

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

**APPLICATION OF BLACK HILLS)
POWER INC. FOR AN INCREASE)
IN ELECTRIC RATES)**

DIRECT TESTIMONY OF DONALD J. MARTINEZ

I. INTRODUCTION AND QUALIFICATIONS

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

2 A. Don Martinez. My business address is 625 Ninth Street, Rapid
3 City, South Dakota.

4 **Q. WHAT IS YOUR POSITION WITH BLACK HILLS POWER?**

5 A. I am an Energy Services Engineer at Black Hills Power, Inc. (Black
6 Hills Power), a wholly-owned operating subsidiary of Black Hills
7 Corporation.

8 **Q. WHAT IS YOUR EDUCATIONAL, TRAINING AND
9 EMPLOYMENT BACKGROUND?**

10 A. I am a graduate of New Mexico State University in Las Cruces,
11 New Mexico. I graduated with a Bachelor of Science degree in
12 Electrical Engineering with an emphasis in electric power studies.
13 After graduation, I was employed by Public Service Company of
14 New Mexico (PNM) beginning in January, 1981 as an Energy
15 Conservation Engineer. I was primarily responsible for providing
16 technical support and training for customer demand-side
17 management programs. At PNM, I completed a study of customer-

1 owned wind and photovoltaic energy systems connected to the
2 electric utility grid. I also specialized in completing technical and
3 economic feasibility studies of cogeneration projects. In December,
4 1988, I accepted a job with, then, Black Hills Power & Light
5 Company and have worked in various positions for eighteen years.

6 **Q. WHAT HAVE BEEN YOUR POSITIONS AT BLACK HILLS**
7 **POWER?**

8 A. I started as a Customer Services Engineer providing support for
9 Commercial and Industrial (C&I) customer programs. I designed a
10 Key Account Annual Review Package which summarizes annual
11 electrical usage and costs for large C&I Customers. The Package,
12 which is still in use today, contains monthly detail along with
13 summary graphs. In 1990, I was transferred to District Operations
14 and became a Construction Services Engineer where I was
15 responsible for completing line extensions to customers requesting
16 electric service. I implemented an automated work order estimating
17 system used to calculate construction costs for customer line
18 extensions, this is also a system that is still used by Black Hills
19 Power. In 1993, I became a Rate Engineer to support the
20 development of a rate case which was filed in 1995 in South
21 Dakota (EL95-003) and Wyoming (20002-ER-95-48). As a Rate
22 Engineer, I oversaw the Cost of Service study completed by
23 contracted consultants, and was responsible for Rate Design and

1 Bill Frequency Studies. I was also responsible for updating
2 changes to rate tariff sheets filed with the Wyoming Public Service
3 Commission and the South Dakota Public Utilities Commission
4 (Commission). For the last eight years, I have been an Energy
5 Services Engineer where I primarily support Black Hills Power's
6 C&I customer programs and manage over forty Key Accounts. I
7 also provide technical support for power quality programs, load
8 recording studies, electric/magnetic field inquiries, power factor
9 savings evaluations, and large customer billing for Black Hills
10 Power and Cheyenne Light, Fuel & Power Company.

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

12 A. The purpose of my testimony is to describe the changes that have
13 occurred in Black Hills Power's load profile. I will also discuss the
14 defined rate classifications used in the class cost of service model.
15 Finally, I will discuss the proposed rate design and provide an
16 overview of the revisions and updates to Black Hills Power's tariffs.

17 **LOAD PROFILE**

18 **Q. PLEASE DESCRIBE ANY CHANGES THAT HAVE OCCURRED**
19 **SINCE 1995 WITH BLACK HILLS POWER'S LOAD PROFILE.**

20 A. At the time of the last rate case application Black Hills Power's
21 peak load was 279 megawatts (MW) and annual total energy was
22 1,701,458 megawatt-hours (MWh). In 2005, our peak load was 401
23 MW and our annual total energy was 2,108,040 MWh. These

1 annual total energy numbers include losses and company use.
2 Monthly peak loads from 1991 through 2005 are shown in Exhibit
3 DJM-1, BHP Monthly Peak Loads. Monthly energy totals are
4 shown in Exhibit DJM-2, BHP Monthly Energy. The annual load
5 factor in 1994 was 69.62% and in 2005 60.01%, which is an
6 approximate 14% decrease. Annual load factors from 1991
7 through 2005, are shown in Exhibit DJM-3, BHP Annual Load
8 Factors. Since 1995, our peak load has grown by approximately
9 44% and our energy by approximately 24%. Although we lost our
10 largest industrial customer, Homestake Mining Company, we have
11 continued to see constant load growth in other sectors.

