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Re: In the Matter of the Application by Otter Tail Power Company on Behalf of Big Stone II Co-Owners for an Energy Conversion Facility Permit for the Construction of Big Stone II Project (EL05-022)
Our File No. 11402.000

Dear Counsel:

Enclosed please find two copies of Applicant Otter Tail Power Company on behalf of the Big Stone II Co-owners Appellee Brief in the above referenced matter. This is intended as service of the same on you by mail.

Thank you and best regards.

Sincerely yours,

BOYCE, GREENFIELD, PASHBY & WELK, L.L.P.

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101 N. Phillips Ave., Suite 600

Shirley Jameson Fergel, Clerk
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Re: In the Matter of the Application by Otter Tail Power Company on Behalf
of Big Stone II Co-Owners for an Energy Conversion Facility Permit for
the Construction of Big Stone II Project
Civil No. 06-399
Our File No. 11402.000

Sioux Falls, SD 57117-5015

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Dear Ms. Fergel:

F: 605-334-0618

Enclosed for filing please find the original and fifteen copies of the Appellee
Brief of Otter Tail Power Company on behalf of the Big Stone II Co-owners. The
certificate of service is attached to the brief.

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If you have any questions or concerns, please let us know.

Russell R. Greenfield

Sincerely yours,

Gary J. Pashby

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Enclosures

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J.W. Boyce (1884-1915)

IN THE SUPREME COURT
OF THE
STATE OF SOUTH DAKOTA

RECEIVED

JUN 25 2007

**SOUTH DAKOTA PUBLIC
UTILITIES COMMISSION**

NO. 24485

In the Matter of Otter Tail Power Company on behalf of Big Stone II
Co-owners for an Energy Conversion Facility Permit for the
Construction of the Big Stone II Project

Appeal from the Circuit Court for Hughes County
Sixth Judicial Circuit, Case No. 06-399

The Honorable Lori S. Wilbur, Circuit Court Judge
Date of Judgment: February 27, 2007

BRIEF OF APPELLE BIG STONE II CO-OWNERS

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NOTICE OF APPEAL FILED MARCH 27, 2007

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JURISDICTIONAL STATEMENT

Appellants Minnesota Center for Environmental Advocacy, Fresh Energy (formerly Minnesotans for an Energy Efficient Economy) Izaak Walton League of America- Midwest Office, and the Union of Concerned Scientists (hereinafter collectively referred to as “Minnesota Center”) appeal from the Judgment of Affirmance entered on February 27, 2007, by the Circuit Court, Sixth Judicial Circuit, Hughes County, South Dakota, Judge Lori S. Wilbur, presiding. The Circuit Court’s Judgment affirmed a decision of the South Dakota Public Utilities Commission (“Commission”) granting the application of Appellee Otter Tail Power Company on behalf of the Big Stone II Co-owners¹ (hereinafter referred to as “Co-owners” or “Applicants”) for an energy conversion facility siting permit to construct and operate the Big Stone II plant near Milbank, South Dakota. Appellants Minnesota Center served notice of appeal on or about March 26, 2007.

STATEMENT OF ISSUE

Issue: Whether the Circuit Court erred in affirming the Commission’s factual findings that the Big Stone II Project will not pose a threat of serious injury to the environment.

Circuit Court’s holding: The Circuit Court held the Commission’s decision was not clearly erroneous.

¹ The Project is owned by seven electric utility providers, Otter Tail Corporation d/b/a Otter Tail Power Company; Montana-Dakota Utilities Co., a Division of MDU Resources Group, Inc.; Western Minnesota Municipal Power Agency through Missouri River Energy Services; Southern Minnesota Municipal Power Agency; Central Minnesota Municipal Power Agency; Great River Energy; and, Heartland Consumers Power District. Collectively, these utilities serve over 1.2 million customers in South Dakota, North Dakota and Minnesota. Findings 1-8.

Applicable Authority: SDCL 49-41B-22(2)
In Re Dorsey & Whitney Trust Co. LLC, 2001 SD 35, 623
NW2d 468.
Great Western Bank v. H&E Enterprises, LLP, et. al., 2007
SD 38

STATEMENT OF THE CASE

Following an exhaustive process, as more fully described below, the Commission granted Co-owner's application for an energy conversion facility permit to construct and operate the Big Stone II Project. Based solely on emissions of carbon dioxide ("CO₂") Minnesota Center appealed the Commission's decision to Circuit Court for the Sixth Judicial Circuit, Hughes County, Hon. Lori S. Wilbur, presiding. The Circuit Court entered a judgment affirming the Commission's decision on February 27, 2007. On March 26, 2007, Minnesota Center served a notice of appeal seeking review of the Circuit Court's Judgment of Affirmance.

