MONTANA-DAKOTA UTILITIES CO.
A Division of MDU Resources Group, Inc.

Before the Public Service Commission of North Dakota

Case No. PU-06-482

Direct Testimony
of
Duane O. Steen

Q. Please state your name and business address.

A. My name is Duane O. Steen. My business address is 400 North Fourth Street, Bismarck, ND 58501.

Q. By whom are your employed and in what capacity?

A. My title is Director, New Generation Development for Montana-Dakota Utilities (Montana-Dakota), a Division of MDU Resources Group, Inc. My responsibilities include identifying and analyzing generation resources available to Montana-Dakota which will meet our customers' needs for reliable reasonably priced energy and capacity into the future.

Q. What is your educational background?

A. I graduated from North Dakota State University with a bachelor's degree in Mechanical Engineering. I have completed post-graduate work towards a Masters in Management at the University of Mary. I am a Registered Professional Engineer in the state of North Dakota.

Q. What is your employment history?

A. I have worked for Montana-Dakota for 32 years in power generation holding numerous positions from Plant Engineer to Station

Manager. For the last 13 years I have been primarily responsible for generation option analysis and design. Prior to joining Montana-Dakota, I was a Design Engineer with FMC Link Belt Speeder in Cedar Rapids, Iowa.

Q. Describe the purpose of your testimony.

A. The purpose of my testimony is to provide information regarding Montana-Dakota's need for and efforts made to secure a new baseload power supply. I will also explain why the Company chose to participate in the development of Big Stone II.

Q. Please describe the factors that led to Montana-Dakota's decision to secure a new baseload power supply.

A. As noted by Ms. Stomberg in her direct testimony, the primary driver was the loss of the 66.4 MW baseload power purchase agreement with Basin Electric Power Cooperative (Basin) that represented approximately 20 percent of Montana-Dakota's entire baseload capacity. Through the Integrated Resource Planning process, which encompasses Montana-Dakota's long-range forecast for customer demand for electric power and energy and an analysis of cost effective demand-side resources available to offset that need, Montana-Dakota determined that an additional baseload power supply was the best option for meeting future customer power and energy requirements. The load and capability comparison for the period 2005-2025 provided in Exhibit No.__(DOS-1) shows the capacity deficits projected for that time period. As reported in

the Integrated Resource Plan filed with the North Dakota Public Service Commission on September 15, 2005, Montana-Dakota identified several baseload resource options the Company was exploring to address the capacity deficits shown in Exhibit No.___(DOS-1). Montana-Dakota has since determined that the Big Stone II unit will best meet the needs of its customers as supported by the capacity expansion modeling performed by PA Consulting Group (PA) and presented in Mr. James Heidell's testimony.

Q. Please describe the Request for Proposal (RFP) efforts Montana-Dakota has undertaken in the process of investigating new baseload resources.

A. In 2004, knowing that the Basin contract for baseload coal fired generation was going to expire, Montana-Dakota issued an RFP to fill the void left by the expiration of this contract

Q. What results did the 2004 RFP provide?

A. Montana-Dakota received only three responses to its 2004 RFP and of these proposals, only one was a qualified bid, which was rejected because it offered only a small portion of the needed capacity.

Q. Have you issued other RFPs for baseload capacity and energy?

A. Yes. On July 10, 2006, Montana-Dakota issued another RFP for baseload coal capacity and energy for the 25 to 35-year time periods beginning June 1, 2011 and June 1, 2016. The RFP was sent, via Internet exploders, to the Mid-Continent Energy Marketers Association, the Mid-Continent Area Power Pool (MAPP) Generation Reserve Sharing

Pool, the MAPP Regional Transmission Group and the Midwest Reliability Organization. The RFP was also posted on Montana-Dakota's web site.