12 **Q. WHAT CAUSED THE REDUCTION IN BLACK HILLS POWER'S**
13 **LOAD FACTOR?**

14 A. The losses of large industrial customers such as the Homestake
15 Mining Company and the Federal Beef packing plant have been a
16 major factor. The Black Hills Power area has also lost all the gold
17 mining companies with the exception of Wharf Resources. In
18 addition we have experienced a load growth with small commercial
19 and residential customer groups. Industrial loads typically have
20 higher load factors, whereas, small commercial and residential
21 loads are more weather dependent and peaking in nature, thus
22 resulting in lower load factors. In summary, our high load factor
23 industrial loads have decreased and have been replaced with lower

1 load factor customers, which have resulted in a lower overall
2 system load factor.

3 **Q. WHY IS LOAD FACTOR IMPORTANT TO UTILITIES?**

4 A. Load factor is the ratio of total energy to peak usage. A utility with
5 a higher load factor utilizes its plant in service more efficiently than
6 a utility with a lower load factor, resulting in lower overall costs.

7 **Q. WHAT HAS BLACK HILLS POWER BEEN ABLE TO DO TO**
8 **MITIGATE THE IMPACT OF THIS REDUCTION IN LOAD**
9 **FACTOR?**

10 A. Black Hills Power entered into a long-term contract with the
11 Municipal Energy Agency of Nebraska (MEAN) for 20 MW. This
12 energy sale is contingent on the availability of the Neil Simpson II
13 power plant. Basically, Black Hills Power replaced the loss of some
14 of the industrial load with this unit contingent contract. As long as
15 the Neil Simpson II power plant is generating at capacity, 20 MW
16 are sold to MEAN which compares very well to a large industrial
17 customer with a very high load factor. However, if the plant is
18 forced off line or is down for maintenance, the obligation to serve
19 MEAN goes away as well. Exhibit DJM-4 shows the impact this
20 sale has made to our overall system load factor. Customers see a
21 benefit as the system is used more efficiently and the MEAN
22 contract revenues are a revenue credit to Black Hills Power's cost
23 of service.

1 Q. WHEN DOES BLACK HILLS POWER EXPERIENCE PEAK
2 PERIODS AND HAS THIS CHANGED WITH THE CHANGES IN
3 LOAD PROFILE?

4 A. Black Hills Power is now a summer peaking utility. In the past,
5 similar peak demands were experienced in both summer and winter
6 with each peak seeming to leapfrog over the next. Summer and
7 winter peak day profiles are shown in Exhibit DJM-5.

8 **CLASS COST OF SERVICE MODEL**

9 Q. HOW DID BLACK HILLS POWER DETERMINE THE REVENUE
10 REQUIREMENTS FOR EACH CUSTOMER CLASS?

11 A. First, the jurisdictional cost of service study was completed and the
12 total revenue requirement for Black Hills Power's South Dakota
13 customers was identified. Next, a class cost of service study was
14 completed.

15 Q. WHAT IS THE DIFFERENCE BETWEEN A JURISDICTIONAL
16 COST OF SERVICE STUDY AND A CLASS COST OF SERVICE
17 STUDY?

18 A. When utilities serve customers in more than one regulatory
19 jurisdiction, a jurisdictional cost of service study is necessary to
20 determine the revenue requirements for each jurisdiction. Each
21 jurisdiction has its own customer make-up, and rates for those
22 customers are then determined using the jurisdictional revenue
23 requirement and associated class cost of service study. The class

1 cost of service study, on the other hand, determines the rates to be
2 charged to each class of customer, residential or commercial for
3 example, and insures that the derived rates will not over or under
4 collect the revenue requirement.

