Direct Testimony and Exhibits
Kyle D. White

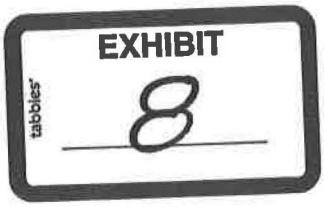
Before the Public Service Commission
of the State of Wyoming

Joint Application of
Cheyenne Light, Fuel and Power Company and Black Hills Power, Inc.
For a Certificate of Public Convenience
and Necessity for a Gas-Fired
Electric Generating Power Plant and
Related Facilities

Docket No.20003-____-EA-11

Docket No. 20002-____-EA-11
Record No. _____

November 1, 2011



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EXHIBITS

I. INTRODUCTION AND BACKGROUND

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. Kyle D. White, 625 Ninth Street, P. O. Box 1400, Rapid City, South Dakota.

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

A. I am Vice President of Resource Planning and Regulatory Affairs for Black Hills Corporation. My areas of responsibility include resource planning for the regulated electric utility subsidiaries of Black Hills Corporation.

Q. FOR WHOM ARE YOU TESTIFYING ON BEHALF OF TODAY?

A. I am testifying on behalf of Cheyenne Light, Fuel and Power Company ("Cheyenne Light") and Black Hills Power, Inc. ("Black Hills Power").

Q. PLEASE DESCRIBE YOUR EDUCATIONAL AND BUSINESS BACKGROUND.

A. I graduated with honors from the University of South Dakota in May of 1982 with a Bachelor of Science degree in Business Administration, majoring in management. In August of 1989 I graduated with a Masters degree in Business Administration, also from the University of South Dakota. I have been employed by Black Hills in rate and marketing related work since July of 1982 and have been in my present position since February of 2011. In addition to on-the-job training, I have attended numerous seminars, trade association meetings, and regulatory conferences covering a variety of utility-related subjects.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?

A. Yes.

II. PURPOSE OF TESTIMONY

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. My testimony will provide an overview of: (i) Black Hills Corporation's subsidiary structure, (ii) the generation needs of Cheyenne Light and Black Hills Power, (iii) the decision to jointly own a combined cycle combustion turbine generator ("CC"), (iv) operational arrangements of the proposed jointly owned CC and (v) the benefits of owning generation resources as opposed to purchasing power from the market.

III. BLACK HILLS CORPORATION OVERVIEW

Q. PLEASE GIVE A BASIC OVERVIEW OF BLACK HILLS CORPORATION'S SUBSIDIARIES.

A. Black Hills Corporation is a diversified energy company that is headquartered in Rapid City, South Dakota with a 128 year history. Black Hills Corporation operates as a "holding company" under the Public Utility Holding Company Act of 2005. It operates principally in the United States with two major business groups: 1) Utilities – which deliver retail electric and natural gas service, and 2) Non-regulated Energy – which is involved in various wholesale energy businesses.

Q. WHAT IS THE RELATIONSHIP BETWEEN BLACK HILLS CORPORATION, CHEYENNE LIGHT AND BLACK HILLS POWER?

A. Cheyenne Light and Black Hills Power are wholly-owned subsidiaries of Black Hills Corporation. Cheyenne Light and Black Hills Power are components of Black Hills Corporation's Utilities Business Segment. As wholly owned subsidiaries of Black Hills Corporation, Cheyenne Light and Black Hills Power are affiliated companies. The organizational chart for Black Hills Corporation and its subsidiaries is attached as Exhibit KDW-1. The listing of subsidiaries and the classification of those subsidiaries into the

two major business groups - Utilities and Non-regulated Energy is attached as Exhibit KDW-2.

Q. WHAT OTHER UTILITIES ARE OWNED BY BLACK HILLS CORPORATION?

A. As shown on Exhibit KDW-2, Black Hills Corporation owns gas utilities operating in Colorado, Nebraska, Iowa and Kansas and an electric utility operating in Colorado.

