Rebuttal Testimony
Jill S. Tietjen

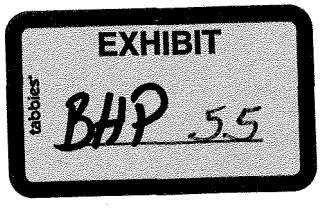
Before the South Dakota Public Utilities Commission
of the State of South Dakota

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

For Authority to Increase Rates
in South Dakota

Docket No. EL09-018

June 4, 2010



REBUTTAL TESTIMONY OF JILL S. TIETJEN

I. INTRODUCTION AND QUALIFICATIONS

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Jill S Tietjen. My business address is 8547 E. Arapahoe Road, PMB J189, Greenwood Village, CO 8012-1430.

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

A. I am employed by Technically Speaking, Inc. as President and CEO.

Q. DID YOU FILE DIRECT TESTIMONY IN THIS DOCKET?

A. Yes.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. I provide rebuttal for the following specific topics.

I rebut the testimony of Christopher A. James that a demand-side management (DSM) program would have substituted for the Wygen III resource. I elaborate on the renewable resources considered as resource options in the Black Hills Power 2007 Integrated Resource Plan ("IRP") and the options selected by the model for installation during the IRP planning period.

I rebut the testimony of David A. Schlissel and demonstrate that adequate levels of carbon taxes were analyzed in the IRP. I describe the Company's efforts to evaluate the impacts of potential carbon taxes in its resource plans in which I have been involved.

Finally, I discuss why it is inappropriate for the 2007 IRP to be redone in 2010. I further discuss why it would be inappropriate to use 2010 information to analyze the IRP that was conducted in 2007.

Q. IS IT YOUR BELIEF THAT IF A DEMAND SIDE MANAGEMENT ("DSM") MANDATE HAD BEEN IN PLACE IN SOUTH DAKOTA AT THE TIME THIS IRP WAS CONDUCTED, THAT A REQUIREMENT TO REDUCE PEAK DEMAND BY 1% BY 2015 THROUGH THE IMPLEMENTATION OF DSM PROGRAMS WOULD HAVE RESOLVED THE CAPACITY DEFICIT ISSUE?

A. No, it is not. The IRP shows a peak demand projected to be 583 MW in 2008 (Appendix C, Exhibit JST-2 and Table 8, page 18, Exhibit JST-2). If the mandate were structured in a similar manner to that in Colorado, where the peak reduction needed to be achieved is based on a specific year, and assuming that the base year selected were 2008, a 1% peak demand reduction to be achieved by 2015 would amount to 6 MW. Appendix C of Exhibit JST-2 shows that by 2015, the capacity deficit would have grown to 191 MW. Therefore, such a reduction is not adequate to address the capacity deficit nor to replace the capacity provided by Wygen III.

Q. CHRISTOPHER JAMES STATES IN HIS TESTIMONY THAT STATEWIDE, AN ENERGY EFFICIENCY PROGRAM THAT ACHIEVED A LEVEL OF 1% OF ANNUAL ENERGY SAVINGS BY 2012 AND THEN CONTINUED IN SUBSEQUENT YEARS WOULD

PROVIDE APPROXIMATELY 920 MW. HE FURTHER STATES THAT BLACK HILLS POWER'S SHARE OF THAT WOULD BE 120 MW, MORE THAN TWICE THE QUANTITY OF THE WYGEN III POWER PLANT INCLUDED IN THIS RATE REQUEST. DO YOU AGREE WITH THIS STATEMENT?

A. No. One percent of the peak demand of Black Hills Power's customers in 2012 is 4 MW (not 120 MW), as can be determined by applying 1% to the 364 MW peak demand shown on Table 5, page 12 of Exhibit JST-2. The 120 MW represents 35% (not 1%) of Black Hills Power's projected 2012 peak demand.

Q. WAS THERE A STATUTORY OR REGULATORY REQUIREMENT IN SOUTH DAKOTA IN 2007 FOR BLACK HILLS POWER TO CONDUCT AN IRP?

A. No, there was not and there is presently no statutory or regulatory requirement in South Dakota regarding conducting an IRP.

Q. WAS THERE A STATUTORY OR REGULATORY REQUIREMENT IN SOUTH DAKOTA IN 2007 FOR BLACK HILLS POWER TO IMPLEMENT A DSM PROGRAM?

A. No, there was not and there is presently no statutory or regulatory requirement in South Dakota regarding implementing a DSM program.

Q. WAS THE LEVEL OF THE LOAD FORECAST CONSIDERED IN THE PERFORMANCE OF THE IRP?

A. Yes, the level of the load forecast, both peak demand and energy was considered in the stochastic analysis described on pages 47-50 of Exhibit JST-2.

Q. BOTH HIGHER AND LOWER LEVELS OF PEAK DEMAND AND ENERGY WERE CONSIDERED?

A. Yes, the lower levels and higher levels used in the stochastic analysis are shown on Table 21, page 48 of Exhibit JST-2.

