

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
Andrea L. Stomberg

1 Q. Would you please state your name and business address?

2 A. Yes. My name is Andrea L. Stomberg, and my business address is
3 400 North Fourth Street, Bismarck, North Dakota 58501.

4 Q. What is your position with Montana-Dakota Utilities Co.?

5 A. I am the Vice President of Electric Supply for Montana-Dakota
6 Utilities Co. (Montana-Dakota), a Division of MDU Resources Group, Inc.

7 Q. What are your responsibilities as the Vice President of Electric Supply?

8 A. My responsibilities include power production transmission, system
9 operations and planning, and electric dispatch.

10 Q. Would you please outline your educational and professional background?

11 A. I graduated from the University of Washington with a bachelor's
12 degree in Geology, from Oregon State University with a Master of Science
13 degree in Soils, and from the University of Mary, Bismarck, with a masters
14 in business management. I worked for the North American Coal
15 Corporation for 10 years in surface mine permitting, reclamation planning
16 and oversight. I worked for Montana-Dakota for about 15 years in the
17 environmental field prior to my current position.

1 Q. Have you testified in other proceedings before regulatory bodies?

2 A. Yes, I have filed testimony with the Minnesota and South Dakota
3 Public Utilities Commissions.

4 Q. What is the purpose of your testimony in this proceeding?

5 A. The purpose of my testimony is to provide information regarding
6 Montana-Dakota's power supply, power supply planning and related
7 activities and to explain why the Company's participation and ownership
8 interest of 19.33 percent of the Big Stone Unit II generating station,
9 representing an addition of 116 MW to Montana-Dakota's accredited
10 capacity resources, is a reasonable and prudent investment for the
11 purpose of providing reliable electric service to its customers and should
12 be deemed prudent by the North Dakota Public Service Commission
13 (Commission).

14 Q. Please summarize your testimony.

15 A. Montana-Dakota, through its Integrated Resource Planning
16 process, has identified the need for new baseload generator capacity in
17 2011 and beyond. Montana-Dakota believes that the Big Stone II project
18 is the best alternative, both financially and operationally, to meet
19 Montana-Dakota's need for capacity and energy to satisfy its obligation to
20 provide reasonably priced and reliable electric energy to its customers.

21 Q. Please describe your current power supply and status.

22 A. Montana-Dakota operates an integrated electric system in portions
23 of Montana, North Dakota and South Dakota. Montana-Dakota supports

1 the electric requirements of the customers served by the integrated
2 system with approximately 366 MW of baseload coal generation from five
3 units, and approximately 110 MW of gas or gas and oil fired combustion
4 turbines for peaking requirements. In addition, Montana-Dakota
5 purchased 66.4 MW of baseload energy and capacity from Basin Electric
6 Power Cooperative (Basin) under a long-term contract that expired
7 October 31, 2006. Montana-Dakota has also contracted for the output of
8 a 31.5 MW wind farm to be constructed in South Dakota.

9 Power is delivered over Company-owned transmission lines, as
10 well as lines owned by the Western Area Power Administration (Western)
11 under long-term agreements. Montana-Dakota is a member of the
12 Midwest Independent Transmission System Operator (Midwest ISO) and
13 a participant in the Midwest ISO market. These generation resources and
14 transmission arrangements have allowed Montana-Dakota to efficiently
15 serve customers throughout its service territory, with minimal duplication
16 of facilities.

17 Montana-Dakota secured additional summer capacity in 2005 and
18 2006 and has contracted with Northern States Power Company for
19 summer capacity of 85 MW in 2007, 90 MW in 2008, 95 MW in 2009 and
20 100 MW in 2010, with an option to extend to 2011 under the current
21 contract price with another option to extend under a renegotiated rate for
22 summer capacity in 2012. Energy will be purchased from the Midwest
23 ISO market, as needed.

1 Montana-Dakota's existing generating resources, plus the
2 contracted capacity and energy purchases from the market, will allow the
3 Company to meet its customers' needs including the 15 percent Mid-
4 Continent America Power Pool (MAPP) capacity reserve requirement until
5 the Big Stone II baseload resource is on-line in late 2011 or early 2012.

6 Q. Would you please describe the events leading up to the Company's
7 interest in the Big Stone II plant?

8 A. The primary driver for Montana-Dakota's interest in a baseload
9 resource, such as Big Stone II, was the expiration of the long-term power
10 purchase agreement with Basin for 66.4 MW of capacity and energy and
11 the forecasted long term customer requirements. This Basin agreement,
12 which expired on October 31, 2006, accounted for nearly 20 percent of
13 Montana-Dakota's baseload capacity. Given the magnitude of this
14 resource, Montana-Dakota began to seek a new baseload resource
15 several years ago to replace the Basin contract, and to meet Montana-
16 Dakota's retail customers' projected requirements. This investigation
17 included pursuing extension of the Basin contract, preliminary discussions
18 with Otter Tail Power Company regarding the possibility of participating in
19 a second unit at the Big Stone generation station site, construction of gas
20 turbines and wind resources. At about the same time, Montana-Dakota
21 began its involvement with the Lignite Vision 21 (LV21) program, and the
22 evaluation of developing a 500 MW coal fired unit in North Dakota. Mr.
23 Duane Steen will provide additional information regarding the LV21

1 venture in his testimony.