Q. WHAT ARE THE COMPANIES INCLUDED IN THE NON-REGULATED ENERGY GROUP OF BLACK HILLS CORPORATION?

A. Black Hills Corporation's Non-regulated Energy businesses include: Wyodak Resources Development Corporation, which is engaged in coal production and sales; Black Hills Exploration and Production, Inc., which is engaged in oil and natural gas production; Enserco Energy, Inc., which is engaged primarily in natural gas, coal, power and oil marketing; and Black Hills Wyoming, LLC and its subsidiaries, which are engaged in independent power production.

IV. CHEYENNE LIGHT GENERATION NEED

Q. DOES CHEYENNE LIGHT HAVE A NEED FOR ADDITIONAL GENERATION?

A. Yes. Cheyenne Light completed an integrated resource plan ("Cheyenne Light IRP") in June 2011 which shows an additional generation need of 93 MW in 2014. As discussed in the testimony of Mark Stege, this need is primarily the result of anticipated load growth in Cheyenne and the expiration of power purchase arrangements currently in effect.

Q. WHAT RESOURCES DID THE CHEYENNE LIGHT IRP SELECT TO SATISFY ITS GENERATION NEED?

A. The base plan selected in the Cheyenne Light IRP was for a 90 MW aeroderivative gas turbine. Due primarily to shaft risk and other operational benefits, the preferred plan was to build three (3) simple cycle combustion turbine generators ("CTG") for a total net output of approximately 114 MW. An application for approval to build the preferred plan was filed with the Wyoming Public Service Commission on August 1, 2011 (the "Cheyenne Light CPCN").

Q. WHAT IS THE STATUS OF THE CHEYENNE LIGHT CPCN?

A. A motion to withdraw the Cheyenne Light CPCN has been filed with the Wyoming Public Service Commission.

Q. HOW IS CHEYENNE LIGHT PROPOSING TO MEET ITS GENERATION NEED AT THIS TIME?

A. At this time, Cheyenne Light is proposing to satisfy its generation need with the addition of one (1) CTG and joint ownership in a CC.

Q. WHY DID CHEYENNE LIGHT DECIDE TO BUILD ONE SIMPLE CYCLE AND JOINTLY OWN A COMBINED CYCLE UNIT WITH BLACK HILLS POWER?

A. The opportunity to jointly own a CC unit was not available to Cheyenne until the completion of Black Hills Power's IRP (the "Black Hills Power IRP"). As presented in the Cheyenne Light CPCN, Cheyenne Light initially selected three (3) CTGs to satisfy its generation need. Following completion of the Black Hills Power IRP, Cheyenne Light was presented with a unique opportunity to jointly own combined cycle generation. Cheyenne Light then had to determine whether its best option was to (i) build three (3)

CTGs for a total of 114 MW; or (ii) build one (1) CTG and own an undivided 42% interest in a CC for a total of 77 MW. Cheyenne Light believes that option (ii) is the best option for both Cheyenne Light and its customers at this time.

Q. WHY IS THIS RESOURCE OPTION THE BEST OPTION FOR CHEYENNE LIGHT AND ITS CUSTOMERS?

A. This resource option is the best for the company and its customers for several reasons including the following:

- A CC resource provides greater operating flexibility than a CTG. A CTG's primary purpose is to provide peaking capacity to the utility. A CC resource can provide baseload, intermediate or peaking capacity. In the case of Cheyenne Light, this resource addition will primarily be used as an intermediate resource.
- A CC unit operates at a lower heat rate than a CTG. This results in the unit requiring less fuel for the same output.
- Cheyenne Light will be in a better position to offer regulation for wind resources.

Q. ARE THERE OTHER BENEFITS THAT CHEYENNE LIGHT AND BLACK HILLS POWER WILL REALIZE FROM JOINT OWNERSHIP OF THE CC?

A. Yes. Other benefits include the following:

- Because Black Hills Power and Cheyenne Light share a similar coincident peak, weather patterns and load requirements, it is likely that both of these utilities would call on the unit at the same time. The combined need of the two utilities will allow the CC unit to operate at a capacity sufficient to achieve a low heat rate resulting in more economic energy for their customers.