5 **Q. ARE THERE ANY OTHER DIFFERENCES?**

6 A. There may be different allocation factors used in a jurisdictional
7 cost of service study versus a class cost of service study depending
8 on peak and energy contributions of jurisdictions and those of
9 specific customer classes. Black Hills Power used a One
10 Coincident Peak (CP) capacity allocation methodology in the
11 jurisdictional cost of service study and an Average and Excess
12 capacity allocation methodology in the class cost of service study.

13 **Q. WHY DID BLACK HILLS POWER USE A ONE CP CAPACITY**
14 **ALLOCATION METHODOLOGY IN THE JURISDICTIONAL**
15 **COST OF SERVICE STUDY?**

16 A. As described earlier in my testimony, Black Hills Power's load
17 profile has changed over the years. Previously the peaks were
18 experienced in both summer and winter. This shift to summer
19 peaking is the result of a shift in our customer mix in South Dakota,
20 loss of industrial load, and an increase in residential and small
21 commercial load which includes a greater prevalence of installed air
22 conditioning. A large number of the small commercial customers
23 are seasonal tourism businesses. Therefore, we believe that it is

1 appropriate to use the summer peak to determine jurisdictional cost
2 allocations. The 2005 system peak of 401 MW occurred on July
3 17, 2005 around 5:00 pm. My Exhibit DJM-6, Calculation for
4 Capacity Allocation Factors Using 1CP, provides the jurisdictional
5 allocation factors and the information used to calculate these
6 factors.

7 **Q. WHY DID BLACK HILLS POWER USE THE AVERAGE AND**
8 **EXCESS CAPACITY ALLOCATION METHODOLOGY IN THE**
9 **CLASS COST OF SERVICE STUDY?**

10 A. First, the Average and Excess capacity allocation methodology
11 looks at the class peak and energy contributions and takes into
12 account that some customer classes have low load factors and
13 some customer classes have high load factors. The cost to serve
14 low load factor customers is greater than high load factor
15 customers. Second, Black Hills Power has historically used this
16 methodology in determining customer class allocation factors.
17 More specifically, Black Hills Power used the Average and Excess
18 capacity allocation methodology in the class cost of service study
19 for this rate application because it will continue to provide rate
20 continuity from previous applications.

21 **Q. HOW IS THE AVERAGE AND EXCESS CAPACITY**
22 **ALLOCATION USED IN THE CLASS COST OF SERVICE**
23 **STUDY?**

1 A. Each class of customers contribute differently to the overall cost to
2 serve them. Some costs are specifically based upon number of
3 customers and other costs are attributed to how customers use
4 energy. Classifying expenses as demand, energy, or customer-
5 related is very important. The Average and Excess Capacity
6 allocator is used to allocate energy and demand expense to each
7 customer class.

8 **Q. HOW ARE CUSTOMER COSTS ALLOCATED?**

9 A. Costs which are customer-related are allocated on the basis of the
10 number of customers in each class, weighted appropriately. For
11 instance, the weights for meter plant reflect the fact that larger,
12 more complex, meters used by large general service customers are
13 many times more costly than residential meters.

14 **Q. WHAT CLASS LOAD INFORMATION IS NECESSARY TO**
15 **PROPERLY ALLOCATE COSTS TO SERVE CUSTOMERS?**

16 A. Items needed include basic customer and energy information
17 derived from Black Hills Power's billing determinants. The energy
18 costs are allocated on the basis of sales of energy, adjusted for line
19 losses. These line losses are estimated based on the different
20 voltage levels used to supply power and are shown in workpaper
21 WP-I. Actual data or estimated: 1) customer peak loads; 2) on
22 class peak loads; and 3) on class peaks at the time of the monthly

1 system peaks are required and are traditionally used to allocate
2 distribution costs.