2 It was essential that the Company find a partner to utilize most of
3 the output of the 500 MW LV21 plant, as Montana-Dakota's projected
4 power and energy requirements, even including anticipated load growth,
5 would not justify an addition of this magnitude. When the Company's
6 efforts to locate such a partner were unsuccessful, the plant design was
7 ultimately downsized to 175 MW. It was during the evaluation of this 175
8 MW plant that Montana-Dakota was again approached about participating
9 in a second unit at Big Stone, referred to as Big Stone II. Preliminary
10 engineering and pricing estimates from the LV21 projects made it clear
11 that the economies of scale achieved by a 500 or 600 MW plant were
12 significant compared to a smaller plant. Montana-Dakota was also able to
13 consider participation in the larger, relatively less expensive Big Stone II
14 plant at a lower level than was contemplated with the 175 MW LV21 unit

15 Q. What factors were considered in determining the need to participate in a
16 new plant?

17 A. Montana-Dakota produces 20 year forecasts of demand for electric
18 power and energy annually. The projected annual power and energy
19 requirements are modeled for each customer class, and growth forecasts
20 are applied. Montana-Dakota also utilizes an integrated resource
21 planning process involving load modeling and forecasting. The modeling
22 and forecasting process is based on various load growth assumptions,
23 which are followed by an analysis of various demand- and supply-side

1 alternatives in determining what should be considered the best options for
2 meeting future customer power and energy requirements. The plan is
3 formally updated every two years; however, the planning process is fluid
4 and dynamic. Each of Montana-Dakota's filings is the product of a
5 strategic planning exercise that is based on a snapshot of conditions that
6 exist at the time the plan is prepared. It is therefore subject to change as
7 critical assumptions and economic and business conditions change.

8 Q. What has Montana-Dakota's IRP process indicated?

9 A. The capacity expansion model presented in the 2003 IRP filed with
10 the Commission on July 1, 2003 suggested that the least cost resource to
11 replace the Basin contract and meet load growth would be gas-fired
12 combustion turbines. This model included conservative gas pricing, and
13 did not include the off-system electric sales from which Montana-Dakota
14 customers have benefited.

15 Modeling results inform the decision maker about resource needs,
16 subject to other considerations. Modeling results indicating gas fired
17 combustion turbines as the selected least-cost resource were considered
18 by Montana-Dakota, and subsequently rejected. Energy produced by
19 these resources are subject to wide swings in the cost of natural gas used
20 to generate electricity and concerns about the long term availability of
21 natural gas as a generation fuel. For these reasons, combustion turbines
22 were determined not to be in the long-term best interest of customers for
23 baseload needs.

1 Montana-Dakota, as well as outside information sources, believes
2 that long-term natural gas pricing trends are upwards, and that availability
3 of this premium fuel as a generation fuel may be compromised. While
4 coal pricing will likely also increase, Montana-Dakota does not believe that
5 the magnitude will be the same as with natural gas, and that the Big Stone
6 II plant will allow the Company to offer customers a long-term, reliable and
7 stable source of electric supply.

8 Reliance on a strict least-cost resource decision may not
9 encompass renewable energy, may not support the availability of low-cost
10 energy to attract new customers as a result of economic development
11 efforts, or encompass off-system sales that benefit Montana-Dakota's
12 customers. With this in mind, the Company's 2005 IRP filed with the
13 Commission on September 15, 2005 reflected the decision to explore coal
14 baseload plant options. The document also presented several demand
15 side management (DSM) programs.

16 Subsequent to filing the 2005 IRP, Montana-Dakota performed
17 capacity expansion modeling to determine if the Big Stone II addition was
18 the best resource addition for Montana-Dakota and its customers. Mr.
19 James Heidell, with the PA Consulting Group, will address the Strategist®
20 model used to substantiate the Company's decision to participate in the
21 Big Stone II project. As noted in the report provided by PA Consulting
22 Group, the addition of Big Stone II for meeting the next resource
23 requirement results in the lowest long-term utility costs among the

1 alternatives of lignite coal, an integrated coal gasification combined cycle
2 option, natural gas fired combined cycle and simple cycle plants, wind
3 resources and demand side management resources.

4 Q. Would you please provide an update regarding Montana-Dakota's
5 implementation of the demand side management programs identified in
6 the 2005 IRP?