Q. Please describe the proposals Montana-Dakota received as a response to its RFP.

A. Montana-Dakota received two proposals as of the time of the response deadline. One of the respondents proposed a 25-year power purchase agreement representing the entire output of a greenfield 254 MW natural gas-fired combined cycle plant to be constructed within Montana-Dakota's service territory with a June 1, 2011 in-service date. The other respondent proposed a 30-year power purchase agreement for 120-170 MW from a 750 MW coal-fired plant to be constructed in Iowa with a 2012 in-service date. Montana-Dakota's initial review of the proposals indicated that the first proposal does not meet its requirements for two reasons 1) the plant's output at 254 MWs represents 53 percent of the Company's current capacity, and far more capacity than was requested or needed, and 2) this resource would result in a resource mix overly dependent upon natural gas. Montana-Dakota has advised the respondent of this decision. Montana-Dakota is further investigating the second proposal. While the cost over the proposed 30-year contract appears to be comparable to the cost of Big Stone II, the in-service date is questionable and given past experience, deliverability of the power from Iowa to Montana-Dakota's system is uncertain.

Q. Turning now to other generation alternatives you have investigated,

would you please describe the Lignite Vision 21 Program?

A. Yes. The Lignite Vision 21 Program is the culmination of unprecedented commitment and cooperation among government agencies, elected leadership and the lignite industry. It is a vision within North Dakota fueled by environmentally responsible power generation and transmission through efforts by the North Dakota Industrial Commission (NDIC). The goal of the Lignite Vision 21 Program is a coal-fired electrical generating plant employing the latest clean-coal technology to provide energy. The NDIC provided matching funds up to $10 million for the investigation and construction of such a lignite fired generating station.

Q. Did other companies apply for the NDIC Lignite Vision 21 funds?

A. Yes. In addition to Montana-Dakota, Great River Energy, Westmoreland Coal and Great Northern Properties applied for funds under the program. The NDIC required that all companies participate equally in common feasibility investigations such as transmission studies and they also mandated that as Montana-Dakota and Westmoreland Coal were each doing a feasibility study on the Gascoyne, North Dakota site, that the companies jointly co-fund such studies.

Q. What generation studies were completed?

A. Montana-Dakota and Westmoreland contracted with Sargent & Lundy LLC to do a generation technology study at the 500 MW unit level for the Gascoyne location. That study showed that the estimated cost for a subcritical pulverized coal (PC) boiler with additional environmental

controls was basically the same as for a subcritical circulating fluid bed (CFB) boiler. Because of the additional environmental benefits of a CFB, the partnership chose to move forward with a CFB unit. A study was completed to further identify the cost of a CFB unit at the Gascoyne site. The unit size studied was 500 MW and Westmoreland and Montana-Dakota prepared to seek a customer or equity investor for the output not required by Montana-Dakota.

Q. What efforts were put into finding an off-taker for the 500 MW unit?

A. Montana-Dakota and Westmoreland had numerous discussions and visits with MAPP area load serving entities over the course of a year. We could not find an entity interested in taking a portion of a 500 MW Gascoyne unit.

Q. Did that end the effort for development at Gascoyne?

A. No. Montana-Dakota and Westmoreland then made application to the NDIC to change the size of the unit to 250 MW on the basis that even though the size was reduced, we were not entirely giving up economies of size if the unit could be built at a 250 MW size.

Q. What did the feasibility study at the 250 MW unit size conclude?

A. Sargent & Lundy LLC was again contracted to do a 250 MW study. Although the size of this unit lost considerable economies of scale, the unit capital cost was perceived to be reasonable. Westmoreland and Montana-Dakota continued to market additional off-take from the 250 MW unit, with no success. Montana-Dakota reviewed its requirements and

determined that in order to capture some economies of scale, a 175 MW unit cost should be investigated. Again, the NDIC was petitioned to change the scope of the project to a 175 MW unit.

Q. What did the 175 MW unit investigation conclude?

A. The 175 MW unit investigation was again lead by Sargent & Lundy LLC. Although the total cost of the unit was considerable, Montana-Dakota filed an application with the North Dakota Department of Health (NDDH) for a construction air permit in May, 2004 given the need for a baseload unit and the limited options available to satisfy the system needs. The NDDH issued an air construction permit on June 2, 2005.