- Black Hills Power and Cheyenne Light have agreed to allow each party to use the full output of the CC unit if it is not needed by the other party. This agreement will benefit both Cheyenne Light and Black Hills Power in the event either party needs the full capacity of the CC unit due to maintenance outages or other circumstances that preclude its coal fired baseload generation from operating or being delivered to load.

Q. IS 77 MWs ADEQUATE TO SERVE CHEYENNE LIGHT'S NEED?

A. Yes. Cheyenne Light believes that the addition of 77 MW in combination with firm market energy purchases will be adequate to serve Cheyenne Light's need in 2014.

After a joint ownership opportunity in a CC unit was presented to Cheyenne Light, additional modeling was completed using the assumption that firm market purchases were available in all months. Allowing for purchases in all months, the model selected a resource that provided for less generating capacity than originally selected in the Cheyenne Light IRP.

Q. IS IT REASONABLE TO ASSUME THAT FIRM MARKET PURCHASES ARE AVAILABLE IN ALL MONTHS AND IF SO, WAS IT REASONABLE TO ASSUME THAT FIRM MARKET PURCHASES WERE ONLY AVAILABLE IN JULY AND AUGUST IN THE CHEYENNE LIGHT IRP?

A. Both are reasonable assumptions. IRP analysis is composed of many assumptions and often the assumption chosen depends on the risk that the company feels it is prudent to accept. Each of these assumptions presents its own set of risks to Cheyenne Light.

When the modeling assumes that firm market purchases are constrained in most months such as was done in the Cheyenne Light IRP, the resources selected cover all of the company's capacity needs thereby reducing its risk associated with market capacity

purchases. This requires the company to build or otherwise acquire resources that would meet or exceed its capacity deficit in all months that are constrained. As stated above, this resulted in the selection of three CTGs.

When the model assumes that firm market purchases are not constrained, it is able to select resources that provide less generating capacity such as the resources proposed in this Application. The CTG and joint ownership in the CC plan protects the company in the event that firm energy market purchases are either unavailable or only available at a significant price, but exposes the company to the risk of making capacity market purchases to cover its capacity reserve needs.

Q. IS CHEYENNE LIGHT EXPOSING ITSELF TO SOME RISK BY HAVING TO PURCHASE CAPACITY IN THE MARKET?

A. Yes. Cheyenne Light will be exposed to some risk by having to purchase capacity in the market. However, because a CC unit is more cost effective to operate than a simple cycle combustion turbine, Cheyenne Light will have less risk in the event that economy energy market purchases are not available. In addition, a CC unit will be more beneficial as Cheyenne Light's loads continue to grow.

Q. PLEASE IDENTIFY THE POWER PURCHASE AGREEMENTS THAT CHEYENNE LIGHT HAS ENTERED INTO WITH AFFILIATES.

A. As stated in the testimony of Mark Stege and Eric Scherr, Cheyenne Light has two power purchase agreements (PPA) with its non-regulated affiliate, Black Hills Wyoming, LLC. Under those PPAs, Cheyenne Light purchases power from Wygen I, a coal-fired plant and "CT2" a combustion turbine with a gross generating output of approximately 40 MW. This purchased capacity accounts for approximately 100 MW.

Q. THE INTEGRATED RESOURCE PLAN INDICATES THAT THE WYGEN I PPA WILL BE REPLACED IN KIND AT ITS EXPIRATION. CAN YOU EXPLAIN WHAT THIS MEANS?