STATEMENT OF FACTS

A. Citations To The Settled Record And Specific Contents.

The settled record of this case is voluminous. The narrow focus of this appeal, however, touches upon a relatively small portion of the record. References to the Settled record shall be denoted as "SR" followed by a page reference. References to specific findings of fact or conclusions of law contained in the Commission's Final Decision and Order ("Order") dated July 21, 2006, and attached as an appendix to Appellants' brief shall be denoted as "Finding" or "Conclusion" followed by a reference to a specific finding of fact or conclusion of law by number. References to the transcript of the final hearings are denoted as "HTr" followed by a page reference. References to the transcript

of the Circuit Court’s oral decision (attached to Minnesota Center’s brief, Appendix p. 3A-6A) are denoted as Circuit Court Decision followed by a page reference.

B. The Big Stone Unit II Project.

The Big Stone Unit II Project (“Project”) is a proposed nominal 600 megawatt, supercritical pulverized coal-fired power plant to be built adjacent to the existing Big Stone plant located near Big Stone City, South Dakota. Findings 26, 79. The Project also encompasses the construction of transmission lines extending from the plant through South Dakota and into Minnesota. The transmission lines were not the subject of the matter presently before this Court.

As a “baseload” facility, Big Stone Unit II will ensure that each Co-owner will have the power and energy each utility needs to serve the increasing demand for electricity from its customers, 24 hours a day, seven days a week. Finding 27. The Commission found that any delay in the construction of Big Stone Unit II “could have negative consequences for the Applicants, the region, and ultimately the consuming public.” Finding 76.

The decision to build the Big Stone II Project is a result of each respective Co-owner's analysis of their demand for reliable, economical, electric energy. The individual assessments of the Co-owners indicated that the Big Stone II Project is the “best cost” resource among other alternatives to supply the baseload electric energy needs of their customers. Findings 35-56.

Construction of Big Stone Unit II on a site adjacent to the existing Big Stone I plant provides many advantages to both plants. Rail facilities, solid waste disposal, water supply systems and electric transmission corridors already exist. SR 3925. Likewise, the

area residents are accustomed to the existence of the Big Stone I plant. *Id.* Furthermore, the location allows for opportunities for both plants to share facilities and technologies. For instance, the Big Stone I owners and Co-owners have agreed to install a joint, common wet flue gas desulfurization system (wet scrubber) that would reduce sulfur dioxide emissions from both plants to a level lower than current sulfur dioxide emissions from Big Stone I. SR 4050. The wet scrubber will also reduce emissions of mercury so the two plants will emit no more than the existing Big Stone I plant does now. SR 4051. The technology to be employed for Big Stone Unit II (supercritical boilers) will produce low levels of nitrogen oxides. SR 4050.

C. Applicable Statutes And Rules And Procedural History.

The South Dakota Energy Facility Permit Act, SDCL Ch. 49-41B, and the administrative rules promulgated pursuant to that act by the Commission, ARSD Ch. 20:10:22, mandate a comprehensive review of plans to construct and operate an energy conversion facility and the impact it will have. Indeed, the Commission is charged with broad responsibility in examining applications for such a permit.² SDCL 49-41B-1 states:

The Legislature finds that energy development in South Dakota and the Northern Great Plains significantly affects the welfare of the population, the environmental quality, the location and growth of industry, and the use of the natural resources of the state. The Legislature also finds that by assuming permit authority, that the state must also ensure that these facilities are constructed in an orderly and timely manner so that the energy requirements of the people of the state are fulfilled. Therefore, it is necessary to ensure that the location, construction, and operation of facilities will produce minimal adverse effects on the environment and upon the citizens of this state by providing that a facility may not be

² This Court has previously recognized the Commission's expertise and special knowledge in the field of electric utilities. *See In the Matter of Northern States Power Co.*, 489 NW2d 365, 369 (SD 1992).

constructed or operated in this state without first obtaining a permit from the commission.

