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August 3, 2007

VIA FEDERAL EXPRESS & EMAIL

Illona Jeffcoat-Sacco
Executive Secretary
North Dakota Public Service Commission
State Capitol
Bismarck, ND 58505

Re: Montana Dakota Utilities Co., and Otter Tail Corporation; Advance Determination of Prudence Big Stone II Generating Station Case Nos. PU-06-481 and PU-06-482

Dear Ms. Jeffcoat-Sacco:

Enclosed for filing on behalf of the Applicants, please find the following:

1. Post Hearing Brief of Applicants Montana-Dakota Utilities Co. and Otter Tail Corporation (original and seven copies);
2. Proposed Findings of Fact, Conclusions of Law and Order; and
3. Affidavit of Service.

Also, Applicants intend to provide a response to Commissioner Wefald's inquiry regarding incentives for cost containment no later than Wednesday, August 8, 2007.

Please do not hesitate to contact myself, Daniel Kuntz (701-530-1016), or Mark Bring (218-998-7152) with any questions. Thank you for your consideration.

Very truly yours,



Todd J. Guerrero

TJG/kas
cc: The attached service list with attachments.
Doc# 2408494\1

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Post Hearing Brief of Applicants MDU &
OTP & Proposed Findings, Conclusions of L
Lindquist & Vennum

**STATE OF NORTH DAKOTA
PUBLIC SERVICE COMMISSION**

Montana-Dakota Utilities Co., and
Otter Tail Corporation;
Advance Determination of Prudence
Big Stone II Generating Station

Case No. PU-06-481
Case No. PU-06-482

**POST- HEARING BRIEF OF APPLICANTS
MONTANA-DAKOTA UTILITIES CO. AND
OTTER TAIL CORPORATION**

August 3, 2007

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I. INTRODUCTION

Demand for electricity in North Dakota and surrounding areas continues to grow. Applicants Otter Tail Power Company (“Otter Tail”) and Montana-Dakota Utilities Co. (“Montana-Dakota”) project significant deficits as early as 2011. Applicants – along with five other regional utilities¹ – have determined that a new 630 MW coal-fired unit to be constructed next to Applicants’ existing Big Stone Unit I power plant² in South Dakota is the least-cost option to meet their anticipated generation needs.

The Applicants’ need for more electric power and energy is uncontested. The Commission Advocacy Staff found each of the Applicants’ load forecasts to be reasonable. For its part, intervenor Dakota Resource Council (“DRC”) did not challenge Applicants’ respective load forecasts, and agreed that Applicants specifically, and the region generally, need additional power.

No party suggests there exists a better alternative to Big Stone Unit II in meeting the Applicants’ generation needs. Advocacy Staff conclude that both Otter Tail and Montana-Dakota have conducted their respective resource planning processes reasonably, with the goal of achieving the most reliable and cost-effective resource alternative. The DRC points generally to renewable and conservation resources, and criticizes the Applicants’ resource planning, but admits that it has no specific proposal that could satisfy the Applicants’ anticipated demand, let alone one that could provide electricity at a lower cost.

¹ Great River Energy, Missouri River Energy Services, Southern Minnesota Municipal Power Agency, Central Minnesota Municipal Power Agency, and Heartland Consumers Power District. Applicants, along with their co-owners, four municipal joint action agencies, and one generation and transmission cooperative, are collectively responsible for supplying electricity to approximately 1.2 million regional customers.

² The third owner of the Big Stone I plant is NorthWestern Energy.

With respect to the proposed transmission facilities necessary to interconnect the Big Stone Unit II, the Applicants identified two new high-voltage transmission lines as preferred alternatives. The facilities will provide the necessary interconnection for the proposed new unit and will increase transmission capacity and enhance reliability of the regional transmission system. Advocacy Staff agrees that Applicants' transmission proposal is reasonable. The DRC does not challenge the prudence of the proposed transmission lines.

A. The Applicants' Need for Additional Generation.

Relying on the best data available and utilizing sophisticated computer resource planning models, in addition to their business judgment built collectively over decades of providing reliable electric service to their customers at reasonable rates, the Applicants have determined that they will need additional baseload generation by 2011 to reliably meet an increasing demand for electric energy in their service areas.³ Lack of available transmission capacity combined with load growth is causing constraints in the regional transmission system, including constraints on the North Dakota Export (NDEX), a transmission region that includes North Dakota, western Minnesota and eastern South Dakota.⁴

B. Big Stone Unit II.

Given this backdrop, Applicants, along with their co-owners, seek to build the region's first baseload power plant in approximately twenty years. On July 21, 2006, the South Dakota

³ See, e.g., OTP Ex. 103, p.7, lines 8-22, p.8, lines 1-6 (Morlock); MDU Ex. 203, p.4, lines 6-16 (Stomberg); MDU Ex. 204 p. 2, lines 16-23 (Steen).

⁴ OTP/MDU Ex. 312, p. 13, lines 5-7 (Rogelstad).

Public Utilities Commission issued an energy conversion facility permit for the plant, authorizing construction.⁵

Big Stone Unit II is a nominal 630 MW supercritical pulverized coal facility.⁶ It is a baseload facility, *i.e.*, one that is intended to be operated 24 hours a day, 365 days per year. As a baseload facility, Big Stone Unit II will be dispatchable so output from the plant can be controlled to meet system load needs.⁷ Big Stone Unit II will serve the Applicants' and the other co-owners' native load customers throughout their five-state service areas.

Big Stone Unit II will burn sub-bituminous coal from the Powder River Basin in Wyoming and Montana, the same fuel presently burned at Big Stone Unit I.⁸ It will be equipped with highly effective air pollution control equipment, including a wet scrubber and a fabric filter, as more fully described in section III.D. below.

Big Stone Unit II is presently estimated to cost \$1.4 billion in 2012 dollars, without transmission.⁹ Costs are estimated to increase at approximately 6% per year due to inflation, or approximately \$7 million per month.¹⁰ The Applicants are preparing for a mid-2012 in-service date.¹¹

⁵ Order of South Dakota Public Utilities Commission dated July 21, 2006, Docket No. 05-022. The South Dakota PUC issued a permit for construction of the portion of the transmission lines in that state on January 16, 2007. Docket No. 06-002.

⁶ OTP/MDU Ex. 301 p. 12, lines 1-18 (Rolfes). As Project manager Mark Rolfes points out, the decision to move from a supercritical pulverized coal to an "ultra" supercritical plant is one the owners are still looking at. TR. Vol. I, p. 142, lines 13-16. Among the considerations that will go into that decision is whether it is prudent to spend the additional approximately five to ten million dollars to gain approximately a one percent greater efficiency in the plant. *Id.*, lines 20-21.

⁷ OTP/MDU Ex. 301 p. 4, lines 10-12 (Rolfes).

⁸ OTP/MDU Ex. 301 p. 4, lines 18-19 (Rolfes).

⁹ TR. Vol. 1 p. 106, line 23 – p. 107, line 11; OTP/MDU Ex. 321.

¹⁰ OTP/MDU Ex. 302 p. 5, lines 6-9.

¹¹ OTP/MDU Ex. 302 p. 5, lines 17-18; TR. Vol. 1 p. 107, lines 8-9.

The Applicants, along with the co-owners, propose to own Big Stone Unit II as tenants in common. The Applicants will each own 19.33% of the project.¹²

C. The Proposed Transmission Interconnection Facilities.

In April 2004, the Applicants made a request to the Midwest Independent Transmission Operator (MISO) – the regional entity charged with coordinating transmission development in the region – for permission to interconnect the facility to the regional grid. The process under which generation facilities interconnect with the transmission grid has been found by the Federal Energy Regulatory Commission (“FERC”) to play a crucial role in bringing generation into national energy markets to meet growing demand and to obtain for customers the benefit of increased competition. The interconnection process is governed by federal law.¹³

In response to the interconnection request, MISO engaged Otter Tail’s transmission planning personnel, on behalf of MISO, to perform a Generator Interconnection Study (“Interconnection Study”).¹⁴ The purpose of the study was to identify the impacts the proposed Big Stone Unit II would have on the existing transmission system, taking into account the state of the existing system along with all prior interconnection requests in the MISO interconnection queue, as required under MISO’s Open Access Transmission Tariff, and to identify all feasible upgrades necessary to accommodate the proposed interconnection.¹⁵ The Interconnection Study determined that construction of two new 230 kV lines – one from Big Stone to Morris,

¹² OTP/MDU Ex. 301 p. 3.

¹³ For an explanation of the federal law governing generation interconnections, along with background information, see *Standardization of Generator Interconnection Agreements and Procedures*, Order No. 2003, Final Rule 68 FR 49845 (Aug 19, 2003), FERC Stats. & Regs. ¶ 31,146 (2003).

¹⁴ The Interconnection Study is included as OTP/MDU Ex. 314.

¹⁵ OTP/MDU Ex. 312 p. 8, lines 2-3; p. 9, lines 9-17 (Rogelstad).

Minnesota, and one from Big Stone to Granite Falls, Minnesota – was the preferred method to accommodate interconnection of the new unit.

While MISO’s Interconnection Study was designed to identify options for and impacts of interconnecting a second unit at Big Stone to the transmission grid, other transmission studies have examined ongoing regional transmission needs. These studies confirm the *overwhelming* need for additional transmission infrastructure in western Minnesota and the eastern Dakotas.¹⁶ As a result, the co-owners determined that building only 230 kV lines would be an inferior option, given the need for additional large transmission additions in the region.¹⁷ Instead, the co-owners determined that sizing the Granite Falls line at 345 kV is a more prudent approach as it helps accomplish two mutually beneficial goals: providing reliable interconnection facilities for the proposed Big Stone Unit II and at the same time furthering the objective of expanded transmission capability in some of the region’s best areas for further wind development.¹⁸ MISO, as the regional transmission organization with responsibility to plan the regional transmission system in a least-cost and reliable manner, agreed.¹⁹

As a result, the Applicants propose to construct one new transmission line running from the Big Stone 230 kilovolt (kV) substation in South Dakota to the Morris substation near Morris, Minnesota, a total of approximately 48 miles; and a second line from a new Big Stone 345 kV substation in South Dakota to Granite Falls, Minnesota, a distance of approximately 93 miles. The Big Stone to Morris transmission line would be constructed at 230 kV. The Granite Falls transmission line would be constructed at 345 kV but operated initially at 230 kV.

¹⁶ See, e.g., TR Vol. II, p. 345, lines 10-25, p. 346, lines 1-14 (Rogelstad).

¹⁷ *Id.*

¹⁸ TR. Vol. II p. 343, line 15 – p. 344, line 13; OTP/MDU Ex. 318, p. 1, line 10 – p. 2, line 16; OTP/MDU Ex. 318 p. 6, line 8 – p. 7, line 2.

¹⁹ PSC Ex. 1, p. 30, lines 14-22; p. 31, lines 7-10 (Deason).

The proposed transmission facilities, including interconnection and delivery service, are expected to cost \$238 million in 2011 dollars.²⁰

II. THE PRUDENCE STANDARD

This proceeding marks the first occasion the Commission has had to consider a request for an advance prudence decision under N.D.C.C. § 49-05-16. Obviously, the Commission must consider a number of factors in deciding whether a particular resource addition is reasonable and prudent. A settled and oft-cited standard was articulated in *New England Power Co.*, Opinion No. 231, 31 FERC ¶61,047, *reh. denied*, Opinion No. 231-A, 32 FERC ¶61,112 (1985), *aff'd sub nom. Violet v. FERC*, 800 F.2d 280 (1st Cir. 1986). In finding a utility's investment in a canceled plant prudent, the Federal Energy Regulatory Commission enunciated the following standard:

“[M]anagers of a utility have broad discretion in conducting their business affairs and in incurring costs necessary to provide services to their customers. In performing our duty to determine the prudence of specific costs, the appropriate test to be used is whether they are costs which a reasonable utility management (or that of another jurisdictional entity) would have made, in good faith, under the same circumstances, and at the relevant point in time.

31 FERC at 61,084.²¹ Thus, the standard by which this Commission should judge this case is not whether the Commission believes it would have picked a different resource alternative. Instead, it is whether the utilities, proceeding in good faith, acted reasonably.²² In the January 10, 2007

²⁰ OTP/MDU Ex. 318 p. 2, lines 12-16; OTP/MDU Ex. 321.

²¹ *See also, West Ohio Gas Co., v. Ohio*, 294 U.S. 63, 72 (1935) (“Good Faith is presumed on the part of the managers of a business.... In the absence of a showing of inefficiency or improvidence, a court will not substitute its judgment for theirs as to the measure of a prudent outlay.”)

²² As Advocacy Staff's expert Terry Deason clarified, a prudence decision is based on whether the utility attempted to find a most reliable and economic resource for its customers. The particular state the investment is made in is largely irrelevant.

(“... let me say that I believe that the role of a utility regulator is to look at the prudence of decisions, to look at the way a utility can most reliably and cost-effectively provide service to its customers. If that means building a facility within the confines of the state, or even outside the state, so be it. I believe the economic future of the citizens of a state are best served by the least-cost, most reliable source of generation, regardless of where the source is located.”) TR. Vol. III, p. 704, lines 1-12 (Deason).

Notice of Hearing, the Commission identified the following three issues to be addressed in this matter:

1. Whether the resource addition is reasonable and prudent;
2. Whether Applicants have need for additional generating resources; and
3. What alternatives exist for meeting additional generation needs?

The analysis of the second two issues will help determine whether the decision to go forward with the Big Stone Unit II and transmission interconnection facilities is reasonable and prudent, and we address those issues below. In addition, other issues were identified during the hearing as important considerations, which Applicants also address.

III. THE DECISION TO GO FORWARD WITH BIG STONE UNIT II AND INTERCONNECTION FACILITIES IS REASONABLE AND PRUDENT

A. The Applicants' Forecasts Demonstrate a Need for Capacity and Energy, are Accurate, and Unchallenged.

The record is absolutely clear that the Applicants have a need for future energy and capacity. There was no dispute in this record regarding the reasonableness or accuracy of Applicants' forecasts.²³ Indeed, the evidence demonstrates that the Applicants have a projected need greater than what their respective ownership interests in Big Stone Unit II will provide shortly after the unit comes on-line. As Otter Tail's Bryan Morlock testified, Otter Tail forecasts a deficit of 172 MW as early as 2014. Otter Tail's participation in Big Stone Unit II will replace expiring power purchase agreements and help satisfy some of its forecasted growth. Otter Tail's

²³ Advocacy Staff agreed that Applicants' forecasts were reasonable. TR. Vol. III, p. 702, lines 21-25, p. 703, lines 1-7. The Dakota Resource Council did not challenge the Applicants' forecasts.