A. Yes. Cheyenne Light anticipates that the generation it receives from Black Hills Wyoming from Wygen I will be available past the expiration date of the PPA which occurs in 2022. The Wygen I PPA includes an option for Cheyenne Light to purchase Black Hills Wyoming's ownership interest in the Wygen I facility during the term of the PPA. The PPA allows Cheyenne Light to exercise the option at any time prior to three years before the PPA's expiration and fixes the price at which Cheyenne Light would purchase the facility. Therefore, Cheyenne Light expects that the generation from Wygen I will continue to be available beyond 2022 either through further power purchase arrangements or an exercise of the current option.

Q. WILL THE CT2 PPA BE EXTENDED AT OR PRIOR TO ITS EXPIRATION?

A. No. It is not anticipated that the CT2 PPA will be extended upon its expiration which will result in a capacity loss of 40 MW.

V. BLACK HILLS POWER'S GENERATION NEED

Q. DOES BLACK HILLS POWER HAVE A NEED FOR ADDITIONAL GENERATION?

A. The Black Hills Power IRP identified a need of 66 MW beginning in 2014.

Q. WHAT IS THE PRIMARY REASON FOR THIS NEED?

A. Black Hills Power's generation need in 2014 is driven by its need to replace resources that will be retired due to Environmental Protection Agency regulations including the

National Emission Standards for Hazardous Air Pollutants for Area Sources: Industrial, Commercial and Institutional Boilers (the "Rules").

Q. IS RETIREMENT REQUIRED BY THE RULES?

A. No. As discussed further in the testimony of Fred Carl and Dr. Robert Pearson, retirement is not necessarily required by the Rules. However, Black Hills Power has determined that the cost to retrofit certain generating resources affected by the Rules is prohibitive due in large part to the fact that the resources affected were originally constructed in the 1950's and 1960's.

Q. DOES THE BLACK HILLS POWER IRP SELECT CONVERSION OF A SIMPLE CYCLE RESOURCE TO A COMBINED CYCLE RESOURCE AS THE BASE PLAN?

A. Yes. The Black Hills Power IRP selects a CC conversion as the base plan in 2014. This resource option was an available selection in the Black Hills Power IRP for two reasons: 1) the Cheyenne Light IRP had been completed resulting in the possibility of CTGs in Cheyenne that could be jointly owned and converted to a CC unit; and 2) Black Hills Power wholly owns two other CTGs that could have been converted.

Q. WHAT WILL BE BLACK HILLS POWER'S OWNERSHIP INTEREST IN THE CC UNIT?

A. Black Hills Power will own 58% of the CC unit. This will equate to approximately 55 MW.

Q. WHY WAS THE CHEYENNE LOCATION SELECTED FOR BLACK HILLS POWER?

A. Black Hills Power's other options for a CC conversion were at the Lange CT in Rapid City, SD and the Neil Simpson CT or "CT 1" located in Gillette, WY. The Cheyenne location was selected for several reasons including: (i) the ability to easily convert new technology to a combined cycle configuration; (ii) proximity and availability of water, natural gas and transmission infrastructure; and (iii) the ability to obtain an air permit for the generation.

Q. WHY IS IT MORE BENEFICIAL TO BLACK HILLS POWER TO JOINTLY OWN A CC RESOURCE THAN TO WHOLLY OWN THIS RESOURCE?

A. As stated above, Black Hills Power does have other CTGs that could be converted to a CC configuration however, in addition to the benefits of the Cheyenne, Wyoming location discussed above, having a partner in the resource with similar load characteristics will allow Black Hills Power to utilize the CC resource in the most efficient manner.

Q. WOULDN'T BLACK HILLS POWER'S CUSTOMERS BE BETTER SERVED BY GENERATION AT THE SOURCE OF THE LOAD?

A. There are benefits associated with having resources at the source of the load, including reliability benefits associated with proximity between resource and load. Black Hills Power, however, already has multiple generating facilities located in proximity with its load. Black Hills Power has concluded that jointly owning a CC resource with Cheyenne Light located in the Cheyenne area provide benefits in the form of the opportunity to diversify the location of its generating resources and the opportunity to convert a simple cycle that is of the newest technology. On balance, those benefits outweigh any benefits associated with locating a new generating facility near Black Hills Power's load.