The applicable statutes and rules require that an applicant address a very large number of factors, including the following:

- Name and address of applicant, including all persons participating in the facility. SDCL 49-41B-11(1), ARSD 20:10:22:06.
- Detailed descriptions and maps to illustrate the location of the facility and its proximity to other geographic features in the area. SDCL 49-41B-11(2); ARSD 20:10:22:11.
- A detailed description of operating nature of the facility, including proposed on-line life, a general description of major components, identification of materials flowing in and out of the facility and procedures proposed to avoid or ameliorate possibility that discharges would constitute a nuisance or endanger persons or property. ARSD 20:10:22:26.
- Estimated completion dates and construction timetables. SDCL 49-41B-11(3) and ARSD 20:10:22:22.
- Detailed employment estimates complete with job classifications, estimated employment expenditures, plans for utilizing the available labor force in South Dakota an assessment of local manpower to meet the requirements and estimates of workers who might remain in the area following construction. SDCL 49-41B-11(4); ARSD 20:10:22:24.
- Descriptions of possible future additions and modifications which the applicant may wish to be approved in the permit. SDCL 49-41B-11(6) and ARSD 20:10:22:25.
- Detailed statement of reasons for selecting the site including descriptions of selection criteria, an evaluation of alternative sites and an evaluation of the proposed plant and its advantages over other sites. SDCL 49-41B-11(6) and ARSD 20:10:22:12.
- A complete description of current and proposed ownership rights and identity of the project manager. SDCL 49-41B-11(7) and ARSD 20:10:22:07.
- Description of the purpose of the facility. SDCL 49-41B-11(8) and ARSD 20:10:22:08.

- Detailed estimates of consumer demand and estimated future energy needs of the consumers to be served, including data, data sources, assumptions, forecast models or methods upon which the estimate is based; information on the relative contribution to any power distribution network or pool and a statement regarding the consequences of delay or termination of construction of the facility. SDCL 49-41B-11(9) and ARSD 20:10:22:10.
- Potential short and long range demands on estimated tax revenues generated by the facility. SDCL 49-41B-11(10).
- Estimated construction costs. SDCL 49-41B-11(12) and ARSD 20:10:22:09.
- Detailed environmental studies, including:
 - Anticipated changes in the environment resulting from construction and calculations of to reveal and assess demonstrated or suspected hazards to the health and welfare of human, plant and animal communities. ARSD 20:10:22:13.
 - Detailed descriptions of the effect of the proposed facility on the physical environment with descriptions of land forms in the area, topographic maps, summaries of the geological features of the area to depict subsurface variations; descriptions of economic deposits, such as gravel sand or clay; description of soil types; analysis of erosion potential or sedimentation and proposed means of control; information on seismic risks, subsidence potential and slope instability; and analysis of constraints the geographical characteristics may impose on the design, construction or operation of the facility. ARSD 20:10:22:14.
 - Detailed information concerning the effect of the facility on surface and groundwater including, scale maps showing surface water drainage patterns before and after construction; maps depicting planned water uses by communities, agriculture, recreation, fish and wildlife that may be affected; maps showing surface and groundwater supplies and the location of pipelines or channels required for water transmission; maps showing locations of aquifers if they are to be used for water sources and analysis of the capacity of the aquifer to yield water and recharge; and descriptions of water storage designs and plans for cooling and heated water to be discharged. ARSD 20:10:22:15.
 - Identification and quantification of terrestrial and aquatic ecosystems (flora and fauna) analyzing impact of construction and operation on breeding times, migratory pathways, important

species and measures planned to ameliorate negative biological impacts from construction and operation of the facility. ARSD 20:10:22:16 and 20:10:22:17.