Q: And you're not challenging the fact that they need power and energy beginning in the year 2011, correct?

A: I don't know whether it is 2011, 10 or 12, but I'm not challenging their load forecasts and their projections of need for power.

TR. Vol. II, p. 466, lines 18-25, p. 467, lines 1-7

need beyond that satisfied by Big Stone Unit II will be met by significant new wind resources, peaking capacity resources, other baseload resources, and additional demand-side management and conservation activities.²⁴

Montana-Dakota's Duane Steen presented testimony and exhibits showing Montana-Dakota forecasts a deficit of 107.4 MW in 2012 and 119.4 MW in 2014 without the addition of Big Stone Unit II.²⁵ Montana-Dakota's capacity expansion model confirmed that the lowest cost system expansion option for Montana-Dakota is to add its share of Big Stone Unit II beginning in 2011, with a need for additional DSM and capacity in later years.²⁶

B. There are no more Reasonable and Prudent Alternatives Either to the Big Stone II Generating Facility or the Proposed Transmission Facilities.

The Applicants conducted exhaustive examinations of both generation *and* transmission alternatives. Neither the Applicants nor the other co-owners have any interest in collectively investing more than \$1 billion in new facilities without first having determined through extensive resource planning studies that they have no better alternative to this project. Based on this review of alternatives, the Applicants have reasonably and prudently selected the Big Stone Unit II generation and transmission facilities as the most cost-effective solution to meet *part of* their respective needs for electric energy.

1. Big Stone Unit II.

The decision to pursue construction of a 630 MW coal-fired second unit at the Big Stone plant is one that resulted from extensive independent and collective resource planning analysis by the Applicants and the co-owners. Each of the Applicants performed comprehensive capacity

²⁴ OTP Ex. 103, p. 9, lines 18-22, p. 10, lines 1-3.

²⁵ MDU Ex. 201.

²⁶ MDU Ex. 209, p. 4, lines 15-20 (Heidell); MDU Ex. 211, pp. 5-4, Table 5-1.

expansion modeling, using computer optimization models that performs a side-by-side analysis of various combinations of both demand-side and supply-side resources to identify the most economic plan.²⁷ The models identify the least cost resource expansion plan based on a number of variables, including system loads, available generation resources, cost of new resources (demand-side and supply-side), and fuel costs.²⁸ Before selecting a supercritical pulverized coal plant as the best approach to meet their baseload needs, each of the Applicants considered various types of generation, both fossil fuel-based and renewable energy sources. Before selecting the Big Stone site, the co-owners looked at several different locations, including ones in North Dakota and South Dakota.²⁹

In considering the different ways in which electricity can be generated, the Applicants and their co-owners made both quantitative and qualitative assessments of each alternative's capability to meet the underlying objective of providing approximately 630 MW of baseload capacity by 2011 in the most reliable and economic manner. The Applicants also took into account potential environmental and societal impacts associated with each alternative.

The various generation alternatives the Applicants and their co-owners considered in their resource plans and in separate generation alternatives studies included the following: wind; biomass; hydro; solar; landfill gas; geothermal energy; distributed generation; sub-critical pulverized coal; atmospheric circulating fluidized bed; combined cycle natural gas; natural gas plus wind; and integrated coal gasification combined cycle.³⁰ Each of these resources has its advantages and disadvantages. Importantly, none of these alternatives has been shown to be

²⁷ See, e.g., OTP Ex. 103, p. 10, lines 7-10 (Morlock); MDU Ex. 203, p. 5, lines 15-23 and p. 6, lines 1-4 (Stomberg).

²⁸ MDU Ex. 211, p. 3, lines 5-8 (Heidell).

²⁹ OTP/MDU Ex. 301, p. 6, lines 10-18 – p. 8, lines 1-11 (Rolfes).

³⁰ OTP Ex. 101, p. 9, lines 10-17; OTP/MDU Ex. 310; OTP/MDU Ex. 311; OTP/MDU Ex. 301, p. 14, lines 6-22; OTP/MDU Ex. 301, p. 13, lines 9-11.

more cost-effective or more reliable in meeting the Applicants' capacity and energy needs than a supercritical pulverized coal plant at the Big Stone site.

In addition to its capacity expansion and resource planning studies, Montana-Dakota also solicited bids, once in 2004, and again in 2006, to address the shortage caused primarily by the expiration of its Antelope Valley power purchase agreement with Basin Electric Cooperative. In 2004, Montana-Dakota received only two proposals, neither of which was viable or in conformance with Montana-Dakota's minimum criteria. In 2006, Montana-Dakota issued an RFP for baseload capacity and energy for a 25-35-year commitment, beginning in the 2011-2016 timeframe.³¹ Montana-Dakota again received only two responses. The first was rejected because it (1) proposed to sell Montana-Dakota 254 MW from a natural gas-fired combined cycle plant, or roughly twice the amount of capacity Montana-Dakota requested, and (2) would have unduly increased Montana-Dakota's reliance on natural gas.³² The second response was for 120-170 MW from a supercritical coal-fired power plant to be constructed in Iowa. Montana-Dakota rejected this bid because there are no cost advantages from that project over Big Stone Unit II, and there is no proposed transmission associated with that project.³³ Mr. Steen further testified to the other generation alternatives that Montana-Dakota has recently explored, including some form of participation through the Lignite Vision 21 Program, and various-sized projects at the Gascoyne, North Dakota site.³⁴ In short, none of these options is preferable or more reasonable than the Big Stone Unit II project.

³¹ MDU Ex. 204, p. 3, lines 9-21 (Steen).

³² *Id.*, pp. 4-8, line 6.

³³ *Id.*

³⁴ *Id.*, p. 5, line 1 through p. 8, line 6 (Steen).

2. Transmission facilities.

New transmission has to be built to connect Big Stone Unit II to the transmission grid. The Applicants, through Otter Tail, employed a thorough screening analysis to evaluate the various transmission alternatives that were identified through the MISO study process.³⁵ MISO supports the transmission project as the preferred alternative.³⁶ There is no issue in controversy with respect to the proposed transmission facilities, and Applicants respectfully submit that they have demonstrated that the proposed transmission facilities are reasonable and prudent.³⁷

3. The Dakota Resource Council, in opposing the project, should be required to show there is a more reasonable and prudent alternative.

Applicants understand that they have the burden to show that their proposed project is reasonable and prudent. But those opposed to a utility's preferred option for a new generating facility to meet a growing demand for energy also have a burden: they need to show that there is a reasonable and prudent alternative. The burden is not and should not be on Applicants to prove the *non-existence* of such alternatives. The reason that alternatives must be demonstrated by evidence in the record is that once a need for new electric supply resources and related infrastructure is demonstrated, as is the case here, it is imperative that such need be met. Otherwise, as one court recently put it, the construction of essential public utility facilities would be thwarted because utilities would face the extraordinary difficulty of proving a negative – *i.e.*, that there is *not* a more reasonable and prudent alternative. *See In the Matter of the City of Hutchinson for a Certificate of Need to Construct a Large Natural Gas Pipeline*, Court File No. AO3-99 (Minn. Ct. App., Sept. 23, 2003) (attached as Otter Tail/Montana-Dakota Brief Exhibit No. 1).

³⁵ OTP/MDU Ex. 312, p. 7, lines 19-21, p. 8 lines 1-11 (Rogelstad).

³⁶ PSC Ex. 1, p. 31, line 13 (Deason).

³⁷ TR., Vol. II, p. 429, line 25, p. 430, lines 1-14.

Requiring that the Applicants and their co-owners prove a negative is exactly what the DRC is asking of this Commission. Indeed, this has been the consistent strategy of Mr. Schlissel and intervenors, as this is now the third forum in which Mr. Schlissel has appeared in opposition to the project.³⁸ While the DRC witness Mr. Schlissel remains quick to criticize, he once again admits that he has no more prudent alternative to offer:

Q: Mr. Schlissel, you're not proposing any alternatives to the Big Stone Unit II project, are you?

A: No, we've not proposed a plan, an alternative plan.³⁹

* * * * *

Q: And as you sit here today, and through 80 pages of direct filed testimony, you're not offering an opinion for or against the transmission facilities proposed here; correct?

A: That's correct.

Q: And you're not proposing a transmission alternative?

A: That's correct.⁴⁰

In sum, neither Mr. Schlissel nor intervenor DRC, nor anybody else has identified a more reasonable and prudent option than the facilities proposed here – Big Stone Unit II and transmission interconnection facilities.

C. Increased Conservation Efforts will not Eliminate the Need for Additional Generation.

The Commission is of course interested in knowing to what extent the Applicants' conservation and demand-side management programs can reduce the demand for energy and

³⁸ The other two are the energy conversion facility permit proceeding before the South Dakota Public Utilities Commission, and the transmission certificate of need and route permit proceeding before the Minnesota Public Utilities Commission.

³⁹ Intervenor Ex. 1, p.467, lines 21-23, p. 468, lines 2-3.

⁴⁰ Intervenor Ex. 1, p. 429, line 25, p. 430, lines 1-7.

additional generation capacity.⁴¹ The following points can be made regarding the Applicants' conservation efforts and its impact on their need for additional baseload energy.

- Conservation and demand side management are factored into the capacity expansion modeling and forecasting that the Applicants have performed.⁴² The forecasts which show an increasing demand for energy take into account existing conservation activities.
- Both Montana-Dakota and Otter Tail will be implementing additional conservation programs in the state of North Dakota. Montana-Dakota has identified nine separate programs, including appliance rebates for new efficient appliances, interruptible service arrangements, and commercial air conditioner cycling efforts, that it has in place or will be implementing throughout its integrated system, including North Dakota.⁴³ Otter Tail will be implementing additional conservation measures not only in North Dakota, but also in South Dakota and Minnesota.⁴⁴
- The cost of DSM and conservation measures varies. In general, those DSM measures that are less costly than new generation, including Big Stone Unit II, are reflected as supply resources in the Applicants' resource plan models. Applicants utilize a cost/benefit test in their resource modeling to identify programs that are cost-effective and therefore viable as potential resources.⁴⁵
- It is not possible for DSM and conservation to replace each Applicant's need for additional generation from Big Stone Unit II. Even with increased efforts to achieve conservation, the Applicants are going to need the energy and capacity to be provided by Big Stone Unit II. While conservation remains an important part of the solution, the Applicants will need to build new resources.

The important point is that the Applicants have deliberately and extensively taken the potential for enhanced conservation efforts into consideration. It is a legitimate concern of the Commission that reasonable conservation efforts be implemented in North Dakota, and the record establishes that the Applicants are committed to doing so.

⁴¹ See, e.g., questioning of Bryan Morlock by Commissioner Wefald at pages 266-280 of TR. Vol. I. The Applicants also filed additional information on conservation and DSM as part of their late-filed exhibits in response to requests of the Commission. See late-filed Exhibits 1 and 7.

⁴² MDU Ex. 203, p. 8, lines 7-19 (Stomberg).

⁴³ See late-filed Exhibit No. 1.

⁴⁴ See late-filed Exhibit No. 7.

⁴⁵ Late-filed Exhibit 1.

D. The Project is Compatible with Protecting the Environment.

In determining the prudence of the proposed project, the Commission will undoubtedly consider the environmental effects of the project, and consider how the project fits within state and regional energy needs. There are significant environmental and socioeconomic benefits related to the facility. As summarized by Project Manager Mark Rolfes, the Applicants (along with their co-owners) have committed to installing highly effective pollution control equipment for Big Stone Unit II, and will upgrade the pollution control equipment for Big Stone Unit I as part of the project.

For example, Applicants and their co-owners have agreed to control emissions of sulfur dioxide (SO₂) from Units I and II through installation of a common wet flue gas desulfurization system (*i.e.*, wet scrubber). SO₂ emissions from both Big Stone Unit I and Big Stone Unit II will be significantly less than what they are today from Unit I alone.⁴⁶ There will be no increase in emissions of nitrogen oxides (“NOx”) because of the use of a supercritical boiler and the installation of a selective catalytic reduction NOx emission control technology. Applicants expect that the sum total of the Big Stone Unit I and Big Stone Unit II NOx emissions will be equal to or less than Big Stone Unit I’s historical NOx emissions alone.⁴⁷

In addition, the Applicants have committed to a voluntary, site-wide cap of 189 lbs of mercury per year to be met within three years of commercial operation of Big Stone Unit II. The South Dakota Department of Energy and Natural Resources (“DENR”) will enforce the site-cap. Thus, even though electrical output from the combined units will increase by approximately 230% of current capacity, Applicants have committed that mercury emissions from both units

⁴⁶ OTP Ex. 101, p. 14, lines 18-22; p. 15, lines 1-13 (Uggerud).

⁴⁷ OTP/MDU Ex. 301 p. 11 lines 19-22.

will not be greater than historical amounts emitted by Unit I alone.⁴⁸ In short, the construction of Unit II provides the owners with an opportunity to economically install joint pollution control equipment that allows regulated emissions from both units to be cleaner than the existing unit today.

With respect to emissions of carbon dioxide, due to its high efficiency, Big Stone Unit II will produce approximately 20% less CO₂ on a megawatt per hour basis than other existing coal-fired plants in the region.⁴⁹

With regard to the transmission facilities, the Applicants are proposing to build the majority of the transmission project along existing right-of-way.⁵⁰ This means there will be minimal disruption of the physical environment caused by the power lines. It also ensures minimal disruption to landowners and area residents, both during construction and over the life of the facilities. At the same time, the proposed facilities will add new transmission capability that will, among other things, help relieve the NDEX transmission constraint.⁵¹

E. The Big Stone Project Satisfies the Need for Additional Energy in North Dakota.

The Applicants' electrical usage grew at an annual rate of approximately 2% between 1989 and 2001. For many years, utilities in the region in general, and the Applicants in particular, had the ability to defer significant new resource construction by relying on regional surpluses. That is no longer a viable option.⁵² Indeed, a significant portion of Montana-Dakota's future generation deficit is the result of the expiration of the Antelope Valley Station power

⁴⁸ OTP Ex. 101, p. 14, lines 18-22; p. 15, lines 1-13 (Uggerud).