3 **Q. HOW DOES BLACK HILLS POWER ESTIMATE THE**
4 **CHARACTERISTICS OF CLASS USE THAT CANNOT BE**
5 **MEASURED DIRECTLY, SUCH AS USE AT THE TIME OF**
6 **SYSTEM PEAK?**

7 A. For customers with interval recording meters, sometimes referred
8 to as time-of-use metering, this information is known. For all
9 customers with demand meters, we know the maximum customer
10 demands although we do not know what the level of their usage
11 was at the time of the system peak or the class peak. Data on the
12 demands of most residential and some small general service
13 customers is generally not known. These information gaps are
14 filled by the use of load research, in which time-of-use information
15 is collected from a significant number of sample customers in each
16 class. Black Hills Power also does not have a load research
17 program as they have not been cost effective for small companies.
18 As a substitute in the past, Black Hills Power borrowed data from
19 area utilities such as Public Service of Colorado. Black Hills Power
20 began preparing its initial model in this application using the
21 previously used load factors from the Colorado research program.

1 Q. IS IT NORMAL TO USE DATA FROM ONE COMPANY TO
2 ESTIMATE LOAD CHARACTERISTICS OF ANOTHER
3 COMPANY?

4 A. Yes. The basic characteristics of particular customer classes are
5 quite similar, especially in similar climates. Borrowed load data can
6 work quite well if the known characteristics of the customers in the
7 borrowing utility are matched to the customer characteristics of the
8 borrowed data.

9 Q. DID BLACK HILLS POWER HIRE CONSULTANTS TO REVIEW
10 THE CLASS COST OF SERVICE MODEL AND THE
11 ASSOCIATED LOAD FACTORS/LOAD LOSS ESTIMATES USED
12 IN THE MODEL'S ENERGY AND DEMAND ALLOCATIONS.

13 A. Yes, Black & Veatch (B&V) was retained to review the models and
14 their comments are included in Exhibit DJM-7. B&V suggested
15 minor changes to the load factors used for Residential, Small
16 General Service, and Large General Service customers from the
17 1995 rate case. The changes in load factors were incorporated
18 (see workpaper WP-2) and they included: Residential Service
19 (Load Factor increased from 43% to 45%); Small General Service
20 (Load Factor reduced from 42% to 35%); and Large General
21 Service (Load Factor increased from 58% to 60%). In general,
22 B&V confirmed that the load factors established from the borrowed
23 data were reasonable. It is believed that the residential class load

1 factors may have increased slightly due to the promotion of off-
2 peak energy sales attributed to the Residential Demand Service
3 tariff. The reduction of load factor associated with the Small
4 General Service class also makes sense since these customers
5 largely operate from 8 a.m. to 5 p.m. on weekdays. This load also
6 includes the significant seasonal loads that have developed with
7 increased tourism and the Sturgis Motorcycle Rally.

8 **Q. WHAT WERE THE RESULTS OF THE CLASS COST OF**
9 **SERVICE?**

10 A. The study showed that the Residential Service class requires a rate
11 increase of \$5,470,848 or 14.43%. Small General Service class
12 would require an increase of \$4,056,324 or 12.68%. The increase
13 to the Large General Service class would be \$2,829,011 or
14 13.40%. Revenue for Industrial Service class should increase
15 \$1,586,220 or 18.19%. Finally, the Lighting Service class would
16 see an increase of \$152,089 or 9.88%.

17 **Q. DID BLACK HILLS POWER DO ANY STUDIES TO SEE HOW**
18 **VARYING-THE LOAD FACTORS AFFECTED THE RESULTS OF**
19 **THE CLASS COST OF SERVICE STUDY?**

20 A. Yes, the load factors used for the Residential and Small General
21 Service classes were changed by a factor of plus or minus 5%.
22 The Sensitivity Analysis results, shown in percent rate increase
23 needed by each class, are presented in Exhibit DJM-8. This

1 analysis shows that the revenue increases to the Large General
2 and Industrial Contract Service customers are not largely affected
3 by changing the load factors to the Residential and Small General
4 Service rate classes. The percent increase to the Residential
5 Service class varied between 11.07% and 18.19%. Increases to
6 the Small General Service class can range between 7.78% and
7 18.33%. Based on the results of the Class Cost of Service, it is
8 reasonable to accept that the load factors used in the application
9 are appropriate.