- Evidence that the facility will comply with all applicable water quality standards and regulations. ARSD 20:10:22:20.
- Evidence that the proposed facility will comply with all applicable air quality standards and regulations. ARSD 20:10:22:21.
- Detailed descriptions of land use in the siting area including maps showing land uses in the area, such rowcrop farming, pasturelands, haylands, undisturbed native grasslands, irrigated lands, existing and potential extractive nonrenewable resources, rural residences and farmsteads, public and industrial uses, municipal water supply sources and sources for rural water districts and noise sensitive areas; identification of homes that will be displaced; analysis of compatibility with other local uses; and general analysis of the effects of the proposed facility on land uses and plans to ameliorate adverse impacts. ARSD 20:10:22:18.
- Detailed descriptions of local land use controls and the manner in which the facility will comply. ARSD 20:10:22:19.
- Detailed community impact information such as impact on housing, land values, the local labor market, health facilities, energy, sewage and water, schools, transportation facilities, fire protection, law enforcement and other government services or facilities; forecasts of impacts on taxes; forecasts of impacts on population, incomes and cohesion of communities; forecasts of impacts on landmarks, cultural resources, historic, religious and other facilities of cultural significance. ARSD 20:10:22:23.
- Descriptions in general and technical terms of products to be produced. ARSD 20:10:22:27.
- Information on types of fuel including primary and secondary fuels, anticipated yields and range and chemical analysis of fuels. Information on sources of fuels showing maps and describing transportation of fuels. ARSD 20:10:22:28 and 20:10:22:29.
- Descriptions and analysis of alternate energy resources considered and the reasons for selecting the proposed source over alternative sources. ARSD 20:10:22:30.
- Information concerning generation, treatment, storage, transport and disposal of solid waste and evidence that all solid waste will comply with applicable standards and regulations. ARSD 20:10:22:31.

- Estimates of the efficiency of the facility and discussions of the assumptions on which the estimates are based. ARSD 20:10:22:32.
- A plan or policy statement on action to be taken at the end of the facility's on-line life including estimates of costs, site condition and land irretrievably committed to the facility. ARSD 20:10:22:33.

The Commission found that Applicants had met all of these requirements. *See* Conclusion 2.

On November 8, 2004, pursuant to SDCL 49-41B-5, Applicants filed notice of intent to submit an application to obtain a permit to construct the Project. SR 8286. On December 10, 2004, the Commission designated the affected area and appointed a local review committee ("LRC") pursuant to SDCL 49-41B-6. *Id.*

Applicants filed their application for the permit to construct the Project on July 21, 2005. SR 1-435. Accordingly, the Commission issued notice of the filing to interested persons and provided notice of the date for parties to intervene. SR 464-465. On August 18, 2005, the Commission assessed the filing fee required by SDCL 49-41B-12, SR 462-463. The Commission also gave notice of the public input hearing, which hearing occurred in Milbank on September 13, 2005 with 50 members of the public in attendance. SR 455-456.

In addition to Minnesota Center, several other parties sought intervention in the proceedings, namely, Clean Water Action (who later withdrew), the Sierra Club (who withdrew pursuant to stipulation) and Mary Jo Stueve (who participated in the hearings *pro se*, but who is not a party to this appeal). An exhaustive discovery process preceded the final hearings held June 26, 2006 through June 29, 2006, in Pierre. In response to

discovery requests from Minnesota Center and Ms. Stueve, Applicants produced, or made available by electronic means over 47,000 pages of documents. HTr 555.

The LRC met several times and was granted permission by the Commission to hire a consultant to carry out its duties. SR 671-672. The LRC submitted their written report consisting of over 300 pages. *See* SR 684-1015. South Dakota statutes and federal law also require the preparation of an environmental impact statement (“EIS”). Western Area Power Administration (“Western”) administered preparation of the EIS due to the interconnection of Project transmission facilities to two Western substations. The U.S. Department of Agriculture, the Rural Utility Service, the U.S. Department of Defense and the U.S. Army Corps of Engineers participated in the federal EIS process. Finding 88.

The Commission rules of general practice require the submission of written testimony prior to the hearing. *See* ARSD 20:10:01:22.06. In support of their application, Applicants submitted over 2000 pages of prefiled testimony and exhibits.

Finding 17. Applicants presented 24 witnesses in-person at the hearing who were all available for cross examination by the parties or questioning by the Commissioners.

Finding 19. The testimony of certain additional witnesses was introduced at the hearing without cross examination. Finding 20.

Following the final hearings in Pierre, the Commission also allowed an additional public comment period on the evening of June 29, 2006, during which 20 members of the public appeared with 12 providing comments to the Commission. Order p. 2.

At the conclusion of the final hearings, Applicants and Minnesota Center submitted proposed findings of fact and conclusions of law. Applicants submitted a

comprehensive set of 193 proposed findings of fact and 19 proposed conclusions of law encompassing all requirements of the applicable statutes and administrative regulations. SR 8173-8212. Minnesota Center opted to submit only 19 proposed findings of fact and 9 proposed conclusions of law which were confined to 3 distinct issues – carbon dioxide, mercury and wind potential. SR8157-8160. Minnesota Center’s proposed findings of fact and conclusions of law are attached as an appendix to this brief. The Commission deemed all proposed findings of fact and conclusions of law objected to by opposing parties.