Q. PRACTICALLY SPEAKING, HOW WILL THE GENERATION IN CHEYENNE REACH BLACK HILLS POWER'S CUSTOMERS IN WYOMING, SOUTH DAKOTA AND MONTANA?

A. The generation from the CC proposed in this application will likely not reach Black Hills Power's customers under normal operating circumstances. The Generation Dispatch and Energy Management Agreement dated February 23, 2007 by and between Black Hills Power and Cheyenne Light (the "Dispatch Agreement"), which is on file with FERC, allows Black Hills Power to manage the dispatch of Black Hills Power's and Cheyenne Light's generating resources on a system-wide, least-cost basis. Black Hills Power has integrated Cheyenne Light's generating resources and loads into a combined resource and demand mix. Therefore, if Black Hills Power needs to call on its portion of the CC, the output of the CC normally will serve Cheyenne Light's customers and the output of one of Cheyenne Light's resources in Gillette will in turn serve Black Hills Power's customers. In this arrangement, Black Hills Power would be responsible for the financial obligations associated with running the CC and Cheyenne Light would be responsible for the financial obligations for running its resource in Gillette regardless of from where the energy actually flows.

If necessary to accommodate operational contingencies or otherwise preserve reliability, energy may be delivered from Black Hills Power's resources in Gillette to Cheyenne Light's load and from Cheyenne Light's resources in Cheyenne to Black Hills Power's load. Black Hills Power and Cheyenne Light maintain transmission service arrangements that would permit them to deliver energy between their respective systems if necessary. While Black Hills Power's system-wide, least cost dispatch model normally will not call

for such deliveries, Black Hills Power and Cheyenne Light can undertake such deliveries as necessary to address reliability or other system needs.

Q. WHAT WILL THE OPERATIONAL ARRANGEMENT BE BETWEEN CHEYENNE LIGHT AND BLACK HILLS POWER FOR THE CC?

A. Cheyenne Light and Black Hills Power will enter into an operating agreement that will allow either party to use the combined cycle unit up to its full capacity if the other entity does not need the capacity. While this arrangement is beneficial to both parties, the party using the unit less could be at a disadvantage, therefore the parties have agreed that fixed operation and maintenance costs will be based on both the parties' ownership shares and run hours and each party will be responsible for the variable costs based on operation of the unit by that party. The parties are in the negotiation stage of the ownership and operating agreement relating to the CC unit.

VI. UTILITY OWNERSHIP

Q. ARE THERE BENEFITS OF UTILITY OWNED GENERATION?

A. Yes. In the nearly three decades that I have worked in the utility industry I have seen the results of both long-term power purchase relationships and utility-owned generation. I have come to strongly believe that the best resource acquisition for meeting the majority of customer electricity requirements is to own and control generation.

There are several benefits to utility ownership including the following:

- Typically utility owned generation provides more price stability to customers over the long term than PPAs that have shorter terms than the expected useful life of the generation. By owning and controlling generation, Cheyenne Light and Black Hills Power can protect customers from market forces that may drive prices up when the

utility is seeking new supply to replace a PPA that is expiring. Frequently PPA suppliers seek renewal prices that are higher than what the underlying generation assets would allow under cost-based regulation. It can be said that under twenty year PPAs the customers often get the opportunity to pay for the supplier's generation more than once. Also, constructing and owning generation gives Cheyenne Light and Black Hills Power customers security of supply and the cost benefits of long-term and depreciating assets. With utility-owned generation, the rate base declines over time while PPAs typically have lower cost to start, but rise over the term of the agreement.