⁴⁹ OTP Ex. 101, p. 5, lines 9-11 (Uggerud).

⁵⁰ TR. Vol. II, p. 343, lines 8-19 (Rogelstad).

⁵¹ TR. Vol. II, p. 344, lines 6-13 (Rogelstad).

⁵² TR. Vol. 1, p. 39, line 22; p. 40, line 25.

purchase agreement with Basin Electric Cooperative. The agreement represented approximately 20% of Montana-Dakota's entire baseload capacity.⁵³ All utilities will need to secure new capacity and energy resources to meet their customers' growing electricity needs.

In addition to being good for North Dakota customers, Big Stone Unit II will also directly benefit North Dakota in other ways. One significant benefit is that construction of a new generator at the Big Stone site – located essentially midway between a remote generation fleet in western North Dakota and the larger load centers of the Twin Cities area – provides a stabilizing effect on regional voltage which will improve the NDEX transmission constraint and related transient stability. In effect, the generator acts as a stabilizing force between long transmission lines.⁵⁴

With respect to transmission, grid investment nationally over the last two decades has not kept pace with growth in electricity demand.⁵⁵ The existing transmission system in western Minnesota and the Dakotas mirrors this trend.⁵⁶ More transmission in the region is needed and this project is an important component in the overall transmission expansion plan.⁵⁷

The record evidence in this case overwhelmingly supports the conclusion that the proposed Big Stone Unit II and proposed transmission lines are consistent with and promote the overall energy needs of the state and region.

⁵³ MDU Ex. 204, p. 2, lines 12-15 (Steen).

⁵⁴ OTP/MDU 312, p. 13, lines 5-21, p. 14, lines 1-5.

⁵⁵ OTP/MDU Ex. 312, p. 7, lines 1-11 (Rogelstad).

⁵⁶ *Id.*

⁵⁷ TR. Vol. II, p. 343, lines 8-25, p. 344, lines 1-22.

F. The Applicants Have Seriously Considered the Risks Associated with Supply and Delivery of Coal and These Risks Have Been Minimized.

Construction of Big Stone Unit II, like all major utility investments, carries certain risks. One such risk the Commission focused on at the hearing related to the availability and deliverability of coal from the Powder River Basin by a single railroad carrier. The Commission expressed concern regarding the fact that the Big Stone site does not have the availability of competitive rail service and is captive to the Burlington Northern Santa Fe Railroad (“BNSF”). That the Big Stone site is currently a captive shipper to the BNSF should not be reason to find the Big Stone Unit II and transmission facilities imprudent. Indeed, various industries around the state are subject to the reality of having limited rail service.⁵⁸

The Applicants have undertaken a number of measures to minimize the risks related to fuel supply and delivery. First, the Applicants have agreed to each of the conditions which Advocacy Staff’s expert Terry Deason recommended, three of which relate directly to fuel deliverability and coal. His first condition with respect to fuel delivery is that the Applicants agree to undertake certain operational measures in an effort to better manage coal delivery – the Applicants are already doing that and agree to follow Advocacy Staff’s recommendation in that regard. His second condition, that the Applicants undertake a study to determine the number of rail cars necessary to serve Big Stone Unit II and perform a cost/benefit analysis regarding aluminum cars, is also reasonable. Advocacy Staff further recommended that the Applicants undertake a study looking at the costs of maintaining higher coal inventories. As Mr. Deason testified, these conditions will help the Commission provide ongoing regulatory oversight over

⁵⁸ Tr. Vol. III. P. 800, lines 9-24.

the Applicants and this project.⁵⁹ Applicants agree and will conduct the studies and examine the issues suggested by Mr. Deason.⁶⁰

Second, as the BNSF's Mr. Brautovich and Otter Tails's Mr. Uggerud testified, the Big Stone site has had reliable and dependable rail service for more than 30 years. While the delivery problems in 2005 and early 2006 were problematic,⁶¹ they were relatively short-lived and an anomaly in the plant's long history. As a result, it is not reasonable to infer any long-term, systemic deficiency in BNSF performance. As Mr. Brautovich testified, the BNSF has made significant investment in its trackage infrastructure, including along the route to the Big Stone plant.⁶² In short, the BNSF has addressed the problems that led to the delivery disruptions in 2005 and 2006. There is no evidence to suggest that these problems will recur and the Applicants have established practices and will study additional measures that can be implemented to minimize the risk of any supply problems going forward.

Approximately 1.1 billion tons of coal are mined annually in the United States. Of that, 458 million tons are shipped from the Powder River Basin, the source of coal for Big Stone.⁶³ Much of that coal is dependent on rail delivery from a single carrier. Coal will undoubtedly remain one of this country's primary and most dependable sources of energy well into the future. To make that happen, the BNSF, and all other rail carriers, will need to keep their rates and services competitive. The Big Stone plant is and has been one of the most reliable and cost

⁵⁹ PSC Ex. 1, p. 47, lines 20-21, p. 48, lines 16-22, and p. 49, lines 1-16.

⁶⁰ OTP Ex. 102.

⁶¹ While the Applicants were obviously concerned about the costs associated primarily to replacement power when the Big Stone Unit I had to back-down during the coal delivery disruption in 2005, this has to be kept in context. As Mr. Deason pointed out, the disruptions in Florida caused by Hurricane Katrina to natural gas supplies and prices cost Florida ratepayers approximately \$1.5 billion, enough, Mr. Deason commented, to pay for a substantial new baseload coal facility. TR. Vol. III, p. 724, lines 7-15. The point, again, is that there are risks inherent in any resource option, whether it is coal, natural gas, or renewable.

⁶² TR. Vol. I, p. 201, line 25, p. 208, line 8.

⁶³ TR. Vol. I, p. 235, lines 15-18.

effective plants in the entire regional fleet. For BNSF to be successful over the long-term, its customers, including Big Stone, will also need to remain competitive. The Big Stone site is not unlike any other large industrial site captive to a single carrier. It is doubtful that North Dakota would look unfavorably on expansion opportunities at one of its large agricultural processing facilities, for instance, merely because that facility was captive to a single rail carrier.

As Mr. Uggerud testified, the Applicants have long taken measures to keep downward pressure on their fuel supply costs.⁶⁴ The Applicants recently contested BNSF's freight costs for the Big Stone plant. While that particular proceeding was unsuccessful, the Applicants will continue to work diligently to minimize any risks associated with coal delivery. As Mr. Deason recognized, there are risks in other resource options.⁶⁵ This includes coal plants without rail service.⁶⁶

The Applicants' aggressive stance on behalf of protecting its customers should not be interpreted by the Commission to mean that the Applicants lack confidence in the BNSF, or the regulatory scheme in place to ensure that the railroad's rates and services remain competitive over the long-term. It would be ironic, therefore, if the Commission were to use the Applicants' efforts on behalf of its customers as a factor to find expansion at the Big Stone site – the best baseload generation alternative – imprudent. While Otter Tail and Montana-Dakota believe the regulatory scheme governing U.S. rail carriers is in need of improvement, improvement they will continue to work for, the Applicants' years of service and working relationships with BNSF (and rail carriers previous to the BNSF) at the Big Stone site provides them with confidence that

⁶⁴ See e.g., TR. Vol. I, pp. 81-86.

⁶⁵ TR. Vol. III, p. 732, lines 4-10.

⁶⁶ As Mr. Uggerud testified, the Coyote power plant, a mine-mouth lignite coal station, has encountered fuel quality issues. TR. Vol. III, p. 791, lines 20-25, p. 792, lines 1-9. But these issues are part of operating an electric company. No one option or resource is without its advantages or disadvantages.

BNSF will be able to deliver additional coal trains reliably and cost-effectively over the life-time of both Big Stone Units I and II.

On the last day of the hearing, Commissioner Clark asked Mr. Uggerud whether the Applicants would be willing to make changes to the fuel adjustment clause to “share in the risks” associated with future increases in the cost of delivered coal.⁶⁷ As the Commission is aware, the fuel adjustment clause is an important regulatory tool that regulators, utilities and ratepayers have been relying on for more than 50 years.⁶⁸ As with all regulatory tools, the fuel adjustment clause has advantages and disadvantages. Because it allows utilities to pass through cost increases and savings in fuel (and purchased energy) costs without the need for lengthy and expensive rate proceedings, the main benefit of a fuel adjustment clause is its assistance in allowing regulation to be carried out in a manner both practical and economical. It confers no benefit on utility shareholders except to avoid an unjustified loss, and at the same time protects ratepayers against unjustified gains. It requires customers to pay for increases in the price of fuel used for electric service, and gives them the immediate benefit of reductions in that cost.

A primary and historical criticism of the fuel adjustment clause is that it allows a utility to effectively change its rates without the scrutiny ordinarily applied in the context of a full rate case. The genesis of the fuel adjustment clause, however, was the recognition that regulation of utilities is imperfect, and that it is both impracticable and uneconomical to conduct rate cases – whether initiated by the utility or commissions – whenever changes in fuel and purchased energy costs - readily verifiable - impact a company’s earnings. The fuel cost clause adjustment, adopted in 1980, is set forth in North Dakota Administrative Code Section 69-09-02-39. The

⁶⁷ See TR. Vol. III, p. 778, lines 3-18.

⁶⁸ See, e.g., *City of Norfolk v. Virginia Electric and Power Company*, 90 S.E.2d 140 (1955)(purpose of the energy “escalator clause” deemed highly remedial – as it avoided the disruptive effect of fluctuations in wholesale cost of gas).

law sets forth the types of costs allowed to be recovered, and provides how the adjustment is calculated. It also provides that the Commission may review the adjustment at any time, and may conduct evidentiary hearings regarding the clause, and requires an annual independent audit of the adjustment, along with reporting requirements.

It would be inappropriate to modify the fuel adjustment clause in response to the Applicants' request for an advanced prudence determination. By way of analogy, Commissioner Wefald asked the Applicants and Advocacy Staff to comment on the idea of possibly constructing new or additional incentives for the cost containment related to the construction of Big Stone Unit II. In the Advocacy Staff's response, staff commented that the Commission should be cautious about adopting new regulatory plans – as “the end results may not be positive and could even have an adverse impact on the end cost.”⁶⁹ This is sound advice. This is particularly true, noted Advocacy Staff, where sufficient time has not been afforded to developing an appropriate incentive.⁷⁰ So it is with any change to the fuel adjustment clause. The Commission should be hesitant to make changes to a regulatory mechanism that has worked well for the Applicants and their customers, particularly in response to an advance prudence determination.

IV. STAFF'S WITNESS DEASON'S TESTIMONY WAS COMPELLING AND SUPPORTS A FINDING OF PRUDENCE

Advocacy Staff submitted the expert testimony of Terry Deason, who spent 16 years on the Florida Public Service Commission, and has been involved with utility regulation for more than 30 years.⁷¹ In his tenure on the Florida PSC, Mr. Deason sat on 25 need

⁶⁹ Advocacy Staff Response to Request For Cost Containment Incentive.

⁷⁰ *Id.*

⁷¹ TR Vol. III, p. 694, lines 15-17; PSC Ex.1, p. 1, lines 17-18 (Deason).

determination cases involving more than 14,000 MWs of generating capacity.⁷² These cases involved comprehensive review of utilities' integrated resource planning, conservation and DSM, and the assessment of whether the proposed generating asset was the most cost-effective alternative available.⁷³ This is exactly the type of review the Commission is engaged in here. Importantly, Mr. Deason testified that risks and uncertainties are inherent in any resource option, and that the resource planning process involves weighing the advantages and disadvantages of each respective resource option.⁷⁴ Given his experience, Mr. Deason is uniquely qualified to pass judgment on the prudence of the Applicants' proposal. Mr. Deason's unbiased conclusion is that the Big Stone Unit II proposal should be approved, subject to several reasonable conditions to which the Applicants have agreed to abide.⁷⁵

Mr. Deason and Advocacy Staff spent more than one week on site with Otter Tail personnel, and even more time reviewing the work papers, studies, and analyses on which the Applicants have relied in deciding to pursue this project. Based on that review, Mr. Deason concluded that the resource planning process employed by Applicants to select the Big Stone Unit II project was reasonable and prudent. Mr. Deason testified:

Q: And it's your opinion, is it not, Mr. Deason, that both Otter Tail and Montana-Dakota have attempted to find a resource option that is most reliable and cost-effective for their customers?

A: Based upon my review, I would agree that both MDU and Otter Tail have engaged in this process with the goal of achieving the most reliable and cost-effective alternative.⁷⁶

⁷² PSC Ex 1, p. 2, lines 11-12 (Deason).

⁷³ PSC Ex. 1, p. 2, lines 7-11 (Deason).

⁷⁴ PSC Ex. 1, p. 44, lines 18-22; p. 45, lines 1-10 (Deason).

⁷⁵ PSC Ex. 1, p. 46, lines 18-19 (Deason).

⁷⁶ TR. Vol. III, p. 705, lines 4-12 (Deason).

Mr. Deason has no reason to be biased either for or against the project. He reviewed the proposal based on his independent judgment and experience in assessing more than 14,000 MWs of utility resource acquisition matters and more than 30 years in utility regulation. His uniquely qualified assessment should be afforded significant weight by this Commission.

V. DRC WITNESS SCHLISSEL'S CRITICISMS OF THE APPLICANTS' RESOURCE PLANNING METHODOLOGY ARE UNWARRANTED

The Dakota Resource Council's entire case, through its witness David Schlissel, is premised on its criticism of Applicants' resource planning. Applicants address these principal points here.