On July 14, 2006, the Commission announced its decision to grant the facility permit subject to several conditions.³ Ultimately, the Commission entered 203 findings

³ The permit conditions are not at issue in this appeal, but are indicative of the breadth and depth of the Commission’s review of the application. The Commission imposed six conditions on the permit covering a wide range of issues, as follows:

- Comply with the recommendations of the LRC, including development of a contingency housing plan, fund an additional for the Grant County Sherriff’s Office during construction, implement drug testing of potential workers, advise law enforcement of peak employment months, purchase a high angle rescue kit for and providing training in its use to the Big Stone Fire Department, provide a public liaison officer to communicate with and help resolve issues that might develop during construction, and implement a website and hold public information meetings to update the community on the project.
- Comply with the recommendations of the Commission staff, including obtaining and complying with applicable permits to construct the Project, implementation of the Applicants’ agreement to limit mercury emissions within three years of the date of commercial operation, providing semi-annual progress reports, and complying with all mitigation measures recommended as part of the final ESI record of decision.
- Conduct an evaluation of alternative water supply options to provide water in the event withdrawals from Big Stone Lake are curtailed for an extended period of time.
- Beginning July 1, 2007 Otter Tail and MDU must file annual reports regarding their ongoing demand side management and renewable programs and a forecast of their initiatives to optimize benefits from those programs.

of fact and 22 conclusions of law. SR 8286-8319. The Commission also entered rulings as to those findings and conclusions proposed by Minnesota Center and Applicants that were rejected, providing rationale for such decision. SR 8320-8321.

D. Evidence Regarding Carbon Dioxide.

Despite the broad array of proof required by SDCL Ch. 49-41B and ARSD Ch. 20:10:22, Minnesota Center has limited the scope of this appeal solely to the Project's future emissions of carbon dioxide. Specifically, Minnesota Center's arguments focus only on the asserted environmental effect of the emissions of carbon dioxide.

With regard to the effect of carbon dioxide emissions, Minnesota Center presented the testimony of Dr. Ezra Hausman of Synapse Energy Economics, Inc, located in Cambridge, Massachusetts, who offered personal opinions about the causes, nature and extent of global warming. Joint Intervenors Ex. 2. SR 7211-7287. Minnesota Center recounts Dr. Hausman's written testimony on pages 3 through 8 of its brief. From the very outset of the hearing, however, Applicants pointed out that the hearing before the Commission was "not the forum, frankly, to solve and to explore the science of global warming." HTr 16-17.

-
- Upon the date of commercial operation and every six months thereafter the Project operator must provide the Commission with an update on mercury control efforts until the Project meets the agreed level of mercury emissions.
 - Provide annual reports to the Commission reviewing any state or federal action taken to control CO₂, how the Project plans to comply with those standards, costs of compliance and estimated effect on rate payers. The report must also include evaluations of operation techniques or commercially-available equipment to control CO₂ and whether or not the Project has evaluated the prudence of implementing those techniques or equipment.

See Order p. 33-34.

Contrary to Minnesota Center’s assertion that Dr. Hausman's testimony was “wholly un rebutted,” Applicants presented evidence that contradicted Dr. Hausman’s testimony and refuted his ultimate conclusions. For example, Ward Uggerud, Senior Vice President of Otter Tail Power Company, compared the estimated global emissions of anthropogenic⁴ carbon dioxide to that projected to be emitted by Big Stone Unit II. SR 4660-4661. Big Stone Unit II, is projected to emit 4.7 million tons of carbon dioxide per year. SR 4660. Nevertheless, in the year it is expected to reach full commercial operation, Big Stone Unit II’s share of total U.S. anthropogenic carbon dioxide emissions would be 0.0007, or seven hundredths of one percent. SR 4660. In terms of global anthropogenic carbon dioxide emissions, Big Stone Unit II’s share would be 0.00014 or less than two hundredths of one percent. *Id.* This figure will only decline in the future as Third World countries continue to industrialize and increase their share of global CO₂ emissions. SR 4661.

Dr. Hausman’s testimony was limited to the global warming phenomenon in general. He never attempted to calculate the incremental effect, if any, the Project’s carbon dioxide emissions would have on this overall phenomenon—locally within the siting area or globally. The Commission disagreed with Dr. Hausman’s ultimate conclusions and determined that the Project’s carbon dioxide emissions are minuscule compared to national and worldwide emissions and therefore the proposed facility does not pose a “threat of serious injury to the environment” under SDCL 49-41B-22(2). Findings 134 and 135, Conclusion 21.