Q. When did Montana-Dakota become involved in the BSP II effort?

A. Montana-Dakota is a partial owner of Big Stone I. As such, we were initially invited by OtterTail Power to participate in a study of Big Stone II in 1999. The study was completed by Duke Fluor Daniels. At the conclusion of the initial study, Montana-Dakota elected not to pursue further studies. Another Big Stone I owner, Northwestern also withdrew. In 2004, OtterTail Power again undertook an effort to study a Big Stone II project using the engineering firm of Burns & McDonnell. In the fourth quarter of 2004, Montana-Dakota was invited to participate in these studies.

Q. What advantages does a Big Stone II unit offer over a unit at Gascoyne?

A. Big Stone II is an existing power plant site which allows common use of a number of plant systems. These include using the existing unit

train coal unloading facilities, water treatment, roads, mobile equipment, control room, operators and maintenance employees and a fuel oil system. All of these items reduce the capital as well as operating costs of a Big Stone II unit compared to a Gascoyne unit. The cost differences led Montana-Dakota to its decision that Big Stone II is a better option for its customers.

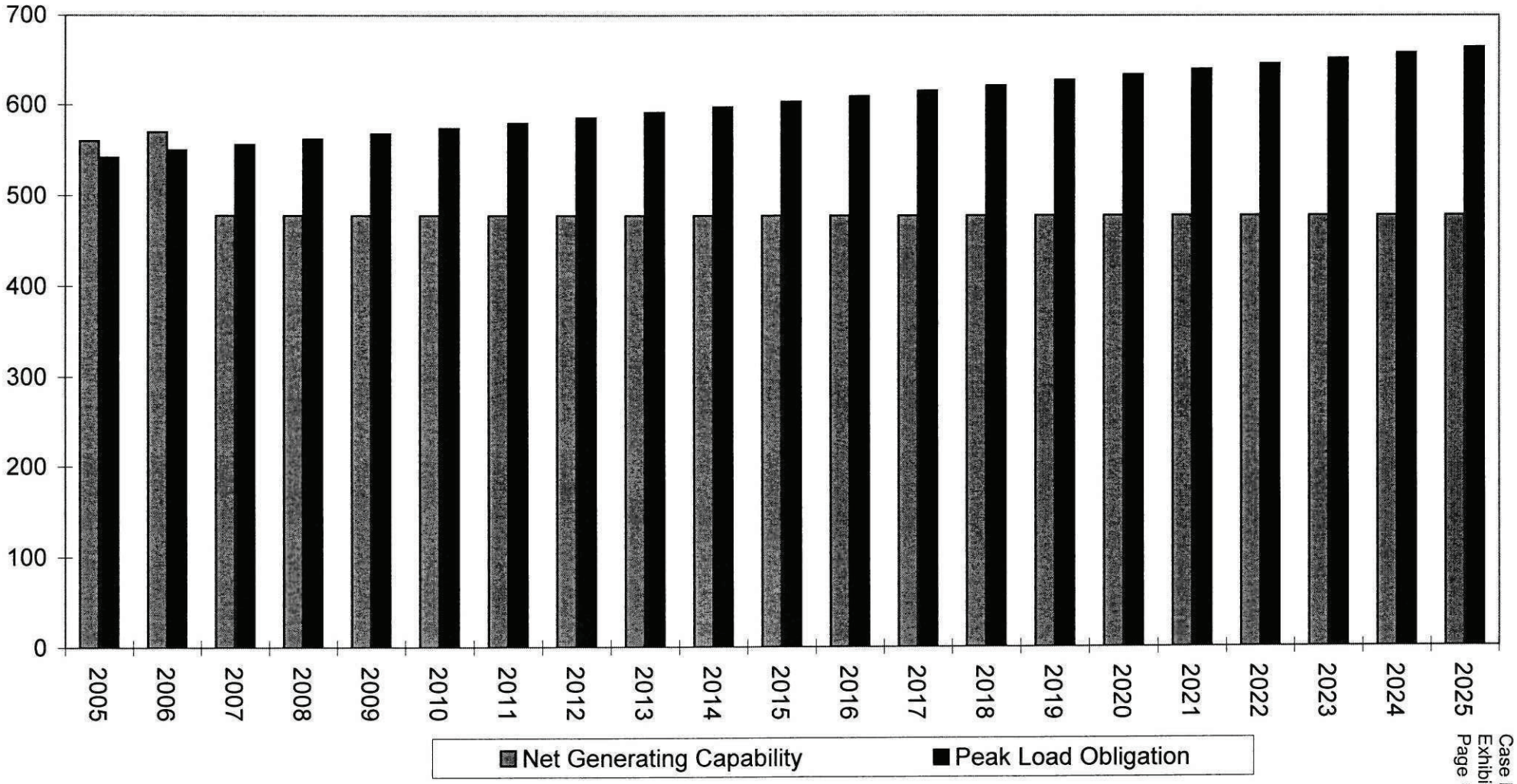
Q. Please summarize your testimony with respect to your additional capacity expansion modeling analyses.