10 RATE DESIGN

11 **Q. WHAT WERE THE COMPANY'S RATE DESIGN OBJECTIVES**
12 **OF BLACK HILLS POWER?**

13 A. The main objectives in this case are to collect the revenues
14 necessary for the continued successful operation of the Black Hills
15 Power and to maintain a reasonable degree of rate continuity.

16 **Q. PLEASE EXPLAIN BLACK HILLS POWER'S APPROACH TO**
17 **RATE DESIGN BY CUSTOMER CLASS AS PRESENTED IN**
18 **THIS APPLICATION.**

19 A. In this Application, Black Hills Power proposes that the additional
20 revenue requirement of 9.5% be realized by an "across-the-board"
21 increase of that amount (give or take a small fraction of one
22 percent) from all customer classes. While the customer class cost
23 of service would indicate that the required revenue increase would

1 differ from class to class and within customer classes if there were
2 strict adherence to equal class return principles, we believe that it is
3 more equitable in this instance for all customers to experience like
4 percentage increases in their electric costs.

5 **Q. DESCRIBE THE RATE CLASSIFICATIONS THAT ARE DEFINED**
6 **IN THE APPLICATION.**

7 A. Black Hills Power used five (5) rate categories – Residential
8 Service, Small General Service, Lighting Service, Large General
9 Service, and Industrial Contract Service referenced in Statement I -
10 Page 2. These categories have been used traditionally in previous
11 rate cases. It is appropriate to continue to use the same categories
12 since the broad definition for each group continues to be used by
13 Black Hills Power. The Residential Service group represents
14 household domestic use. The Large General Service group
15 includes large contracted C&I customers with three-phase loads.
16 Industrial Contract Service customers are Black Hills Power's
17 largest C&I customers with contracted service greater than 6,000
18 kW. Lighting Service covers all outdoor lighting services including
19 area lighting, street lighting, and traffic signals. Finally, the Small
20 General Service category covers all the other C&I customer
21 applications.

22 **Q. IS THERE ANY OTHER JUSTIFICATION TO CONTINUE TO USE**
23 **THE SAME RATE CATEGORIES?**

1 A. Yes. All of our available data and information justifies continuing to
2 use our current general rate classifications.

3 **Q. ARE THERE ANY OTHER RATE OBJECTIVES IN THIS CASE?**

4 A. Yes. Secondary objectives include rate simplicity, logical
5 consistency between rate schedules, and customer understanding.

6 **TARIFF REVISIONS**

7 **Q. DID YOU PREPARE TARIFF SCHEDULES TO REFLECT THE**
8 **NEW RATES DESCRIBED IN SECTION 2 OF VOLUME 1 OF**
9 **THE APPLICATION?**

10 A. Yes. All the existing tariff schedules, the revised tariff schedules,
11 and newly proposed tariffs are in Section 2 of Volume 1 of the
12 Application

13 **Q. OTHER THAN THE RATE CHANGES PRESENTED IN SECTION**
14 **2 OF VOLUME I OF THE APPLICATION, ARE THERE OTHER**
15 **PROPOSED MATERIAL CHANGES TO OUR RATE**
16 **SCHEDULES?**

17 A. Yes, a few rate schedules have been modified to provide for more
18 appropriate terms and conditions. The changes to the terms and
19 conditions have been noted along the right hand margin of the tariff
20 sheets located in Volume 1, Section 2.

21 **Q. WHAT MODIFICATIONS WERE MADE TO THE INDUSTRIAL**
22 **CONTRACT SERVICE TARIFF?**

1 A. In the 1995 rate case Black Hills Power modified its Industrial
2 Contract Service rate schedule by defining two service levels in the
3 Industrial Contract Service Agreement, "transmission voltage
4 (69,000 volts and above)" and "distribution voltage". Numerous
5 references are made in the tariff to the terms "transmission" and
6 "distribution". We are replacing any reference to "transmission
7 service" with "69kV service" to avoid any confusion when we
8 discuss the 69kV substations and the power lines associated with
9 serving our Industrial Contract customers. Nearly all 69kV facilities
10 are now considered distribution service.