1. Mr. Schlissel's speculation about future carbon costs is irrelevant in this proceeding.

North Dakota law precludes the Commission from using or allowing utilities to use environmental cost values in the planning or selection of generation resources. N.D.C.C. § 49-02-23. As a result, Administrative Law Judge Wahl properly struck all of Mr. Schlissel's testimony in which he utilized quantified CO₂ values intended to be representative of carbon regulatory risk for Big Stone Unit II. Given this ruling, it is difficult to understand what conclusions the Commission is expected to draw from his testimony. Is it that carbon regulation is likely to impact coal fired power plants? Of course it will, in some, as of yet unknown way. But potential future carbon regulation is not the only risk Applicants and other utilities needing baseload power face. As Mr. Deason recognized, other resource options have their own set of risks, including environmental, regulatory, and cost uncertainties.

In the near term, nuclear power is not a realistic resource option.⁷⁷ Natural gas-fired baseload plants are subject to price volatility and availability of the gas. Wind resources are

⁷⁷ OTP Ex. 101, p. 12, lines 19-22, p. 13, lines 1-2 (Uggerud).

rapidly being developed, but they do not supply dispatchable energy or cost-effective capacity. Carbon regulation is likely to make coal plants more expensive to operate. But there is also no question that carbon regulation will increase natural gas prices and likely increase prices for other types of electricity as a part of a general uplift in electricity market prices.⁷⁸ Thus, Applicants, like other utilities, have studied their options and determined that, all things considered, a coal plant remains the most reliable, cost-effective option.

2. Purchase of power from Manitoba Hydro by Otter Tail Power is not preferable to Big Stone Unit II in the long term.

Mr. Schlissel's main criticism of the Otter Tail resource plan appears to be that Otter Tail's next best resource – a long-term purchase from Manitoba Hydro – could replace Big Stone Unit II through 2020 if Mr. Schlissel's CO₂ values are considered.⁷⁹ Not only has Mr. Schlissel assumed some unreasonable carbon cost numbers that are outside the Commission's jurisdiction, but Mr. Schlissel also fails to consider the very serious risk factors in the Manitoba Hydro purchase, risk factors which make the purchase uneconomical as compared against Big Stone Unit II. These include that the Manitoba Hydro proposal is contingent on Manitoba Hydro adding the \$5 billion 1250 MW Conawapa hydroelectric station, yet permitting has not even begun and the project is likely to face substantial opposition;⁸⁰ (2) the proposal is contingent on construction of a 500-mile, 500 kilovolt DC transmission line through pristine boreal forest from northern to southern Manitoba, at a cost of approximately \$1 billion, and permitting has yet to

⁷⁸ TR. Vol. III, p. 713, lines 11-24, p. 717, lines 10-18 (Deason).

⁷⁹ See, e.g., TR. Vol. II, p.445, lines 11-18.

⁸⁰ TR. Vol. II pp. 450-453.

begin, and substantial opposition is likely;⁸¹ and (3) Manitoba Hydro retains the right to restrict energy sales, meaning the power cannot be counted on as a baseload resource.⁸²

In addition, Mr. Schlissel compared costs only through the year 2020. This results in a failure to consider the benefits offered by Big Stone Unit II beyond 2020 and distorts the value of the Manitoba Hydro option.⁸³

In short, considering the risk factors on *both* sides, and considering the long-term cost of Manitoba Hydro, Big Stone Unit II is Otter Tail's most favorable resource choice. Otter Tail's resource planning analysis bears this out.

3. Montana-Dakota's modeling was conducted under reasonable assumptions.

Mr. Schlissel made two principal criticisms of Montana-Dakota's resource plan, both of which are inaccurate. First, while not disputing that Montana-Dakota needs the capacity Big Stone Unit II would supply, he claimed the unit would produce more energy than Montana-Dakota needs for its native load. On that basis, he assumed that Montana-Dakota must be justifying its decision to participate in the project based on a desire to speculate in the wholesale electric market.⁸⁴ Second, Mr. Schlissel criticizes Montana-Dakota for the assumptions it made in conducting its modeling and asserts that his assumptions are better.⁸⁵ Mr. Schlissel is incorrect on both counts.

With regard to his assertion that Montana-Dakota is counting on making wholesale sales, as Montana-Dakota's expert witness clarified, Montana-Dakota ran the Strategist® model with

⁸¹ *Id.*

⁸² *Id.*

⁸³ OTP Ex. 111, p. 8; TR. Vol. I, p. 254.

⁸⁴ Intervenor Ex. 1, p. 65.

⁸⁵ *Id.*, p. 67.

the off-system sales “turned off.” In other words, the model chose Big Stone Unit II even though no off-system sales were included.⁸⁶

Second, it is Synapse, not Montana-Dakota, that made unrealistic assumptions when running the Strategist® model. Synapse incorporated several flawed assumptions into the model when it made its run, including inflated capital costs for Big Stone Unit II, unrealistic DSM savings, and unreasonable carbon costs. As shown in Mr. Schlissel’s Table 10,⁸⁷ the model does not select Big Stone Unit II assuming Mr. Schlissel’s low and mid CO₂ prices (which were stricken), his aggressive DSM benchmarks, or a 10% increased capital cost.⁸⁸ The increased Big Stone Unit II capital cost, in isolation, is not a reasonable assumption: (1) the Big Stone Unit II cost includes transmission, whereas the Synapse model inputs for wind resources do not include the significant cost of building new transmission lines to serve new wind projects – likely 2.4 times the cost of transmission for a baseload plant;⁸⁹ and (2) while a 10 percent increase is assumed for Big Stone Unit II, Mr. Schlissel assumes no increase for other resources.⁹⁰

Importantly, the different Synapse assumptions result in the model selecting considerably more natural gas resources. If Montana-Dakota were to follow these model results, 40-45 percent of its capacity would be gas-fired, a risky and imprudent choice given the price volatility and availability concerns associated with natural gas.⁹¹

⁸⁶ MDU Ex. 212, p.10, lines 2-24 (Heidell).

⁸⁷ Intervenor Ex. No. 1, p. 69, lines 1-2.

⁸⁸ Intervenor Ex. No. 1, p. 68, lines 20-22.

⁸⁹ TR. Vol. II, p. 433, lines 17-19 (Schlissel).

⁹⁰ MDU Ex. 212, p. 13, lines 4-14.

⁹¹ MDU Ex. 203, p. 7, lines 1-7.

VI. CONCLUSION

It is enticing to believe there is a perfect answer to meet the growing need for electricity, with just one more study, one more modeling run, one more piece of information, everybody would agree that the ideal solution has been identified. Unfortunately, resource planning does not afford that certainty. There are always unknowns; there are always risks; there are always unexpected developments. As Commissioner Cramer noted, “Not knowing creates discomfort”⁹²

The issues related to Big Stone Unit II and related interconnection facilities have been examined in depth by the Applicants and the other co-owners. The North Dakota Public Service Commission has all the pertinent information necessary to determine the reasonableness and prudence of the Big Stone Unit II project.

The Applicants have listened to the concerns raised by others. They have conducted numerous studies looking at the project under various scenarios. They have applied their best judgment, in good faith, and determined that Big Stone Unit II is the best choice for assuring an adequate, reliable, and economical supply of electricity to meet their customers’ needs in North Dakota and throughout their service territories.

⁹² TR. Vol. II, p. 558, line 10.

The record supports a decision by the Commission that construction of Big Stone Unit II and related transmission interconnection facilities is a reasonable and prudent decision. The Applicants urge the Commission to so find.

Date: August 3, 2007

Respectfully submitted,

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In re Application of City of Hutchinson (Hutchinson Utilities Com'n)Minn.App.,2003.Only the Westlaw citation is currently available.

NOTICE: THIS OPINION IS DESIGNATED AS UNPUBLISHED AND MAY NOT BE CITED EXCEPT AS PROVIDED BY MINN. ST. SEC. 480A.08(3).

Court of Appeals of Minnesota.

In the Matter of the APPLICATION OF THE CITY OF HUTCHINSON (HUTCHINSON UTILITIES COMMISSION) for a Certificate of Need to Construct a Large Natural Gas Pipeline.
 No. A03-99.

Sept. 23, 2003.

Minnesota Public Utilities Commission, CN011826.

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Considered and decided by PETERSON, Presiding Judge, SCHUMACHER, Judge, and STONEBURNER, Judge.

UNPUBLISHED OPINION

PETERSON, Judge.

*1 Hutchinson Utilities Commission (HUC) applied for a certificate of need in order to build a natural-gas pipeline. Relator Northern Natural Gas Company (Northern) intervened in the proceedings before the office of administrative hearings. The administrative law judge reserved for the Minnesota Public Utilities Commission (MPUC) the issue of whether Minnesota law classifies HUC's proposed pipeline as an intrastate pipeline. Nonetheless, relying on a comparative-cost analysis that assumed that the pipeline would not be considered an intrastate pipeline, the ALJ reasoned that Northern had failed to demonstrate that the alternatives it offered more reasonably meet HUC's needs than HUC's proposed pipeline and recommended that the certificate of need be issued. Pursuant to the MPUC's scheduling order, Northern filed exceptions to the ALJ findings, emphasizing that the pipeline's intrastate status is critical because if the intrastate-pipeline statute applies, HUC will lose its eligibility for favorable financing. The MPUC concluded that it did not need to determine whether the proposed pipeline, upon completion, will be an intrastate pipeline and issued an order granting HUC a certificate of need. Northern petitioned for reconsideration, and the MPUC denied the petition.

On appeal, Northern argues that (1) the MPUC erred by refusing to consider the intrastate issue; (2) the MPUC erred by removing the burden of proof from HUC; and (3) HUC failed to provide substantial evidence supporting a determination that its proposed pipeline reasonably meets any identified need of HUC. We affirm.

FACTS

The City of Hutchinson is located 55 miles west of Minneapolis and has a population of approximately 13,050 people. Between 1990 and 2000, the number of households in Hutchinson increased by about 18.95%, and growth is projected to continue through at least 2020 due to Hutchinson's close proximity to the Minneapolis area and its role as a manufacturing and retail center for the surrounding rural area.

Respondent Hutchinson Utilities Commission (HUC) provides electricity and natural-gas services to commercial and residential customers in Hutchinson.

HUC uses 3.2 billion cubic feet (Bcf) of natural gas per year. Approximately 73% of the gas is used to generate electricity, and HUC's customers directly consume 27%. Since 1960, HUC has obtained its natural gas via Northern's pipeline. HUC's current contract with Northern expires in October 2003.

During winter months, the natural-gas capacity available to HUC under its contract with Northern is 17,253 dekatherms (Dth) per day, with a minimum delivery pressure of 450 pounds per square inch gauge (psig). From 1996 to 2001, HUC's peak winter load was 16,695 Dth per day, which is 97% of capacity. During summer months, the natural-gas capacity available to HUC under its contract with Northern is 14,380 Dth per day, with a minimum delivery pressure of 450 psig. From 1996 to 2001, HUC's peak summer load was 18,291 Dth per day, which is 127% of capacity. As a result, on peak summer days, HUC has had to ask its commercial/industrial customers to reduce their load. It has also had to ask 3M, one of its customers, to reduce its firm commitment on peak days. On days when natural-gas demand exceeds capacity, HUC buys capacity from other sources or, if gas is not available, pays penalties. The Northern market-area zone where Hutchinson is located is capacity constrained and fully subscribed.

*2 HUC's demand for natural gas will continue to increase. HUC anticipates adding gas-powered generators to produce electricity in 2011 and 2016.

In September 1996, HUC began seeking additional natural-gas capacity and delivery pressure from Northern, but they were unable to reach agreement. In February 2002, in response to HUC's request for an economic feasibility study for providing 40,000 Dth per day at 800 psig, Northern offered to supply that capacity and pressure provided that HUC pay an initial down payment, annual capacity reservation payments for each contract year, and maximum demand and commodity surcharges. In April 2002, Northern offered to supply a capacity of 20,000 Dth per day during the winter months and 25,000 Dth per day during the summer months, at a delivery pressure of 600 psig. The April 2002 offer would extend HUC's currently contracted firm-market-area entitlement for eight years, until 2011, and allow HUC to increase its entitlement beginning November 1, 2003 for an initial eight year term. Northern also offered to end the initial term any year between 2007 and 2011. Neither of Northern's proposals provided a detailed explanation of how Northern would meet the additional capacity and pressure requirements.

Neither proposal assured additional capacity past 2011.

In December 2001, HUC submitted to the MPUC an application for a certificate of need to construct an 89-mile natural-gas pipeline connecting the Northern Border Pipeline Company pipeline near Trimont, Minnesota, to HUC's facilities in Hutchinson. The proposed pipeline capacity will be 60,000 million cubic feet (Mcf) per day through the initial 34 miles of 16-inch pipe and 40,000 Mcf per day through the remaining 55 miles of 12-inch pipe, with a delivery pressure of 800 psig. That capacity exceeds HUC's forecasted need. The total cost of the proposed pipeline would be at least \$25.5 million (HUC's estimate) but may be as high as \$39 million (Northern's estimate).

In January 2002, the MPUC issued an order accepting HUC's filing as substantially complete upon receipt of (1) an economic feasibility study by Northern regarding the cost of Northern expanding its system to provide more capacity and higher delivery pressure to Hutchinson and (2) a cost comparison by HUC of the Northern and HUC proposals. HUC filed those additional documents in March 2002, and the matter was referred to the Office of Administrative Hearings (OAH) for a contested-case proceeding.

Northern, Reliant Energy Minnegasco (Minnegasco), and respondent Sibley Renville Future Agricultural Interests Recognized, Inc., intervened in the OAH proceeding. Public hearings were held on May 15-16, 2002, and evidentiary hearings were held on June 5, 2002 and on July 22-23, 2002. An administrative law judge (ALJ) issued findings of fact and conclusions of law and recommended that HUC be granted a certificate of need. The ALJ did not determine whether the proposed pipeline was an intrastate pipeline requiring owners to offer available capacity to any customer on an open access, non-discriminatory basis. In a footnote, the ALJ stated:

*3 The ALJ makes no findings or conclusions with respect to the status of the proposed pipeline as one subject to "Open Access." The record contains the legal position of [respondent Department of Commerce (DOC)] and of [Minnegasco] on this point, but the only testimony on the issue was in respect to whether municipal bond financing could be used if the pipeline is not restricted to municipal users. At the close of the hearing, the [DOC] and HUC requested that this issue be addressed to the [MPUC] after a ruling on the Certificate of Need.