A. In May 2006, Montana-Dakota requested PA Consulting Group, Inc. (PA) to perform a capacity expansion modeling analysis to help evaluate an overall optimal resource plan for Montana-Dakota. The results of the July 13, 2006 analysis determined that Montana-Dakota's participation in the Big Stone Unit II would yield the lowest-cost baseload resource expansion option. The results of the more recent analysis conducted by PA confirms that Big Stone Unit II remains the lowest cost option for Montana-Dakota, notwithstanding recent cost increases for the project. It also confirms Montana-Dakota's plan to use demand-side management, renewable energy sources and other resources along with Big Stone Unit II as part of a diverse resource mix for our customers. While the specific sizes and timing of the resources in the mix vary somewhat in the various analyses, the concept of a need for a diverse mix is consistent throughout the analyses.

Q. Does this conclude your testimony?

1 A. Yes it does.

Montana-Dakota Utilities Co.
Load and Capability Comparison



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MONTANA-DAKOTA UTILITIES CO.
LOAD AND CAPABILITY COMPARISON
BASE FORECAST (MWS)
SEPTEMBER 2005 IRP (FIGURE 4-1)

	NET GENERATING CAPABILITY	WAPA Credit	NORTH POINT PURCHASE	AVS II CAPACITY	TOTAL ACCREDITED CAPABILITY	SUMMER PEAK DEMAND	SUMMER PEAK LOAD OBLIGATION	SURPLUS/ DEFICIT (+)/(-)
2004	475.0	2.8	-	66.4	544.2	465.8	535.7	8.5
2005	475.6	2.8	15.0	66.4	559.8	471.0	541.7	18.2
2006	475.6	2.8	25.0	66.4	569.8	478.2	549.9	19.9
2007	475.6	2.8	-	-	478.4	483.4	555.9	(77.5)
2008	475.6	2.8	-	-	478.4	488.6	561.9	(83.5)
2009	475.6	2.8	-	-	478.4	493.8	567.9	(89.5)
2010	475.6	2.8	-	-	478.4	499.0	573.9	(95.5)
2011	475.6	2.8	-	-	478.4	504.2	579.8	(101.4)
2012	475.6	2.8	-	-	478.4	509.4	585.8	(107.4)
2013	475.6	2.8	-	-	478.4	514.6	591.8	(113.4)
2014	475.6	2.8	-	-	478.4	519.8	597.8	(119.4)
2015	475.6	2.8	-	-	478.4	525.0	603.8	(125.4)
2016	475.6	2.8	-	-	478.4	530.2	609.7	(131.3)
2017	475.6	2.8	-	-	478.4	535.4	615.7	(137.3)
2018	475.6	2.8	-	-	478.4	540.6	621.7	(143.3)
2019	475.6	2.8	-	-	478.4	545.8	627.7	(149.3)
2020	475.6	2.8	-	-	478.4	551.0	633.7	(155.3)
2021	475.6	2.8	-	-	478.4	556.2	639.6	(161.2)
2022	475.6	2.8	-	-	478.4	561.4	645.6	(167.2)
2023	475.6	2.8	-	-	478.4	566.6	651.6	(173.2)
2024	475.6	2.8	-	-	478.4	571.8	657.6	(179.2)
2025	475.6	2.8	-	-	478.4	577.1	663.7	(185.3)