⁴ Anthropogenic refers to man-made or man-caused emissions of carbon dioxide, such as emissions from burning fossil fuels. The American Heritage Dictionary.

E. Circuit Court Decision

Minnesota Center appealed the Commission's decision to the Circuit Court for the Sixth Judicial Circuit. The Circuit Court considered the briefs submitted by the parties and presided over oral arguments on February 26, 2007. At the conclusion of the arguments, the Circuit Court announced its decision. Circuit Court Decision p. 54. The Circuit Court acknowledged the extensive record in this case and the extensive findings of fact and conclusions of law entered by the Commission. *Id.* p. 54, 56.

The Circuit Court accurately and quickly identified the crux of Minnesota Center's argument: "Appellants argue that the PUC was in error in granting the application because, in the appellants' words, the record establishes that global warming poses a threat of serious injury to the environment globally and in South Dakota." *Id.* p. 58. The Circuit Court recognized this as a challenge to the Commission's factual determinations requiring clearly erroneous review. *Id.* p. 57. After examining the evidence as to CO2 emissions, the Circuit Court affirmed the Commission's factual findings, stating:

In his surrebuttal testimony [Dr. Hausman] agreed with Otter Tail's witness regarding that witness's calculation of Big Stone II's future carbon dioxide emissions. However, there was a disagreement between the intervenors and Otter Tail as to the effect of those calculations and the effect of the emissions and whether the facility truly posed a serious threat of injury to the environment. PUC resolved that disagreement in its decision in this case when it determined that the facility will not pose a threat of serious injury to the environment.

And I think everyone in this room agrees that the fact is the jury is still out with respect to global warming. And that this Court's view [is] that the answer on global warming must come from state and federal legislatures, from policy-making bodies, not from regulatory agencies like the PUC or this Court.

As the PUC has noted, there aren't any regulations or standards governing carbon dioxide emissions at either the state or federal level for either the PUC or Department of Natural Resources to apply.

Id. p. 59-60.

Ultimately, the Circuit Court found the Commission's findings were not clearly erroneous and affirmed the Commission's decision.

ARGUMENT AND AUTHORITY

A. Overview Of Argument

As is set forth, *supra*, the application process set forth in the South Dakota Energy Facility Permit Act requires an exhaustive review of the myriad facets of the proposed Big Stone II Project, including impacts on the environment. The scope of this appeal, as defined by Minnesota Center, however, is extremely narrow. Minnesota Center urges reversal solely on the grounds that emissions of CO₂ from the Big Stone II plant will pose a threat of serious injury to the environment and therefore Applicants have not met the burden of proof required by SDCL 49-41B-22(2), which states:

The facility will not pose a threat of serious injury to the environment nor to the social and economic condition of the inhabitants or expected inhabitants in the siting area.

In reviewing Minnesota Center's arguments and the portions of the record Minnesota Center claims support their position, it is important for the Court to bear in mind that notwithstanding debate and discourse regarding global climate change and emissions of so-called "greenhouse gasses," as the Circuit Court noted, there are no

applicable state or federal regulations or standards governing CO₂ emissions from the Project.⁵ Circuit Court Decision p. 60.

Furthermore, the likelihood and potential form of any future governmental regulation of CO₂ emissions is speculative.⁶

The grounds urged by Minnesota Center for reversal require this Court to engage in a review of the Commission's factual findings regarding CO₂. Ultimately, the Commission was confronted with differing evidence regarding CO₂ and, as the trier of

⁵ On April 2, 2007, the United States Supreme Court issued its decision in *Massachusetts v. Environmental Protection Agency*, ___ US ___, 127 S.Ct. 1438, 167 L.Ed.2d 248 (2007). Although the subject of that case was the EPA's refusal to address regulation of CO₂ and other greenhouse gasses from new motor vehicles, the ultimate holding of the case was quite narrow and is not applicable to the case at bar. At issue in *Massachusetts* was the EPA's conclusion that it lacked authority under the Clean Air Act to regulate CO₂ emissions from new motor vehicles. 127 S.Ct. 1441. After resolving issues of standing and scope of review, the Court held "EPA has offered no reasoned explanation for its refusal to decide whether greenhouse gasses cause or contribute to climate change." *Id.* at 1463. Therefore, the Court reasoned the action of the EPA was arbitrary and capricious or otherwise not in accordance with law." *Id.* Ultimately, the Court did not mandate that EPA must regulate CO₂ emissions, but rather "... only that EPA must ground its reasons for action or inaction in the statute." *Id.*