Northern filed exceptions to the ALJ's recommendation, arguing that HUC failed to show the need for the proposed pipeline and that the proposed pipeline was governed by Minn.Stat. § 216B.045 (2002). The MPUC adopted the ALJ's findings of fact, conclusions of law, and recommendation and issued an order granting HUC the certificate of need. The MPUC denied Northern's petition for reconsideration. This certiorari appeal from the order denying Northern's petition for reconsideration followed.

DECISION

A reviewing court may reverse or modify an agency decision if the substantial rights of the petitioners may have been prejudiced because the administrative finding, inferences, conclusion, or decisions are:

- (a) In violation of constitutional provisions; or
- (b) In excess of the statutory authority or jurisdiction of the agency; or
- (c) Made upon unlawful procedure; or
- (d) Affected by other error of law; or
- (e) Unsupported by substantial evidence in view of the entire record as submitted; or
- (f) Arbitrary or capricious.

Minn.Stat. § 14.69 (2002). When reviewing an agency decision, the court must ... recognize the need for exercising judicial restraint and for restricting judicial functions to a narrow area of responsibility lest (the court) substitute its judgment for that of the agency. It must be guided in its review by the principle that the agency's conclusions are not arbitrary and capricious so long as a rational connection between the facts found and the choice made has been articulated.

....

When reviewing agency decisions we adhere to the fundamental concept that decisions of administrative agencies enjoy a presumption of correctness, and deference should be shown by courts to the agencies' expertise and their special knowledge in the field of their technical training, education, and experience. The agency decision-maker is presumed to have the expertise necessary to decide technical matters within the scope of the agency's authority, and judicial deference, rooted in the separation of powers doctrine, is extended to an agency decision-maker in the interpretation of statutes that the agency is charged with administering and enforcing. We defer to an agency's conclusions regarding conflicts in testimony, the weight given to expert testimony and the inferences to be drawn from testimony.

In re Excess Surplus Status of Blue Cross and Blue Shield of Minnesota, 624 N.W.2d 264, 277-78 (Minn.2001) (citations and quotations omitted). On appeal from an agency decision, the party seeking review bears the burden of proving that the agency's conclusions violate one or more provisions of Minn.Stat. § 14.69 (2002). *Markwardt v. State, Water Resources Bd.*, 254 N.W.2d 371, 374 (Minn.1977) (applying burden of proof to predecessor statute).

I.

*4 Northern argues that because the pipeline for which HUC sought a certificate of need is an intrastate pipeline, the MPUC erred when it refused to consider the application of Minn.Stat. § 216B.045 (2002) to the proposed pipeline. Northern also argues that application of Minn.Stat. § 216B.045 invalidates the comparative-cost analysis relied on by the ALJ and the MPUC in determining that Northern failed to demonstrate that its alternative proposals meet HUC's needs more reasonably and prudently than the proposed pipeline.

In making its first argument, Northern mischaracterizes the MPUC's decision. The MPUC did not refuse to consider the application of Minn.Stat. § 216B.045 to the proposed pipeline. In the opening paragraph of its findings and conclusions the MPUC stated, "The Commission need not and will not reach the issue of whether the proposed pipeline, upon completion, would be subject to Commission regulation under Minn.Stat. § 216B.045. The only issue considered herein is whether the certificate of need should be granted." This statement demonstrates that the MPUC considered whether Minn.Stat. § 216B.045 applies to the proposed pipeline and concluded that it was not necessary to determine whether the statute applies before deciding whether to grant a certificate of need for the pipeline.

Northern's second argument essentially disputes the MPUC's conclusion that it was not necessary to determine whether Minn.Stat. § 216B.045 applies to the proposed pipeline before deciding whether to grant a certificate of need for the pipeline. Northern contends that because Minn.Stat. § 216B.045 applies to the proposed pipeline, the MPUC had to consider the impact of Minn.Stat. § 216B.045 when deciding whether to grant HUC a certificate of need.

To understand Northern's argument, it is necessary to understand the certificate-of-need process. Under Minn.Stat. § 216B.243, subd. 2 (2002), “[n]o large energy facility shall be sited or constructed in Minnesota without the issuance of a certificate of need by the [MPUC].” ^{FN1} The statute further provides that

FN1. The parties do not dispute that the proposed pipeline is a “large energy facility” as defined under Minn.Stat. § 216B.2421 (2002).

[n]o proposed large energy facility shall be certified for construction unless the applicant can show that demand for electricity cannot be met more cost effectively through energy conservation and load-management measures and unless the applicant has otherwise justified its need. In assessing need, the commission shall evaluate:

- (1) the accuracy of the long-range energy demand forecasts on which the necessity for the facility is based;
- (2) the effect of existing or possible energy conservation programs under sections 216C.05 to 216C.30 and this section or other federal or state legislation on long-term energy demand;
- (3) the relationship of the proposed facility to overall state energy needs, as described in the most recent state energy policy and conservation report prepared under section 216C.18;
- (4) promotional activities that may have given rise to the demand for this facility;
- *5 (5) benefits of this facility, including its uses to protect or enhance environmental quality, and to increase reliability of energy supply in Minnesota and the region;
- (6) possible alternatives for satisfying the energy demand or transmission needs including but not limited to potential for increased efficiency and upgrading of existing energy generation and transmission facilities, load-management programs, and distributed generation;
- (7) the policies, rules, and regulations of other state and federal agencies and local governments; and
- (8) any feasible combination of energy conservation improvements, required under section 216B.241, that can (i) replace part or all of the energy to be provided by the proposed facility, and (ii) compete with it economically.

Minn.Stat. § 216B.243, subd. 3 (2002). In addition to these statutory factors for assessing need, Minn.Stat. § 216B.243, subd. 1 (2002), directs the MPUC to

“adopt assessment of need criteria to be used in the determination of need for large energy facilities.” The criteria adopted by the MPUC state, in part, that a certificate of need shall be granted if it is determined that a more reasonable and prudent alternative to the proposed facility has not been demonstrated by a preponderance of evidence on the record by parties or persons other than the applicant, considering:

- (1) the appropriateness of the size, the type, and the timing of the proposed facility compared to those of reasonable alternatives;
- (2) the cost of the proposed facility and the cost of energy to be supplied by the proposed facility compared to the costs of reasonable alternatives and the cost of energy that would be supplied by reasonable alternatives;
- (3) the effects of the proposed facility upon the natural and socioeconomic environments compared to the effects of reasonable alternatives; and
- (4) the expected reliability of the proposed facility compared to the expected reliability of reasonable alternatives.

Minn. R. 7855.0120, subp. B (2001).

Minn.Stat. § 216B.045 states in relevant part:

Subdivision 1. Definition of intrastate pipeline. For the purposes of this section “intrastate pipeline” means a pipeline wholly within the state of Minnesota which transports or delivers natural gas received from another person at a point inside or at the border of the state, which is delivered at a point within the state to another, provided that all the natural gas is consumed within the state. An intrastate pipeline does not include a pipeline owned or operated by a public utility, unless a public utility files a petition requesting that a pipeline or a portion of a pipeline be classified as an intrastate pipeline and the commission approves the petition.

Subd. 2. Reasonable rate. Every rate and contract relating to the sale or transportation of natural gas through an intrastate pipeline shall be just and reasonable. No owner or operator of an intrastate pipeline shall provide intrastate pipeline services in a manner which unreasonably discriminates among customers receiving like or contemporaneous services.

*6 **Subd. 3. Transportation rates; discrimination.** Every owner or operator of an intrastate pipeline shall offer intrastate pipeline transportation services by contract on an open access, nondiscriminatory basis. To the extent the intrastate pipeline has available capacity, the owner or operator of the intrastate pipeline must provide firm and interruptible

transportation on behalf of any customer. If physical facilities are needed to establish service to a customer, the customer may provide those facilities or the owner or operator of the intrastate pipeline may provide the facilities for a reasonable and compensatory charge.

Subd. 4. Contracts; commission approval. No contract establishing the rates, terms, and conditions of service and facilities to be provided by intrastate pipelines is effective until it is filed with and approved by the commission. The commission has the authority to approve the contracts and to regulate the types and quality of services to be provided through intrastate pipelines. The approval of a contract for an intrastate pipeline to provide service to a public utility does not constitute a determination by the commission that the prices actually paid by the public utility under that contract are reasonable or prudent nor does approval constitute a determination that purchases of gas made or deliveries of gas taken by the public utility under that contract are reasonable or prudent.

Minn.Stat. § 216B.045, subds. 1-4. The statute regulates the operation of intrastate pipelines by requiring intrastate-pipeline owners to offer available pipeline capacity to any customer on an open-access, nondiscriminatory basis. Northern argues that because the proposed pipeline is an intrastate pipeline and HUC will have capacity available on the pipeline, the MPUC erred when it decided to grant HUC a certificate of need without considering the impact that offering the available capacity to customers will have on the operation of the pipeline. Specifically, Northern argues that if HUC provides services to a non-municipal customer, the interest rate that HUC will have to pay to finance the pipeline will increase, and the higher interest rate invalidates the MPUC's comparison between the cost of the proposed pipeline and the cost of alternatives.

Although Northern argues convincingly that the manner in which the proposed pipeline will be operated will affect the cost of the pipeline, which, in turn, should affect the MPUC's cost comparison, we are not persuaded that the MPUC's determination that it did not need to decide whether HUC's pipeline will be subject to regulation under Minn.Stat. § 216B.045 is an error of law. The MPUC did not conclude that a more reasonable and prudent alternative to the proposed pipeline had not been demonstrated solely because of the cost-comparison figures. The MPUC also concluded that each of Northern's alternative proposals failed to address HUC's long-term needs. The MPUC found that the February 22, 2002,

proposal

*7 was not specific regarding meeting anticipated demands after 2011.... The ALJ indicated that he was persuaded that the February 22, 2002 offer was not a more reasonable and prudent alternative to the proposed pipeline because of the February 22, 2002 offer's cost and its failure to address the longer term needs.

The MPUC found that the April 24, 2002, proposal did not provide assurance of additional supplies past 2011, when HUC anticipates placing an additional gas fired generator online....The ALJ indicated that because this proposal failed to address the likely need for increased capacity beginning in 2011, he was persuaded that this was not a more reasonable or prudent alternative.

Even if we were to assume that the proposed pipeline is an intrastate pipeline subject to Minn.Stat. § 216B.045, there is substantial evidence in the record to support the MPUC's determination that the alternatives are not reasonable and prudent alternatives to the proposed pipeline because the alternatives Northern proposed do not address anticipated increases in demand after 2011. Therefore, we conclude that the MPUC did not err when it determined that it did not need to determine whether the proposed pipeline is an intrastate pipeline under Minn.Stat. § 216B.045.

II.

Northern argues that because Minn. R. 7851.0120, subp. B, places the burden of proving the existence of a more reasonable and prudent alternative on a party other than the applicant, the rule conflicts with Minn.Stat. § 216B.243, which places the burden of proving the need for the proposed facility on the applicant. Northern contends that the statute places the burden of proof on the applicant, and a rule cannot change the burden.

We do not agree that Minn. R. 7851.0120, subp. B, changes an applicant's burden of proof. Under the certificate-of-need process established by statute and rule, an applicant bears the burden of proving the need for a proposed facility. An applicant fails to meet this burden when another party demonstrates that there is a more reasonable and prudent alternative to the facility proposed by the applicant. Minn.Stat. § 216B.243, subd. 3; Minn. R. 7851.0120, subp. 8. This regulatory scheme is simply

a practical way to prevent the issuance of a certificate of need when there is a more reasonable and prudent alternative to the proposed facility without requiring an applicant to face the extraordinary difficulty of proving that there is not a more reasonable and prudent alternative. See State v. Paige, 256 N.W.2d 298, 304 (Minn.1977) (recognizing difficulty in "proving a negative").

III.

Substantial evidence is defined as: (1) such relevant evidence as a reasonable mind might accept as adequate to support a conclusion; (2) more than a scintilla of evidence; (3) more than some evidence; (4) more than any evidence; and (5) evidence considered in its entirety. Cable Communications Bd. v. Nor-West Cable Communications P'ship, 356 N.W.2d 658, 668 (Minn.1984). "If an administrative agency engages in reasoned decisionmaking, [we] will affirm, even though [we] may have reached a different conclusion had [we] been the fact-finder." Id. at 669.

*8 The evidence establishes that Northern has no additional capacity available on the branch line serving HUC. During the 1996-2001, HUC's peak winter load reached 97% of contracted-for capacity, and its peak summer load reached 127% of contracted-for capacity. HUC presented evidence that its demand for natural gas will continue to increase through 2016. Northern and the DOC presented evidence questioning the validity of HUC's estimates of its future need for natural gas. But "[i]t is within the peculiar expertise of the agency to evaluate the weight [and credibility] to be accorded expert evidence, [so this court] will not substitute [its] judgment for that of the agency." In re Hutchinson, 440 N.W.2d 171, 177 (Minn.App.1989), review denied (Minn. Aug. 9, 1989).

Northern argues that it showed the existence of a more reasonable and prudent alternative to the proposed pipeline. But, as we have already stated, the MPUC determined that Northern failed to prove the existence of a more reasonable and prudent alternative because Northern failed to show that its alternatives could meet HUC's capacity and pressure requirements or provide additional services beyond 2011. Northern also cites the environmental costs of constructing a new pipeline, but it does not cite evidence showing that it could meet HUC's requirements without constructing an additional facility.

We conclude that the MPUC's order granting HUC a certificate of need is supported by substantial evidence and that there is a rational connection between the facts found by the MPUC and the decision to grant HUC a certificate of need.

Affirmed.

Minn.App.,2003.

In re Application of City of Hutchinson (Hutchinson Utilities Com'n)

Not Reported in N.W.2d, 2003 WL 22234703 (Minn.App.)