11 **Q. WHAT IS BLACK HILLS POWER PROPOSING FOR THE SMALL**
12 **INTERRUPTIBLE SERVICE TARIFF?**

13 A. Black Hills Power requests that Small Interruptible Service be
14 closed to any future customers. The existing six customers will
15 continue to be supplied service under the present terms and
16 conditions of the tariff. The controls used to interrupt the service
17 have proven to be ineffective and no economical alternative is
18 currently available. A time clock and temperature thermostat is
19 used in combination to control the load from 10 a.m. to 10 p.m. with
20 summer temperatures exceeding 100 degrees Fahrenheit and from
21 8 a.m. to 11 p.m. during the winter months when temperatures fall
22 below zero degrees Fahrenheit. An example of complaints
23 received from customers is that the temperature varies depending

1 upon the orientation of the thermostat and whether it is partially
2 covered. Black Hills Power has also experienced tampering with
3 the thermostat during hot conditions such as a customer placing ice
4 on the equipment to avoid being shut off during busy summer
5 months. Black Hills Power is proposing to include stronger
6 language highlighting the fact that tampering with the controls will
7 result in forfeiture of the tariff and the customer's rates would revert
8 to General Service. Black Hills Power would also reserve the
9 option to back bill the customer for lost revenues resulting from
10 tampering or theft. With the problem associated with the controls,
11 Black Hills Power also cannot count on the associated load
12 reductions, which reduces the benefit of the rate to other
13 customers. In its place, we will offer the Energy Storage Service
14 tariff to cover load control and energy savings opportunities
15 presented by customers, when appropriate. The charges
16 referenced in the Small Interruptible Service tariff will be increased
17 at the same percentage rate as other tariffs in future applications to
18 the Commission while customers continue to be supplied service
19 under the Energy Storage Service tariff.

20 **Q. IS BLACK HILLS POWER ALSO PROPOSING TO CLOSE THE**
21 **LARGE DEMAND CURTAILABLE (LDC) SERVICE TARIFF?**

22 **A.** Yes. There are five customers presently on LDC service providing
23 about 2,500kW of potential curtailable load. In 2005 the LDC

1 customers realized a savings of approximately \$180,000. A table
2 showing historical savings and annual curtailment hours is provided
3 (see Exhibit DJM-9). The customer savings provide a
4 disproportionate level of compensation when compared to the
5 benefits received by Black Hills Power. In order to make this type
6 of load of value, Black Hills Power would need 5MW of load
7 reductions to avoid the smallest purchased power block available
8 on the market. Our largest LDC customer, with 1.5MW of
9 curtailable load is phasing out their operation and is expected to no
10 longer be in business in two years. This would leave only 1MW of
11 load and the likelihood of getting additional customers is not high.
12 We also know that the LDC customers on the service were in the
13 process of purchasing generators prior to requesting LDC service,
14 because of the need for 100% available power for their operation.
15 Therefore, the LDC savings was not a factor in whether these
16 customers installed replacement generation.

17 **Q. ARE THERE ANY OTHER TARIFFS IN PLACE THAT ARE NOT**
18 **BEING UTILIZED BY CUSTOMERS?**

19 A. Yes. In the early 1980's we filed the Cogeneration and Small
20 Power Production Service tariffs and are now requesting they be
21 eliminated. Those tariffs were applicable to qualifying facilities less
22 than 100kW. Black Hills Power does not have any customers on
23 this service nor do we receive any inquires for this service

1 especially since customers have experienced stable rates. Our
2 customers also do not have any thermal applications to make
3 cogeneration economical. The initial cost of smaller wind and
4 photovoltaic systems also remain cost prohibitive providing very
5 long payback periods.

6 **Q. WHAT CHANGES WERE MADE TO THE STREET LIGHTING**
7 **TARIFF?**

8 A. We have included a metal halide 450 watt fixture in the Street
9 Lighting tariff. In the past, two types of lighting fixtures, mercury
10 vapor and high pressure sodium, were used by city street
11 departments. The new metal halide fixture is now being used for
12 lighting on some streets and highways. The monthly price will be
13 set at \$12.15 per fixture based on similar calculations for other
14 wattage fixtures.

