budgeted in the Plan?**

5 **A:** As noted above, BHP and AEG developed the individual program budgets  
6 based on an estimate of program participation. While the Company believes that  
7 the program participation will be close to the projections, it is unlikely that each  
8 program will unfold exactly as expected. Consequently, BHP requests that the  
9 Commission provide the Company with the discretion and flexibility to shift  
10 budgets between programs within the same customer class, as necessary, to  
11 achieve the maximum impacts and meet the overall portfolio targets.

12 **Q: How were the program budgets developed for the Plan?**

13 **A:** Program budgets were developed with consideration to the following areas  
14 of expenditure:

- 15 • Project management costs
- 16 • Incentives
- 17 • Program delivery costs
- 18 • Marketing costs

19 Customer incentives and program delivery make up approximately 70% of the  
20 program budgets. BHP will seek opportunities to minimize project management  
21 and marketing costs through coordinated delivery and marketing of the programs  
22 across states in which programs are offered for other Black Hills Corporation  
23 subsidiaries.

24