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STATE OF NORTH DAKOTA
PUBLIC SERVICE COMMISSION

**In the Matter of the Application of
OTTER TAIL CORPORATION. d/b/a as
Otter Tail Power Company, for an
Advance Determination of Prudence
For the Big Stone II Generating Plant**

PU-06-481

**In the Matter of the Application of
MONTANA-DAKOTA UTILITIES CO.,
a Division of Montana-Dakota Resources Group, Inc.
for an Advance Determination of Prudence
of Montana-Dakota's Participation & Ownership
Interest in the Big Stone II Generating Station**

PU-06-482

FINDINGS OF FACT, CONCLUSIONS OF LAW AND ORDER

Dated: _____

Appearances

Commissioners: Susan E. Wefald, Kevin Cramer, Anthony T. Clark

William W. Binek, Chief Counsel, Public Service Commission, State Capitol, 600 East Boulevard, Bismarck, ND 58505, appearing for the Public Service Commission advocacy staff.

Mark Bring, Associate General Counsel, 215 S. Cascade St., Fergus Falls, MN 56538-0496, appearing on behalf of Otter Tail Power Company.

Daniel S. Kuntz, Associate General Counsel, P.O. Box 5650, 1200 West Century Avenue, Bismarck, ND 58506-5650, appearing on behalf of Montana-Dakota Utilities Co.

Todd J. Guerrero, Attorney at Law, Lindquist & Vennum, P.L.L.P., 80 South Eighth Street, Minneapolis, Minnesota 55402, appearing on behalf of Applicants.

John William Breen Jr., Attorney at Law, 717 Williams Street, Bismarck, ND, 58501-2483 and **Carrie LaSeur**, Attorney at Law, 319 Third Street Northwest, Mount Vernon, Iowa 52314, appearing on behalf of Intervenor Dakota Resource Council.

Alan Wahl, Office of Administrative Hearings, 1707 North 9th Street, Lower Level, Bismarck, ND 58501-1882, presiding Administrative Law Judge.

Preliminary Statement

On November 14, 2006 Otter Tail Power Company (Otter Tail) filed an application for advance determination of prudence of Otter Tail's participation and ownership interest in the Big Stone II Generating Plant, Case No. PU-06-481.

On November 15, 2006 Montana-Dakota Utilities Co. (Montana-Dakota) filed an application for advance determination of prudence of Montana-Dakota's participation and ownership interest in the Big Stone II Generating Plant, Case No. PU-06-482.

Otter Tail and Montana-Dakota, along with five other utilities, are proposing to construct a 630 MW pulverized coal facility (Unit II) located adjacent to the existing Big Stone Plant (Unit I) in Big Stone City, South Dakota, and associated transmission facilities. The companies are requesting that the Commission determine that construction of the Big Stone Unit II generating station and the transmission lines is reasonable and prudent in order to provide the basis for future rate recovery for the project.

On January 10, 2007, the Commission issued a Notice of Hearing regarding this matter. On February 15, 2007, Mark Trechock, as a ratepayer and staff director of the Dakota Resource Council, filed a Petition to Intervene in both dockets. The Commission granted the intervention by Commission order dated February 23, 2007.

The January 10th Notice of Hearing specified the issues to be considered in these matters as follows:

1. Whether the resource addition is reasonable and prudent.
2. Whether the applicants have need for additional generating resources.
3. What alternatives exist for meeting additional generation needs.

Public input sessions were held on February 5, 2007, in Bismarck, and on February 12, 2007, in Jamestown.

The technical hearing was held in the Commission Hearing Room at the State Capitol in Bismarck on June 26-28, 2007. Administrative Law Judge Alan Wahl presided at the technical hearing.

The Commission, having reviewed the evidence in the record, makes the following:

FINDINGS OF FACT

I. The Applicants

Otter Tail Power Company

1. Otter Tail is an investor-owned electric utility headquartered in Fergus Falls, Minnesota. Otter Tail was founded in 1907 in Fergus Falls. Initially, the company generated and distributed only hydroelectric power from dams it owned and operated on the Otter Tail River in and near Fergus Falls. Over time, Otter Tail added additional generating resources and expanded its service territory to rural areas and small towns and municipalities in Minnesota, North Dakota and South Dakota. Today, Otter Tail provides electricity and energy services to more than 128,000 customers in western Minnesota, eastern North Dakota and northeastern South Dakota. Otter Tail's service territory is approximately 50,000 square miles and includes service to 423 communities. The company's electric load is predominantly rural and only three towns have a population of 10,000 or more, with no town having a population exceeding 20,000. Over half of the communities Otter Tail serves have a population of less than 200 people.¹

2. At present, Otter Tail utilizes a variety of generation resources to meet its energy needs, including its own generating facilities, power purchases, and customer-owned generation. OTP has company-owned generation resources of approximately 699 MW, with the bulk of that coming from its ownership of three coal-fired power plants: Big Stone Unit I (approximately 244 MW of summer capacity); the Coyote Station, near Beulah, North Dakota, (approximately 147 MW of summer capacity); and Hoot Lake located near Fergus Falls, Minnesota, with approximately 143 MW of summer capacity.²

Montana-Dakota Utilities Co.

3. Montana-Dakota Utilities Co. ("Montana-Dakota") is an investor owned public utility that operates an integrated electric system in parts of Montana, North Dakota, and South Dakota, and a separate electric system in Wyoming. Montana-Dakota is a Division of MDU Resources Group, Inc., a diverse energy company located in Bismarck, North Dakota, which includes natural gas and oil production, construction materials and mining, domestic and international independent power production, electric and natural gas utilities, natural gas pipelines and energy services, and utility services. Montana-Dakota provides electric service to approximately 120,000 customers in the above states.³

4. Electric power is delivered over Montana-Dakota's own transmission lines as well as lines owned by the Western Area Power Administration. Montana-Dakota is a member of the

¹ Testimony of Ward Uggerud at OTP Ex. 101 at 5-6.

² Testimony of Bryan Morlock at OTP Ex. 103 at 9.

³ Testimony of Bruce Imsdahl at MDU Ex. 201 at 3-4.

Midwest Independent Transmission System Operator (MISO) and a participant in the MISO energy market.⁴

5. Montana-Dakota owns a mix of generating resources, including baseload, intermediate and peaking plants. Montana-Dakota has approximately 366 MW of baseload coal generation from five plants, and approximately 110 MW of gas or gas and oil fired combustion turbines used for peaking. In addition, it has purchase agreements for summer capacity up to 100 MW which can be exercise through 2012.⁵

II. Other Parties

6. The Public Service Commission advocacy staff participated fully in this matter.

7. The Dakota Resource Council intervened in this matter and participated fully.

III. Actions by Other States

8. On July 21, 2006 the South Dakota Public Utilities Commission issued an Energy Conversion Facility Siting Permit to the Applicants authorizing construction of Big Stone Unit II subject to certain conditions contained in the South Dakota PUC's Order.⁶

9. The Minnesota Public Utilities Commission decision on the issuance of a Certificate of Need and Route Permits for two high voltage transmission lines to interconnect Big Stone Unit II to the transmission grid is pending at this time.

IV. North Dakota Public Service Commission Jurisdiction

10. The Applicants seek advance determination of prudence for participation and ownership of Big Stone Unit II. Pursuant to N.D. Cent. C. § 49-05-16, the Commission has jurisdiction to determine that Applicants' proposal to construct Big Stone Unit II and related transmission infrastructure is prudent.

V. The Project

11. Big Stone Unit II is a supercritical pulverized coal-fired generating plant to be built in South Dakota, next to the Big Stone Unit I facility. Big Stone Unit II will have a nominal operating capacity of 630 MW.⁷

⁴ *Id.* at 4.

⁵ Testimony of Andrea Stomberg Ex. 203, at 3.

⁶ Order of South Dakota Public Utilities Commission dated July 21, 2006, granting Energy Conversion Facility Siting Permit, Docket No. 05-002. The South Dakota PUC issued a permit for construction of the transmission facilities in that state on January 16, 2007. Docket No. 06-002.

⁷ Testimony of Mark Rolfes at OTP/MDU Ex. 301 at 4-5. Big Stone Unit II was originally nominally sized at 600 MW however, in order to ensure 600 MW of generation during extreme summer conditions, the plant must be designed to operate at a higher nominal capacity under normal conditions. Big Stone II is expected to have a nominal capacity of 630 MW during more average conditions. *Id.* at 12.

12. Big Stone Unit II is designed to be a baseload facility. A baseload facility is one that is intended to be operated 24 hours a day, 365 days per year. A baseload facility is dispatchable so output can be controlled to meet system needs.⁸

13. Big Stone Unit II will burn sub-bituminous coal from the Powder River Basin in Wyoming and Montana, the same fuel presently being burned at Big Stone Unit I.⁹

14. The Big Stone co-owners will install a joint wet flue gas desulfurization system (wet scrubber) to control sulfur dioxide emissions from both Unit II and Unit I. SO₂ emissions in the future from both units will be less than they are today from just Unit I.¹⁰ The co-owners will also install a fabric filter to control emissions of particulate matter and mercury.¹¹ The co-owners have committed to keep emissions of nitrogen dioxide and mercury to no more than what is currently emitted from Unit I.¹²

15. The Big Stone co-owners had planned to place Big Stone Unit II into commercial operation in mid-2011, but the date has been postponed until late spring or early summer 2012.¹³

16. The Big Stone Unit II facility is estimated to cost \$1.361 billion with an in service date of 2011. However, with the in service date extended to mid-2012 – a one year delay – the costs will increase 6%.¹⁴ The transmission interconnection and delivery service facilities are expected to cost approximately \$238 million.¹⁵

17. Otter Tail Power Co. and Montana-Dakota Utilities Co. will each own about 19.33% of Big Stone Unit II.¹⁶

18. The Big Stone Transmission Project consists of two new high voltage transmission lines that will run from the Big Stone Plant in South Dakota to substations in Minnesota. One new transmission line will run from the Big Stone 230 kilovolt (kV) Substation in South Dakota to the Morris Substation near Morris, Minnesota, a total of approximately 48 miles. The Big Stone to Morris transmission line will be constructed at 230 kV. The other transmission line will run from a new Big Stone 345 kV substation in South Dakota to Granite

⁸ *Id.* at 4.

⁹ *Id.*

¹⁰ *Id.* at 7.

¹¹ Testimony of Ward Uggerud at OTP Ex. 101 at 15.

¹² Testimony of Mark Rolfes at OTP/MDU Ex. 301 at 11 and Testimony of Ward Uggerud at OTP Ex. 101 at 15.

¹³ *Id.* at 13; *see also* Rebuttal Testimony of Mark Rolfes at OTP/MDU Ex. 302 at 5.

¹⁴ Testimony of Mark Rolfes at OTP/MDU Ex. 301 at 9; OTP/MDU Ex. 321; *see also* Exhibit 1 attached to Applications.

¹⁵ Testimony of Mark Rolfes at OTP/MDU Ex. 301 at 9; *see also* OTP/MDU Ex. 321.

¹⁶ *Id.* at 3; *see also* Testimony of Rita Mulkern at MDU Ex. 306 at 2 and Applications of Montana-Dakota and Otter Tail. The remaining interests in Big Stone Unit II will be owned by Missouri River Energy Services, Great River Energy, Southern Minnesota Municipal Power Agency, Central Minnesota Municipal Power Agency, and Heartland Consumers Power District. OTP/MDU Ex. 301 at 3.

Falls, Minnesota, a distance of approximately 90 miles. The Granite Falls transmission line will be constructed at 345 kV but operated initially at 230 kV.¹⁷

VI. Reasonableness and Prudence

19. North Dakota Century Code § 49-05-16 provides that the Commission may make an advance decision of the prudence of the construction of an energy conversion facility like a new power plant and related transmission lines.

20. The North Dakota Public Service Commission has not had occasion to make an advance determination of prudence decision prior to this docket. An appropriate manner to make that decision is to consider the need for and risks involved in proceeding with construction of Big Stone II and related transmission facilities, whether there are alternative options that are preferable, and whether the costs of the project are acceptable. Within this analysis, it is also important and necessary to consider the risks of choosing not to proceed with the project as proposed. The parties have addressed in depth in this proceeding a number of risks associated with construction of Big Stone II, and the Commission has explored these issues both at the hearing and in review of the record.¹⁸

A. The Need for Big Stone Unit II

Forecasting

21. Both Otter Tail and Montana-Dakota engage in long range forecasting to develop future energy and demand projections. Both companies rely on historic data and reasonable assumptions regarding weather and demographics and utilize acceptable methodology for predicting their future requirements.¹⁹

22. Both Otter Tail and Montana-Dakota are experiencing an increase in energy demand and both have a need for additional capacity and energy in the near future.

Otter Tail Power's Future Needs

23. Otter Tail's energy requirements are forecasted to increase steadily from 2005 to 2014 and beyond. Otter Tail may experience a generating capacity deficit as early as summer 2007, which will increase over the upcoming years. This capacity deficit is due to a combination of events, including system load growth, the expiration of certain purchased power contracts, and the closing of a customer owned generator.²⁰

¹⁷ Testimony of Timothy Rogelstad at OTP/MDU Ex. 312 at 10-11.

¹⁸ See Testimony of Terry Deason at Tr. Vol. III at 704.

¹⁹ Testimony of Bryan Morlock at OTP Ex. 103 at 2 and 6-7 and Testimony of James Heidell at MDU Ex. 209 at 2-3.

²⁰ Testimony of Bryan Morlock at OTP Ex. 103 at 2-3.

24. Otter Tail is forecasted to have a capacity deficit of 193 MW by 2014.²¹ Otter Tail's 19.33% share of Big Stone Unit II amounts to 121.8 MW.

Montana-Dakota Utilities' Future Needs

25. Montana-Dakota forecasts that energy use is expected to grow at an average annual rate of 1.3% over the next twenty years.²²

26. Montana-Dakota had a power purchase agreement with Basin Electric Power Cooperative for 66.4 MW of generation that expired on October 31, 2006.²³

27. Montana-Dakota currently has a capacity deficit of approximately 83 MW between its forecasted summer peak obligation during 2007 and its owned generation capacity. Montana-Dakota is currently meeting that capacity deficit through a capacity purchase agreement that can be extended through 2012. This deficit is expected to grow to approximately 117 MW by 2013. MDU is currently meeting any energy deficits through purchases in the MISO energy market as needed.²⁴

Demand Side Management and Conservation

28. Both Otter Tail Power and Montana-Dakota have implemented various conservation and demand-side management programs to reduce the amount of energy that has been used and the generating capacity that would otherwise be required. These programs include load management incentives, rebates, discounts, and other conservation promotions.