15 **Q. DOES BLACK HILLS POWER ALSO PROPOSE CHANGES TO**
16 **THE ENERGY STORAGE SERVICE TARIFF?**

17 A. Yes. In the Applicable section of the tariff, we are adding water
18 heating to the list of potential energy storage loads utilizing off-peak
19 electric energy. With the closure of the Small Interruptible Service,
20 we plan to offer Energy Storage Service as an alternative. The
21 Terms and Conditions section includes the term "time-of-use" to
22 better describe the metering used to measure on-peak and off-peak
23 energy. In the Means of Control section, the need to install a

1 contacting device has been replaced with language that describes
2 the time-of-use metering that will be used to verify the loads
3 associated with Full Storage Systems. The justification for
4 including a contacting device for Full Storage applications has
5 proven to be difficult due to the high cost of the equipment. In the
6 section called Qualified Systems, water heating, battery storage,
7 and water pumping have been added to the list of applications
8 defined in paragraph (A) Full Storage. In paragraph (B) Partial
9 Storage Heating, resistance heat and water heating have been
10 included as qualifying applications. This addition allows the
11 inclusion of energy storage applications with water heating load
12 previously addressed through our Utility Controlled or Small
13 Interruptible Service rate tariffs. In paragraph (E) Partial Storage,
14 the term "water pumping" was eliminated and language was revised
15 to reinforce that the qualifier defined in (E) is only for snowmaking
16 purposes.

17 **Q. WHAT ARE THE PROPOSED CHANGES TO THE RESIDENTIAL**
18 **DEMAND-SERVICE TARIFF?**

19 A. Black Hills Power is becoming increasingly concerned about some
20 of the off-peak demands of residential customers. An example is
21 that some customers are establishing high off-peak demands with
22 off-peak heat storage devices in combination with the other loads,
23 such as hot water heating, hot tubs, and other loads. Therefore,

1 the Residential Demand Service tariff includes language for new
2 customers on the service to be charged for off-peak demand when
3 their off-peak demand is more than three times the customers on-
4 peak demand. We will attempt to get customers to limit the amount
5 of their off-peak demand to avoid the need to increase transformer
6 sizes and the resulting increased costs.

7 **Q. HAVE YOU INCREASED ANY OTHER CHARGES FOR**
8 **CUSTOMER SERVICES?**

9 A. Yes. Black Hills Power is proposing that the Customer Service
10 Charge be increased from \$10.00 to \$20.00 for service connections
11 during normal business hours. This charge is associated with
12 setting up the customer's service and is included in the customer's
13 first electric bill. The charge for any reconnections would also be
14 increased from \$10.00 to \$20.00, if the reconnection is completed
15 during normal business hours defined as 8 a.m. to 5 p.m. – Monday
16 through Friday, excluding holidays. This reconnection charge is
17 most often charged after a customer has had their service
18 disconnected for non-payment. The rate was last increased in
19 1995 and at \$20.00, still remains below our actual cost. The
20 adjusted cost of service analysis reflects an additional \$231,560 of
21 expected revenue related to this change (see workpaper WP-13).
22 Finally, Black Hills Power is proposing that the charge imposed for
23 a non-sufficient funds payment by a customer be increased from

1 \$15.00 to \$30.00. The \$15.00 the charge is below the typical
2 charge of \$25.00 to \$30.00 levied by most local businesses. The
3 adjusted cost of service analysis reflects an additional \$27,090 of
4 expected revenue due to increasing the non-sufficient funds charge
5 (refer to workpaper WP-13).

6 **Q. ARE THERE ANY OTHER INCREASES TO OTHER**
7 **MISCELLANEOUS CHARGES?**

8 A. Yes, the charges associated with additional costs to provide lighting
9 services defined in the Public Area Lighting and Street Lighting
10 tariffs will change from 1% of the cost of the additional equipment to
11 1.25%. This fixed charge is established initially when installing
12 additional equipment as defined in the tariffs. We believe that the
13 additional 0.25% is adequate to cover the costs experienced by
14 Black Hills Power in providing customer specific lighting
15 installations.