- The utility has an obligation to provide customers with reliable service, therefore, it has no motivation to let demand outpace supply which increases the cost of generation and ultimately the cost to customers. In other words, utilities are paid for their actual cost of providing the generation while IPPs generally are providing power at the market price which may be affected by the laws of supply and demand.
- The utility's profits on generation come in the authorized return on equity on the actual capital invested in the generating resource. This return is typically less than that which would be required by a competitive entity. Since independent power producers may charge market-based rates under a tariff on file with FERC, the only limit on the size of that return is the market value for purchased power.
- Utility ownership of the capacity provides operational benefits and security and will result in a more financially sound utility which benefits customers. These benefits include outage management, dispatch, ramp rates, unit commitments and capital additions for increased efficiency and life extension and to comply with new

regulations. Often PPAs limit the flexibility the utility has in utilizing the resource to meet changing operating conditions.

- Black Hills Corporation, through its subsidiaries, has a proven track record in constructing coal and natural gas-fired power plants and is in the best position to manage and assume the risk that the natural gas-fired facilities will be available in time to meet the expected capacity deficits in 2014.

Q. WHAT HAS BEEN CHEYENNE LIGHT'S EXPERIENCE WITH PPAs IN THE PAST?

A. Prior to Black Hills Corporation's purchase of Cheyenne Light in 2005, Cheyenne Light relied upon an all-requirements PPA with Pacific Power and Light Company. The agreement was regularly renewed on three year intervals, until early in the last decade when at the height of the electricity crisis in the western United States the agreement was not renewed and terminated. The result was that Cheyenne Light was forced to buy power in a market with highly inflated prices. The rate shock for customers was severe and purchased power expenses that had been incurred were deferred for recovery in future years to mitigate some of the price impact of being reliant on the market for too much of customer electricity requirements. It took several years for the balance of unpaid purchased power to be paid by Cheyenne Light customers. Part of the resolution to being without a power supply was to contract with an IPP for long-term purchased power (10 year terms), rather than building generation assets which can serve customers for 50 years. This application addresses the replacement of one of those purchased power agreements for Cheyenne Light.

VII. CONCLUSION

Q. COULD YOU PLEASE PROVIDE A SUMMARY OF THIS APPLICATION?

A. Cheyenne Light and Black Hills Power are requesting approval to construct a natural gas-fired generating power plant that includes a Cheyenne Light wholly owned natural gas-fired CTG and a jointly owned CC.

Cheyenne Light and Black Hills Power each completed an IRP in 2011. Cheyenne Light's IRP was completed prior to that of Black Hills Power and selected a resource addition of three simple cycle turbines. Black Hills Power's IRP selected a resource addition of a converted combined cycle and presented an opportunity to Cheyenne Light that was not available during its IRP analysis.

The need for additional generating capacity is driven by different reasons for each company. Cheyenne Light's need is due to load growth in its territory and an expiring PPA. Black Hills Power's need is primarily due to new EPA regulations that necessitate the closure of certain older coal-fired units resulting from the costs of meeting increasingly restrictive and mandated environmental policies. Despite the different circumstances driving their need, the companies have agreed to jointly own a resource that will benefit both companies and their respective customers. Black Hills Power benefits from this joint ownership in that it has an opportunity to diversify the location of its resources and own an undivided portion of a CC unit that is of the latest technology rather than converting an older unit. Partial ownership of a CC presents a beneficial opportunity for Cheyenne Light. Cheyenne Light does not already own a CTG that it could convert. Therefore, this option was not available to them previously. Cheyenne Light benefits from the opportunity to jointly own an intermediate resource at the source of its load.

Black Hills Power and Cheyenne Light believe that the increased initial capital cost per kW of a CC, as compared to CTGs, will be offset by the benefits associated with a more cost efficient CC. In addition, the companies believe that it is in the best interests of customers to build and own generation rather than relying on power purchase arrangements.

Therefore, Black Hills Power and Cheyenne Light believe that the construction of the Cheyenne Light wholly owned CTG and jointly owned CC will provide reliable electricity to their respective customers for years to come, mitigate the risk of economy energy not being available in the market and, particularly in the case of Cheyenne Light, allow the company to watch and see if the expected load growth materializes prior to building additional resources.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does.