Otter Tail Power Company's Conservation Efforts

29. Otter Tail Power is a winter peaking utility but its baseload capacity needs are being driven by summer season demand. Otter Tail began pursuing projects and rates a number of years ago designed to increase its ability to manage its summer peak demand. These efforts include incentives for cycling of central air conditioners and other rate programs targeting summer cooling loads.²⁵

30. Otter Tail has projected an incremental annual DSM energy savings over the 2006-2019 planning period of about 8 million to 11 million kWh annually.²⁶

31. Otter Tail takes its conservation efforts into account in conducting its forecasting and resource planning. Approximately 13% (or more) of the capacity needs in the company's 2005 Resource Plan are identified as coming from conservation and DSM measures.²⁷

²¹ *Id.* at 8.

²² Testimony of James Heidell at MDU Ex. 211 at 3-1.

²³ Testimony of Andrea Stomberg at MDU Ex. 203 at 4.

²⁴ Testimony of James Heidell at MDU Ex. 211 at 3-1.

²⁵ Testimony of Bryan Morlock at OTP Ex. 103 at 10-11.

²⁶ *Id.* at 11.

32. Otter Tail will be implementing additional conservation measures not only in North Dakota, but in South Dakota and Minnesota as well.²⁸

Montana-Dakota's Conservation Efforts

33. Montana-Dakota has implemented interruptible rates and launched a number of DSM programs, including a program promoting high-efficiency residential air conditioning and a commercial lighting retrofit program estimated to provide a demand reduction of 11 MW as reflected in Montana-Dakota forecasted requirements.²⁹ Montana-Dakota has identified nine separate programs, including appliance rebates for new efficient appliances, expanded interruptible service arrangements, and commercial air conditioner cycling efforts, that it will implement in its integrated electric system, including North Dakota, and that are expected to provide additional annual demand reductions of 13.8 MW. Annual energy reductions of approximately 6 million kWh are associated with all the measures.³⁰

34. Montana-Dakota has taken these demand savings into account in conducting its resource planning.³¹

Resource Planning

35. Both Otter Tail and Montana Dakota have engaged in extensive resource planning and both have concluded that the least cost alternative for the companies to address their increasing demand for energy is to build a supercritical pulverized coal plant.

36. Otter Tail uses the IRP-Manager capacity expansion model for its resource planning purposes. Otter Tail has used this model for at least 15 years and its results have been relied on for resource planning purposes by the company. Mr. Schlissel on behalf of Dakota Resource Council raised some concerns about Otter Tail's use of the IRP Manager model and the assumptions the company used in conducting its resource planning. Otter Tail has responded to these concerns and established that the IRP-Manager computer model is an appropriate model to use for resource planning purposes.³²

37. Mr. Schlissel alleges that Otter Tail has biased the results to the disadvantage of wind by failing to properly consider the production tax credit and by limiting the amount of wind the model could determine. Also, Mr. Schlissel alleges that assuming that any future wind power would be purchased rather than owned biased the results against wind. Otter Tail has responded to these complaints and justified its assumptions.³³ The manner in which Otter Tail considered a wind option did not bias the results against wind.

²⁷ *Id.* at 10.

²⁸ See late-filed Exhibit No. 7.

²⁹ Testimony of Andrea Stomberg at MDU Ex. 203 at 8

³⁰ See late-filed Exhibit No. 1

³¹ Testimony of Andrea Stomberg at TR. Vol. II at 536 and Late-filed Ex. No. 1

³² Rebuttal testimony of Bryan Morlock at OTP Ex. 111.

³³ *Id.*

38. Mr. Schlissel also challenges some of the modeling assumptions made by Montana-Dakota.³⁴ It is certainly possible to make assumptions that will result in the computer model displacing Big Stone II as the most cost-effective approach.³⁵ However, as explained by Mr. Heidell, these assumptions are not realistic.³⁶ One assumption has to do with the amount of wind energy the model is allowed to select. Montana-Dakota allowed the model to select more wind resources, up to almost 200 MW. The model continued to select the same resources including Big Stone II.³⁷

39. Montana-Dakota's assumptions and modeling were made and conducted in a reasonable manner and it is appropriate to rely on the results in selecting future resource options, including Big Stone II.

B. Alternatives to Big Stone Unit II

Alternative Sites

40. The Big Stone co-owners examined a number of different sites for a new power plant before selecting the Big Stone site. They conducted an initial screening to identify potential sites in Minnesota, South Dakota, and North Dakota, the primary service territories to be served by the new plant. Certain areas were eliminated from consideration, such as residential areas and protected areas like parks. The next criteria were the availability of infrastructure to transport fuel in, to ship the electricity out, and to obtain the necessary water for operation of the generating facility.³⁸

41. Initially, 38 potential sites were identified, which were narrowed down to eight primary locations based on which potential sites offered the best infrastructure. After a physical inspection of these eight sites, two were eliminated because of nearby residences and lack of available land. Six sites were selected for further evaluation. These six sites include:³⁹

- Big Stone – Grant County, South Dakota
- Coyote – Mercer County, North Dakota
- Dickinson – Wright County, Minnesota
- Fargo – Cass County, North Dakota
- Glenham – Walworth County, South Dakota

³⁴ Testimony of David Schlissel at Ex. I 1 at 65-69.

³⁵ Rebuttal Testimony of James Heidell at MDU Ex. 212 at 12.

³⁶ *Id.* at 10-13.

³⁷ *Id.* at 11. Mr. Heidell testified that he pointed out to Mr. Schlissel that he (Schlissel) had made a mistake in his modeling but Mr. Schlissel did not recognize that mistake in his testimony.

³⁸ Testimony of Mark Rolfes at OTP/MDU Ex. 301 at 5.

³⁹ *Id.* at 6.

- Utica Junction – Yankton County, South Dakota

42. Using a weighted scale for infrastructure, environmental issues, and other factors such as highway access, each of the six sites was evaluated and given a score. The Big Stone site received the highest weighted score.⁴⁰

43. The Big Stone site has advantages over the over five sites that were evaluated in detail. Many of the advantages stem from the fact that the Big Stone Unit I facility already exists. Cooling water is available, a rail line for coal delivery exists, the location is already a power plant, and the addition of a second unit provided an opportunity to construct a single wet scrubber for both Unit I and Unit II to control sulfur dioxide emissions. In addition, the Big Stone site could utilize existing transmission corridors.⁴¹

44. The Big Stone site does have a few disadvantages. These include concerns over water availability during drought conditions and the fact that only a single rail line is available for coal delivery.⁴²

45. Montana-Dakota considered the option of participating in the Lignite Vision 21 Program. The goal of the Lignite Vision 21 Program is to construct a coal-fired electrical generating plant in North Dakota employing North Dakota coal and the latest clean-coal technology. The North Dakota Industrial Commission has matching funds available up to \$10 million for the investigation and construction of a lignite-fired plant. Montana-Dakota worked with other utilities to investigate the feasibility of a 500 MW lignite fired plant at Gascoyne, North Dakota.⁴³

46. When Montana-Dakota was unable to locate another utility that was interested in joining in a 500 MW lignite facility in North Dakota, Montana-Dakota considered downsizing a lignite plant to only 175 MW.⁴⁴ Even at that size, the Gascoyne site is still more expensive than the Big Stone site, which offers the advantages associated with an existing site such as using the existing unit train coal unloading facilities, water treatment, roads, mobile equipment, control room, operators and maintenance employees and a fuel oil system.⁴⁵

Coyote Station Site

47. The Applicants considered the possibility of building a new generating facility at the Coyote Station site in North Dakota. It has significant infrastructure already in place which provides it with obvious advantages over a greenfield site. It has adequate water pipeline capacity through a pipeline from the Missouri River. However, Coyote would require additional

⁴⁰ *Id.* at 7.

⁴¹ Testimony of Mark Rolfes at OTP/MDU Ex. 301 at 7.

⁴² *Id.* at 8.

⁴³ Testimony of Duane Steen at MDU Ex. 204 at 5.

⁴⁴ *Id.* at 7. Montana-Dakota actually applied for and obtained a construction air permit for such a plant in 2005.
Id.

⁴⁵ *Id.* at 7-8.

transmission capacity and a secure fuel supply for any new generating facility at the site.⁴⁶ Also, the Coyote site presents serious air quality concerns given its proximity to a Class I area, where PSD regulations (Prevention of Significant Deterioration) would allow only small incremental additions of pollutants to the airshed.⁴⁷

48. The Commission's advocacy staff presented testimony recognizing that while the Coyote Station site has several disadvantages that would have to be addressed before a new generating facility could be located there, such as air pollution restrictions and transmission constraints, none of these limitations would preclude the development of the site.⁴⁸ Coyote remains a viable place for future generation expansion.

49. Coyote Station is not preferable to the Big Stone site for a new supercritical pulverized coal plant at this time primarily because of transmission and air quality considerations.

Alternative Technologies

50. Montana-Dakota and Otter Tail, along with the other co-owners, examined a number of different technologies for generating electricity before selecting the Big Stone supercritical pulverized coal plant. In 2005 the co-owners hired Burns & McDonnell out of Kansas City to evaluate in detail several generation technologies⁴⁹, including the following:⁵⁰

- Subcritical Pulverized Coal
- Supercritical Pulverized Coal
- Natural Gas-Fired Combined Cycle Gas Turbine
- Wind Plus Gas-Fired Combined Cycle Gas Turbine
- Integrated Coal Gasification Combined Cycle
- 100% Biomass Plant (only 50 MW)

51. Burns & McDonnell concluded that "The subcritical and supercritical PC unit alternatives represent significantly lower cost baseload alternatives for the participating utilities and their customers."⁵¹

⁴⁶ Rebuttal Testimony of Ward Uggerud at OTP Ex. 102 at 6.

⁴⁷ Testimony of Terry Deason at PSC Ex. 1 at 11 and Tr. Vol. III at 720-721. *See also* Testimony of Andrea Stomberg at MDU Ex. 203.

⁴⁸ Testimony of Terry Deason at PSC Ex. 1 at 11.

⁴⁹ Testimony of Mark Rolfes at OTP/MDU Ex. 301 at 14.

⁵⁰ The Burns & McDonnell Report "Analysis of Baseload Generation Alternatives" (September 2005) marked as OTP/MDU Ex. 310.

⁵¹ *Id.* at 1-7.

52. In the summer of 2006, Black & Veatch was hired by the co-owners to provide an up-to-date estimate of the costs of Big Stone Unit II. This latest cost estimate was provided to Burns & McDonnell with directions to determine whether the proposed Big Stone Unit II project remained the low cost alternative on a life-cycle basis considering capital and operating costs.⁵²

53. Burns & McDonnell completed its new analysis in October 2006 and prepared a new report entitled "Revised Analysis of Baseload Generation Alternatives." Burns & McDonnell continued to conclude that Big Stone Unit II was the lowest cost alternative.⁵³

54. These analyses conducted by the Applicants are extensive and reliable.⁵⁴

Wind and Other Alternatives

55. In addition to costs, the other technologies had other disadvantages when compared to a supercritical plant. Wind is not a baseload source of energy. Baseload resources are required to be dispatchable, meaning they can be scheduled to run at a specified load for a given duration. Since the wind blows intermittently and at different velocities, wind power cannot be dispatched like a coal plant can. In addition, wind turbines are typically only capable of achieving capacity factors in the range of 30-40%. A coal plant like Big Stone Unit II approaches 90% capacity.⁵⁵

56. A major limitation on the development of wind power in this region is the lack of transmission capacity to handle such generation.⁵⁶ Obtaining the necessary transmission infrastructure would add to the cost and would require time to determine what was necessary and to obtain approval of any new lines and to construct the lines.

57. Because wind power is not dispatchable, and not a baseload resource, it is necessary to have a backup source of generation to rely on when the wind is not blowing. That backup source is generally considered to be a natural gas combined cycle plant.⁵⁷

58. Natural gas plants are not only more expensive than supercritical coal plants, but natural gas prices are much more volatile than coal costs.⁵⁸ Further, operation and maintenance costs for gas plants tend to be higher over coal plants because of stresses due to continued

⁵² "Revised Analysis of Baseload Generation Alternatives" OTP/MDU Ex. 311. See testimony of Kermit Trout, OTP/MDU Ex. 303.

⁵³ *Id.* at 10.

⁵⁴ Staff advocacy witness Terry Deason testified, "All of the reports (referring to the Burns & McDonnell reports) are quite comprehensive and involve intricate modeling with forecasted assumptions and corresponding economic and engineering inputs." Testimony of Terry Deason at PSC Ex. 1 at 12.

⁵⁵ Testimony of Mark Rolfes at OTP/MDU Ex. 301 at 15.

⁵⁶ Rebuttal Testimony of Tim Rogelstad at OTP/MDU Ex. 318

⁵⁷ *Id.* and the Burns & McDonnell Report, OTP/MDU Ex. 311.

⁵⁸ *Id.* at 16.

turbine cycling.⁵⁹ Whether a natural gas plant were considered a replacement for Big Stone II or a backup source for wind, this option is more costly than building Big Stone II.

59. Another technology that was considered is integrated gasification combined cycle (IGCC). A major disadvantage with IGCC plants for generation of electricity is that there are only two such plants in operation in the United States and the technology, while promising, is still in the developmental stage.⁶⁰

60. A number of renewable energy options in addition to wind – hydro, solar, geothermal, landfill gas, fuel cells, and microturbines – were also examined by the co-owners. None of these was found to satisfy the basic objectives of being a baseload resource, available by 2012, and able to enhance the overall reliability of the bulk electric system.⁶¹

61. Even though it would not be reasonable and prudent to build wind turbines instead of Big Stone II, the resource planning activities by Otter Tail and Montana-Dakota indicate that wind should be a part of the future addition of generation resources for both companies. The Otter Tail resource plan includes about 160 MW of new wind resources. Otter Tail already has a number of purchase power agreements in place now.⁶²

62. Montana-Dakota entered into several power purchase agreements for wind power in the past few years but the project developers failed to construct the turbines.⁶³ Montana-Dakota is now developing its own 20 MW wind farm in Montana.⁶⁴ Montana-Dakota will continue to seek opportunities to develop wind resources in North Dakota.⁶⁵

Manitoba Hydro Alternative

63. Dakota Resource Council witness David Schlissel suggests that Otter Tail Power's next best alternative to Big Stone II – a Manitoba hydro purchase – is essentially the same cost as Big Stone II.⁶⁶ However, as Otter Tail explained, Mr. Schlissel only compared costs through the year 2020. Only including data through 2020 ignores significant cost differentials between the costs of the two alternatives and makes the Manitoba Hydro proposal look more cost effective than it is over a longer period of time.⁶⁷

Transmission Alternatives

59 *Id.*

60 The Burns & McDonnell Report, *supra* note 49, at 4-11.

61 *Id.* at 13.