16 **Q. IS BLACK HILLS POWER REQUESTING ANY NEW TARIFFS TO**
17 **COVER ANY NEW CIRCUMSTANCES?**

18 A. Yes, our application includes a request for a new Special Events
19 Service tariff. This tariff would cover short-term load additions that
20 contribute to system peak demand and associated costs. For
21 example, the annual Sturgis Motorcycle Rally extends over a two
22 week period in which we often experience peak load conditions and
23 these "Rally" loads have continued to grow. An example is that it is

1 becoming common to see numerous beverage machines set up in
2 campgrounds. Black Hills Power is charging for upfront costs
3 associated with line extensions to serve these customers.
4 However, we do not have a tariff that allows us to recover our costs
5 associated with these short time period loads that contribute to
6 summer peaking conditions and higher resource costs. The
7 proposed energy charge is 12¢/kWh during the months of June,
8 July, and August, and the rate would be \$10¢/kWh during the other
9 months. All of these customers with demand meters would see
10 capacity charges of \$15.00/kW in June, July, & August. The
11 minimum monthly capacity charge will be established based on
12 \$2.25 per kVA of installed transformer capacity. Black Hills Power
13 has been collecting data for these customers by assigning them a
14 special rate code. The General Service tariff is currently applied to
15 these services, however, its rates do not provide the proper price
16 signal since the tariff was designed with lower prices with increased
17 use of energy. The 12¢/kWh in the Special Events service tariff is a
18 differentiation in costs between the proposed lowest energy block
19 charge of 9.46¢/kWh in the General Service tariff. The expected
20 result of the tariff is \$62,063 in additional revenue and is presented
21 in Exhibit DJM-10.

22 **Q. DO THE TARIFFS INCLUDE LANGUAGE REFERENCING THE**
23 **CONDITIONAL ENERGY COST ADJUSTMENT, TRANSMISSION**

1 **COST ADJUSTMENT, AND STEAM PLANT FUEL COST**
2 **ADJUSTMENT?**

3 A. Yes. A section, labeled Energy Cost Adjustment (ECA) was added
4 to each of the rate schedules. In the ECA section, Black Hills
5 Power includes language referring to the separate tariffs describing
6 each of the adjustments which are located in Section C, Original
7 Sheet No. 1 through 10, described in the testimony of Jackie
8 Sargent. Under these tariffs, the customer's electric bill includes a
9 separate line for the combined charges of these adjustments under
10 the label – Energy Cost Adjustment. The ECA shall be the
11 arithmetically calculated value of all three adjustments. The ECA,
12 as proposed, will change annually on March 1, beginning in 2008.
13 If a customer's billing period includes days where the ECA has
14 changed, the ECA will be prorated accordingly. For example, a
15 billing period from February 14th through March 16th (30 days),
16 includes 15 days in each month. If we assume a theoretical value
17 of 1.0 for February and 2.0 for March, the prorated number would
18 be 1.5. Another way to mathematically show the calculation of this
19 prorated value would be:

20 $(1.0 \times 15\text{days}) + (2.0 \times 15\text{days}) \text{ divided by } 30 \text{ days} = 1.5$

21 **Q. ARE THERE ANY OTHER CHANGES TO TARIFFS THAT ARE**
22 **INCLUDED IN THIS APPLICATION?**

- 1 A. Yes. The overall appearance of the tariffs was changed to reflect a
2 more modern presentation of information. The old tariffs had a box
3 surrounding the language included in all tariffs, and adjustments to
4 the old tariffs were cumbersome. Along with the rate tariffs, we are
5 also updating the Sample Forms to include updated information
6 and improved graphics. Terms and conditions previously approved
7 by the Commission may be referenced in some of the new Sample
8 Forms. Finally, the Rules and Regulations section is also being
9 updated with a new design and some other minor corrections.
- 10 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**
- 11 A. Yes.