Q. IS IT YOUR BELIEF THAT LOWER LOAD FORECASTS, AS HAVE BEEN EXAMINED IN THE COURSE OF CONDUCTING THE STOCHASTIC ANALYSIS, ARE REFLECTIVE OF THE RESULTS THAT WOULD BE EXPECTED BY IMPLEMENTING DSM PROGRAMS?

A. Yes, it is. The lower level of peak demand examined was 82% of the base case. One way such a peak demand level could partially be achieved is through the implementation of a DSM program.

Q. YOU REGULARLY ARE INVOLVED WITH THE PREPARATION OF INTEGRATED RESOURCE PLANS FOR UTILITIES ACROSS THE UNITED STATES. WHAT HAS BEEN YOUR EXPERIENCE WITH REGARD TO THE COST EFFECTIVENESS OF DSM PROGRAMS?

A. Some DSM programs are cost effective, others are not. Some programs are very expensive to implement and require significant marketing and

incentive/rebate dollars. A detailed study needs to be conducted using the demographics, appliance saturations, weather conditions, and other factors to determine those programs that are cost effective within any specific utility's service territory. Programs that are cost effective in certain areas of the country and for specific utilities may or may not be cost effective in other areas of the country and for a different utility. It is my understanding that such a study is presently being conducted for Black Hills Power.

Q. WHAT RENEWABLE RESOURCES WERE CONSIDERED AS RESOURCE OPTIONS IN THE PREPARATION OF THE IRP?

A. As described on pages 32 through 37 of Exhibit JST-2, the renewable resources that were considered as resource options in the IRP were wind, solar and biomass.

Q. WHAT RENEWABLE RESOURCES WERE SELECTED IN THE RESOURCE PLANS EVALUATED?

A. Over the 20-year planning horizon, 125 MW of wind, in addition to the 30-MW Happy Jack facility and an 11 MW biomass facility were assumed to be installed in the Base Plan for a total of 166 MW (Table 19, page 42, Exhibit JST-2). Thus, renewable resources amount to over 25% of the 650 MW of capacity that is assumed to be installed over the entire 20-year planning horizon in the Base Plan.

In each of the other optimal expansion plans shown on Table 20, page 45, of Exhibit JST-2, renewable resources in the form of wind and

biomass were installed at levels exceeding 20% of the total resources required over the entire planning period.

Q. HOW WERE THE CARBON TAX ASSUMPTIONS USED IN THE IRP DEVELOPED?

A. As shown on Table 4, page 11 of Exhibit JST-2, the carbon dioxide taxes assumed for the base case were developed by Ventyx, formerly known as Global Energy Decisions, in their WECC 2007 Spring Reference Case. This source was also used for the emissions costs used in the analysis for sulfur dioxide, nitrous oxides and mercury which are shown on Table 3, page 10 of Exhibit JST-2. The rebuttal testimony of Doug Buresh discusses the carbon tax assumptions in more detail.

Q. WHY WERE THE VENTYX ASSUMPTIONS FOR EMISSIONS COST AND CARBON TAXES USED IN THE BASE CASE FOR THE IRP ANALYSIS?

A. Black Hills Corporation wanted to use values for the emission costs and carbon dioxide tax assumptions that had been developed by an independent, nationally recognized firm with expertise in the area.

Q. WHAT LEVELS OF CARBON DIOXIDE TAX ASSUMPTIONS SHOULD BE USED IN AN IRP?

A. As David Schlissel states in his testimony, it is uncertain which, if any, of the specific climate change bills that have been introduced will be adopted. Therefore, it is difficult to determine which carbon dioxide tax assumptions

should be used in an IRP. This is why Black Hills Corporation conducted sensitivity/stochastic analysis around the level of a potential carbon dioxide tax, to ascertain what the impact might be as discussed in further detail in the testimony of Doug Buresh.

Q. HOW LONG HAVE YOU BEEN AWARE OF BLACK HILLS CORPORATION'S CONSIDERATIONS OF CARBON TAX IMPACTS IN ITS INTEGRATED RESOURCE PLANS?

A. The first time that I worked on an IRP for Black Hills Corporation that considered the implementation of carbon dioxide taxes was in 1992-1993 when the decision was made to build Neil Simpson 2. This means that Black Hills Corporation, to my knowledge, has been looking at the impacts of carbon dioxide taxes for 18 years. I would also note that, to date, no carbon dioxide taxes have been enacted.

Q. SHOULD THE 2007 IRP BE REDONE IN 2010?

A. No, it should not. The IRP was conducted with assumptions that were appropriate in 2007.

Q. WOULD IT BE APPROPRIATE FOR THE DECISION THAT WAS MADE IN 2007 THROUGH THE IRP TO BE RECAST WITH 2010 ASSUMPTIONS?

A. No, it would not. Only assumptions that would have been appropriate and known in 2007 are appropriate for this IRP and the evaluation of the IRP.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.