7 A, Yes. Montana-Dakota has launched the DSM programs identified
8 as Option A in the 2005 IRP; an Energy Star Partnership was finalized in
9 May 2006, a program promoting high-efficiency residential air conditioning
10 was initiated through a rebate program in May 2006 and the promotion of
11 commercial lighting retrofits was started in November 2006. Those
12 programs are estimated to provide a demand reduction of 6.5 MW which
13 has been reflected as a reduction in the forecasted load requirements.
14 Montana-Dakota is also investigating the introduction of an air
15 conditioning cycling program for residential and commercial customers as
16 reported in the 2005 IRP. This resource along with an additional 5-10
17 MW of available conservation at a cost of \$470/kW and \$560/kW
18 respectively have been included as resource options in the modeling work
19 completed by PA Consulting.

20 Q. In addition to the modeling, what has Montana-Dakota done to confirm
21 that Big Stone II is the best source for baseload power in the time frame
22 required?

23 A. As will be discussed in more detail by Mr. Duane Steen, Montana-

1 Dakota issued a Request for Proposal (RFP) for baseload energy and
2 capacity for delivery beginning in June of 2011 for a 25 to 35 year term.
3 Montana-Dakota received only two responses to the RFP. Our analysis
4 indicated that one response did not meet the criteria of the RFP, and that
5 the other appeared to be comparable in price to Big Stone II but delivery
6 in 2011 is questionable as the project is not nearly as advanced in terms
7 of permitting and transmission studies as the Big Stone II project.

8 Q. What benefits do you see Big Stone II affording Montana-Dakota's
9 customers?

10 A. Power from Big Stone II will replace the 66 MW of baseload power
11 supplied pursuant to the expired Basin power purchase agreement. Until
12 the Big Stone II plant is constructed, Montana-Dakota will purchase
13 energy from the Midwest ISO market. The cost of this energy cannot
14 accurately be predicted and can fluctuate widely. Based upon our
15 experience over the 15-month period from April 2005 through June 2006,
16 Midwest ISO market prices for energy have varied greatly, and did exceed
17 \$100/Mwh on occasion. Once the Big Stone II plant is available,
18 Montana-Dakota's customers will be insulated from the uncertainty and
19 variability of the price of power from the market for this portion of
20 Montana-Dakota's supply portfolio. In addition, when the Company's
21 available capacity and/ or energy exceeds its load, inclusive of the MAPP
22 reserve requirements, Montana-Dakota will also be able to sell surplus
23 power into the Midwest ISO market, which is a benefit to the customers of

1 Montana-Dakota, as demonstrated by the credits returned to the
2 customers under the margin sharing adjustment approved by this
3 Commission in Case No. PU-399-03-296.

4 Q. Describe why Big Stone II is the best resource option for Montana-
5 Dakota's electric customers.

6 A. There are several reasons that Big Stone II is the best new
7 baseload resource for Montana-Dakota's customers. First, the cost
8 estimates for this plant indicate that power will be roughly 30 percent less
9 expensive than the smaller LV21 project. That in itself would be enough
10 for this to be a favored resource. However, there are other reasons
11 Montana-Dakota considers Big Stone II the best available and most
12 feasible option. First, the fact that the Company's baseload resources will
13 include a share of this plant in combination with our existing resources,
14 will make forced or planned outages less of a risk for our customers than
15 if more of our load was served from a single larger unit such as the 175
16 MW LV21 plant.

17 Second, Montana-Dakota's customers will benefit from economies
18 of scale that will arise from having the second unit built adjacent to the
19 existing plant. Montana-Dakota owns approximately 23 percent of Big
20 Stone I, and the per unit costs at that plant will decrease as a result of
21 having the Big Stone Unit II constructed at that location, through the
22 sharing of equipment and employees.

23 Third, Montana-Dakota considers that this highly efficient unit will

1 reduce the Company's overall carbon-intensity, and that the dual scrubber
2 will be an efficient way to reduce the emissions of both units.

3 Montana-Dakota also takes comfort in having the considerable
4 experience and talent of the other participants available to assist in the
5 design and operation of this plant.

6 Montana-Dakota strives to provide its customers with not just low-
7 cost, but the best overall resource involving many considerations. It is
8 anticipated that Big Stone II will be the resource that can best provide
9 customers with reliable power for a predictable and affordable price well
10 into the future. Using the most efficient technology that has been
11 commercially proven allows us to continue to reduce our net Company
12 emissions for a reasonable cost. These factors, plus finding a way to
13 leverage this new resource to clean the emissions of the existing plant,
14 makes the Big Stone Unit II Montana-Dakota's clear first choice and this
15 resource should be determined to be a prudent investment by this
16 Commission.

17 Q. Does that complete your testimony?

18 A. Yes, it does.