⁶ Although not at issue in this appeal, there was significant evidence and discussion at the final hearings regarding possible future regulation of CO₂. Appellants presented the testimony of David Schlissel and Anna Sommer – also from Synapse – who reviewed various failed legislative proposals and surmised that Congress would adopt stringent regulatory requirements which could result in costs ranging from a low of \$7.80 per ton of carbon dioxide to a mid-level of \$19.10 per ton of carbon dioxide to a high of \$30.50 per ton of carbon dioxide. SR 7087-7210. Co-owners countered the testimony of Mr. Schlissel and Ms. Sommer with testimony of other expert witnesses and cross-examination showing the various federal legislative proposals which form the basis of the Appellants' CO₂ cost projections were relatively short-lived, none of them ever receiving a favorable vote from either the U.S. House of Representatives or the U.S. Senate, and many never receiving a vote in committee. See HTr 737. SR 4679-4683. The Commission found that it is speculative to determine what the potential cost impacts of possible future carbon dioxide regulation might be and that "quantifying the cost of future CO₂ regulations is therefore a speculative undertaking, and the evidence shows that only a small minority of states utilize quantified values to approximate the cost of future regulation." Findings 137, 139.

fact, the Commission resolved those differences, as is its responsibility. Minnesota Center asks this Court to review the evidence presented at the hearing and arrive at the opposite conclusions of those of the Commission and affirmed by the Circuit Court. In the absence of any procedural abnormality and without any evidence to lead the Court to a firm and definite conviction a mistake has been made, Minnesota Center asks this Court to substitute its judgment for that of the Commission.

B. Standard Of Review.

Minnesota Center attempts to obfuscate the factual nature of its appeal by citing a hodgepodge of standards of review. See Minnesota Center Brief p. 8-10. Citing to SDCL 1-26-36, Minnesota Center claims its substantial rights have been prejudiced because the Commission's "findings, inferences, conclusions or decisions are affected by error of law, are clearly erroneous in light of the entire evidence in the record, or are arbitrary and capricious, or are characterized by abuse of discretion, or are clearly an unwarranted exercise of discretion." *Id.* at p. 8. Although Minnesota Center attempts to couch its arguments in terms of statutory intent or construction (ostensibly implying a *de novo* standard of review) the issue Minnesota Center raises is factual. Minnesota Center argues the Commission's decision to grant an energy conversion facility permit to Big Stone II was erroneous because in Minnesota Center's assessment the evidence indicates the proposed Big Stone II plant will pose a threat of serious harm to the environment because of the emissions of CO₂ from the plant. *Id.* at p. 20-31.

Questions of law are reviewed under the *de novo* standard. *In Re Dorsey & Whitney Trust Co. LLC*, 2001 SD 35, ¶ 5, 623 NW2d 468, 471. Questions of fact are reviewed under the clearly erroneous standard. *Kuhle v. Lecy Chiropractic*, 2006 SD 16,

¶ 15, 711 NW2d 244, 247. Mixed questions of fact and law are reviewed under a clearly erroneous standard if the “analysis is essentially factual, and thus better decided by the agency . . .” or under the de novo standard if the “resolution requires consideration of underlying principles behind a rule of law . . .” *In Re Dorsey & Whitney Trust Co.*, 2001 SD 35, ¶ 5, 623 NW2d at 471 (quoting *Rios v. Department of Soc. Svcs.*, 420 NW2d 757, 759 (SD 1988)). Factual questions turn on the fact finder’s “experience with the mainsprings of human conduct.” *Id.* at ¶6. Legal questions involve questions of policy or values animating legal principles. *Id.* In this case, Minnesota Center asks this Court to reverse the Commission’s decision to grant an energy conversion facility permit to the Project based on the determinations the Commission made in observing, considering, and interpreting the evidence presented regarding CO₂ emissions. Specifically, Minnesota Center claims the Commission erred because of the judgments it made in rejecting or limiting Dr. Hausman’s testimony. This is a factual question involving the Commission weighing conflicting testimony. It is not a legal issue, such as a determination of whether a certain transaction is subject to South Dakota sales or use tax. *See Choice Hotels Int’l, Inc. v. South Dakota Dept. of Revenue and Regulation*, 2006 SD 25, 711 NW2d 926.