62 Testimony of Bryan Morlock at Tr. Vol. I at 253-254.

63 Testimony of Andrea Stomberg at Tr. Vol. III at 546-547.

64 Testimony of Andrea Stomberg at Tr. Vol. III at 396.

65 *Id.* at 547.

66 Testimony of David Schlissel at Ex. I 1 at 60-61.

67 Rebuttal Testimony of Bryan Morlock at OTP Ex. 111 at 8 and Testimony at Tr. Vol. I at 254.

64. The Big Stone co-owners conducted a Preliminary Screening Study to evaluate eleven different options for interconnecting Big Stone Unit II to the grid. The study was designed to compare alternatives on the basis of capital cost, reliability, system power losses, and impacts to known constrained interfaces in the region.⁶⁸

65. The Preliminary Screening Study was used to narrow the transmission options to a manageable number. The eleven alternatives were narrowed to five, and then ultimately to two alternatives – (1) a new line from Big Stone to Morris, Minnesota, and a new line from Big Stone to Granite Falls, Minnesota, or (2) a new line from Big Stone to Willmar, Minnesota, and a new line from Big Stone to Granite Falls, Minnesota.⁶⁹ The co-owners then submitted a generation interconnect request to the Midwest Independent Transmission Operator (MISO) and MISO asked Otter Tail Power to perform an Interconnection Study.⁷⁰

66. The Interconnection Study showed that either of the two options would work to interconnect the Big Stone Plant provided proper system enhancements were made within the direct area of the interconnection.⁷¹ Both of the options involved construction of new lines at 230 kV capability.

67. The co-owners prefer the Big Stone to Morris option over the Big Stone to Willmar option (along with a Big Stone to Granite Falls line that is part of either option) for a number of reasons. The Morris line is shorter and therefore less costly. It performs better from the standpoint of less line losses. It utilizes an existing transmission line corridor, whereas the Willmar line would require a new transmission corridor.⁷²

68. The co-owners have also taken into account the regional benefits of the new Big Stone transmission lines. Located midway between remote generators in western North Dakota and a large load center in the Minneapolis-St. Paul area, the new Unit II and the new transmission lines provide a stabilizing effect on the voltage in the region and can improve stability problems on the North Dakota Export (NDEX) constraint. Constructing the Granite Falls line at 345 kV capability, as the co-owners intend to do, will provide even more stability than a 230 kV line.⁷³

69. The co-owners have also conducted Delivery Service Studies to determine the impacts on the system of delivering power from the Big Stone Plant to the loads served by the co-owners. Several transmission lines will require upgrades to accommodate the new generation source. These lines include the following:⁷⁴

⁶⁸ Testimony of Timothy Rogelstad at OTP/MDU Ex. 312 at 7-8; *see also* “Preliminary Transmission Screening Study for the Big Stone Feasibility Study” at OTP/MDU Ex.313. The eleven options are shown in Figure 2 on page 5 of the Preliminary Study.

⁶⁹ Testimony of Timothy Rogelstad at OTP/MDU Ex. 312 at 10.

⁷⁰ *Id.* at 8-10; *see also* “Big Stone Generator Interconnection Study” at OTP/MDU Ex. 314.

⁷¹ “Big Stone Generator Interconnection Study” at OTP/MDU Ex. 314 at 75.

⁷² Testimony of Timothy Rogelstad at OTP/MDU EX 312 at 12.

⁷³ *Id.* at 13-15.

⁷⁴ *Id.* at 16-17.

- Grant County – Morris 115 kV line
- Grant County – Elbow Lake 115 kV line
- Moorhead – Morris 230 kV line
- Hankinson – Wahpeton 230 kV line
- Sheyenne – Fargo 230 kV line

70. Upgrade of these other transmission lines will enhance the transmission system throughout the area.⁷⁵

C. The Risks Inherent with Big Stone Unit II.

71. A couple of issues were raised concerning the risks associated with going forward with Big Stone Unit II. One of the risks relates to the availability and deliverability of coal from the Powder River Basin by a single supplier, and another concern raised primarily by intervenors Dakota Resource Council is that the Applicants have failed to consider the costs associated with future regulation of carbon emissions.

Coal Deliverability and Supply

72. There is only one company that supplies coal to the Big Stone site – the Burlington Northern Sante Fe Railway.⁷⁶ The Applicants did experience some coal supply problems for short periods of time in spring 2005 and again in spring 2006. This was the only time since the BNSF took over operation in the early 1980's that this kind of problem was encountered on the line serving Big Stone I.⁷⁷

73. In response to the problems in 2005 and 2006 Otter Tail, as the operator of Big Stone I, has worked with the BNSF to implement measures to help ensure that future supply problems do not arise. The BNSF has added locomotives and other infrastructure, upgraded a number of its facilities, and increased the number of shipments.⁷⁸

74. Mr. Deason testified that there are a number of operational measures that Otter Tail could implement to minimize coal delivery problems.⁷⁹ These include such measures as monitoring cycle times and scheduling shipments far in advance. Otter Tail has implemented

⁷⁵ *Id.* at 17.

⁷⁶ Testimony of Robert Brautovich at OTP/MDU Ex. 320 and Mark Rolfes at OTP/MDU Ex. 301.

⁷⁷ Rebuttal Testimony of Mark Rolfes at OTP/MDU Ex. 302 at 1.

⁷⁸ Testimony of Robert Brautovich at OTP/MDU Ex. 320 and rebuttal testimony of Mark Rolfes at OTP/MDU Ex. 302.

⁷⁹ Testimony of Terry Deason at PSC Ex. 1 at 37.

many of these measures and is in the process of considering other changes designed to minimize fuel interruptions.⁸⁰

75. Mr. Deason also made a series of recommendations designed to minimize even further any future coal supply problems.⁸¹ The Applicants have indicated that they will implement each of these recommendations.

76. The fact that only one railroad supplies coal to Big Stone does not undermine a conclusion that Big Stone II is a reasonable and prudent generation option.

Future Carbon Regulation

77. The U.S. Congress may at some time in the future establish regulations for the control of carbon dioxide from power plants around the country burning coal and other fossil fuels. However, no one can predict what those regulations will require. Not only would it involve speculation to predict the costs of future regulation but North Dakota law precludes the Commission from utilizing environmental externality costs in determining the prudence of proposed generation facilities.⁸²

78. Even though the Applicants may not utilize an environmental externality cost for carbon dioxide regulation in this proceeding, they have not ignored the risks associated with building a coal plant at a time when global warming is a significant concern and regulation is possible. Big Stone II will be highly efficient, employing supercritical technology, and performing better than older coal-fired units.⁸³ Both Applicants have other forms of renewable generation in their future resource mix.

79. Regulation of carbon dioxide would likely result in an increase in the cost of coal fired electric energy. However, the costs of most kinds of generation will also likely increase and it is not certain that Big Stone will lose its position as the least cost alternative even after carbon regulation is established.

Risks of Not Building Big Stone Unit II

80. The risks associated with not going forward with Big Stone Unit II cannot be ignored; they are substantial. North Dakota residents and businesses are demanding more energy. The Applicants require additional generation capacity to meet this demand. This energy will likely be more expensive if Big Stone II is not built. Other forms of electricity generation are not benign and carry their own impacts on society and the environment.

⁸⁰ Rebuttal testimony of Mark Rolfes at OTP/MDU Ex. 302 at 2.

⁸¹ Testimony of Terry Deason at PSC Ex. 1 at 47-49.

⁸² N.D. Cent. C § 49-02-23.

⁸³ Testimony of Mark Rolfes at Tr. Vol. I at 105.

D. The Benefits of Big Stone II to North Dakota

81. Even though Big Stone II will not be built in North Dakota, there are substantial benefits that will be realized by North Dakota residents. The obvious benefit is the existence of a reliable, baseload source of electric energy.

82. Another benefit is that construction of the line to Granite Falls at 345 kV capability will enhance the potential for development of North Dakota's extensive wind resource.

83. The construction of Big Stone II does not interfere with future development of the North Dakota lignite resource and may actually enhance it through the construction of additional transmission capacity.

84. Another potential benefit is that if there is the opportunity to make wholesale sales of energy from Big Stone II, benefits from those sales will be realized by the Applicants' customers in one fashion or another.⁸⁴

From the foregoing Findings of Fact, the Commission makes the following

CONCLUSIONS OF LAW

1. Any of the foregoing Findings of Fact more properly designated as Conclusions of law are hereby adopted as such.
2. The North Dakota Public Service Commission has jurisdiction over this matter pursuant to N.D. Cent. C. § 49-05-16.
3. All relevant substantive and procedural requirements of law have been fulfilled prerequisite to the issuance of the advance determination of prudence.
4. The evidence presented in this proceeding through the applications, testimony, cross-examination, and exhibits is reasonably reliable and appropriate to establish an advance determination of prudence for Otter Tail's and Montana-Dakota's participation and ownership of the Big Stone Unit II project.
5. Denial of the request of advance determination of prudence would likely result in an adverse effect upon the future adequacy, reliability, and efficiency of the energy supply system of the Applicants and their customers.
6. It is not possible for conservation and demand-side management programs to eliminate the need for the capacity and energy to be supplied by Big Stone Unit II, or to even realistically reduce the size of Big Stone Unit II.

⁸⁴ Rebuttal Testimony of Ward Uggerud at OTP Ex. 102 at 4-5.

7. Big Stone Unit II is the most reliable and least cost option for providing the generation that is required. No more reasonable and prudent alternative to the Big Stone Unit II facility has been demonstrated in this record.
8. Not building a new generation facility and the necessary interconnecting transmission facilities is not a reasonable and prudent alternative.
9. The Applicants have demonstrated that Big Stone Unit II will be constructed and operated in conformance with all applicable state and federal and local laws and policies.
10. The Applicants have satisfied all the criteria for an advance determination of prudence under N.D. Cent. C. § 49-05-16.
11. The ALJ's determination to exclude evidence of environmental externality values pursuant to N.D. Cent. C. § 49-02-23 was proper. The Commission cannot use evidence of environmental externality values in the planning, selection or acquisition of electric resources.
12. The ALJ's determination to strike portions of David Schlissel's testimony as irrelevant and prohibited by statute was proper.

From the foregoing Findings of Fact and Conclusions of Law, the Commission makes its:

ORDER

The Commission orders:

That an advance determination of prudence for Otter Tail's and Montana-Dakota's participation and ownership in Big Stone Unit II, a supercritical pulverized coal-fired generating plant permitted to be built in South Dakota next to Big Stone Unit I, and associated transmission, is hereby granted subject to the following conditions.

1. The Applicants shall advise the Commission quarterly beginning January 1, 2008, of the progress in obtaining all necessary approvals, permits, and licenses from other regulatory bodies and of the anticipated date of commencement of construction.
2. The Applicants shall advise the Commission when construction of Big Stone Unit II actually commences.
3. The Applicants shall provide a forecasted budget for construction costs for the upcoming year beginning on January 1, 2008. Each subsequent report filed on January 1 shall include an analysis of any deviations from the forecasted budget and the actual expenditures for the year and an explanation of changes in forecasts for future years.
4. The Applicants shall immediately advise the Commission of any decision by the Applicants not to go forward with construction of Big Stone Unit II and of any factors that jeopardize the viability or continuation of the project.

5. Otter Tail shall continue its present operational practices for management of the coal that is burned at Big Stone. Otter Tail will maintain reports regarding implementation of these practices and will provide these reports to the Commission upon request.

6. Otter Tail shall conduct a study of the number of rail cars necessary to serve Big Stone II and do a cost benefit analysis of whether any additional railcars should be light weight aluminum railcars. Otter Tail shall submit the results of that study to the Commission by January 1, 2011.

7. Otter Tail shall conduct a study to calculate the costs and impacts of maintaining a higher coal inventory level. Otter Tail shall compare the costs of maintaining a higher level of coal with the costs and likelihood of future curtailments of shipments of coal from inadequate fuel deliveries. Otter Tail shall submit the results of the study to the Commission with a recommendation on the appropriate inventory level by January 1, 2011.

STATE OF NORTH DAKOTA
PUBLIC SERVICE COMMISSION

Otter Tail Corporation, Advance
Determination of Prudence
Application

AFFIDAVIT OF SERVICE


Montana-Dakota Utilities Co.,
a Division of MDU Resources Group,
Inc., Advance Determination of Prudence
Application

Case Nos. PU-06-481, PU 06-482

Kristen Swenson, of Minneapolis Minnesota, Hennepin County being sworn, says that on August 3, 2007, a copy of the following documents:

1. Post Hearing Brief of Applicants Montana-Dakota Utilities Co. and Otter Tail Corporation (original and seven copies);
2. Proposed Findings of Fact, Conclusions of Law and Order; and
3. Affidavit of Service.

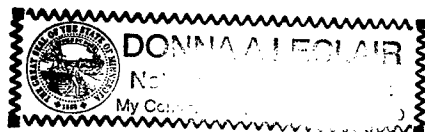
have been served upon the North Dakota Public Service Commission and the attached service list via United States mail and by email.


Kristen Swenson

Subscribed and sworn to before me
this 3rd day of August, 2007.



Notary Public



STATE OF NORTH DAKOTA
PUBLIC SERVICE COMMISSION

Otter Tail Corporation, Advance
Determination of Prudence
Application

SERVICE LIST

Montana-Dakota Utilities Co.,
a Division of MDU Resources Group,
Inc., Advance Determination of Prudence
Application

Case Nos. PU-06-481, PU 06-482

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