Under the clearly erroneous standard, a reviewing court will reverse a factual finding only if the court “is definitely and firmly convinced a mistake has been made.” *Kuhle v. Lecy Chiropractic*, 2006 SD 16, ¶ 15, 711 NW2d at 247. A court “cannot reverse merely because [it] find[s] a conflict in the evidence, nor can [the court] substitute [its] judgment for that of the [agency], unless [the court is] left with a definite and firm conviction a mistake has been made.” *Abild v. Gateway 2000*, 1996 SD 50, ¶

11, 547 NW2d 556, 559; citing *Schuck v. John Morrell & Co.*, 529 NW2d 894, 896 (SD 1995); *Kienast v. Sioux Valley Co-op.*, 371 NW2d 337, 340 (S.D.1985). SDCL 1-26-36 mandates, “[t]he court shall give great weight to the findings made and inferences drawn by an agency on questions of fact.”

Altogether, reviewing the substantial volume of evidence in this case and comparing it to the findings of fact and conclusions of law entered by the Commission clearly indicates that the Commission carefully, honestly and thoroughly reviewed all the evidence presented and properly arrived at the decision to grant the application. Absent a definite and firm conviction that a mistake has been made, this Court should not reverse the Circuit Court’s judgment.

C. The Commission’s Factual Findings Regarding CO₂ Are Well-Rooted In The Record.

The findings of fact entered by the Commission with regard to carbon dioxide emissions are as follows:

133. The combustion of fossil fuels including coal results in the formation of carbon dioxide. Carbon dioxide is a greenhouse gas. Big Stone Unit II is projected to emit 4.7 million tons of CO₂ per year. App. Ex. 53, p. 4-10-4-11. Assuming an operating lifetime for Big Stone II of 50 years and no installation of CO₂ capture system, the plant will emit over 225 million tons of CO₂ before it closes. Ex. JI-2 at 26.
134. The Energy Information Administration reports that anthropogenic carbon dioxide emissions in 2010 are projected to be 6,365 million metric tons in the United States alone. Worldwide, the projected 2010 CO₂ emissions figure is 30,005 million metric tons. App. Ex. 29, p. 6.
135. Based on projected annual emissions of 4.7 million tons, Big Stone Unit II would increase U.S. emissions of carbon dioxide by approximately 0.0007, or seven-hundredths of one percent. As a result, the proposed Big Stone Unit II plant will not contribute materially to increases in the production of anthropogenic carbon dioxide. App. Ex. 29, p. 6.

136. Big Stone Unit II will produce about 18% less CO₂ than other existing coal-fired plants because the super-critical boiler proposed here is more efficient than other forms of coal-fired technologies. App. Ex. 2, p. 7.
137. Issues arose at the hearing as to whether costs should be imputed to the project for possible future regulation of CO₂ emissions. Neither federal government regulations nor South Dakota regulations have been established for CO₂ emissions. Minnesota has established environmental cost values for CO₂ emissions from electrical generation, but these values do not apply to generation located outside of Minnesota. App. Ex. 30, p. 7, 5; App. Ex. 34, p. 2; HTr 737-39. It is speculative whether Congress or South Dakota will regulate CO₂, and, if either does so, what the timing and stringency of those regulations will be. App. Ex. 30, p. 9, 19-20; HTr 89-90, 523, 737-43. Quantifying the cost of future CO₂ regulations is therefore a speculative undertaking, and the evidence shows that only a small minority of states utilize quantified values to approximate the cost of future regulation. App. Ex. 30, p. 12.
138. Evidence adduced at the hearing shows that only a few states have required CO₂ emission reductions from electric generators. A group of Northeastern states is currently examining such regulations; however, the cost of the program (projected CO₂ allowance prices of \$1-\$3) is expected to be relatively modest. States either implementing or considering CO₂ reduction programs generally utilize far less coal generation than South Dakota (and the United States) as a percentage of their total electric generation portfolios. Such states also have higher electric rates than South Dakota. Hence, these states do not furnish a model for South Dakota for purposes of examining the CO₂ issue. App. Ex. 30, pp. 10-28.
139. Evidence was also adduced at the hearing concerning various bills introduced in Congress that would regulate CO₂ emissions. These bills do not furnish support for Intervenor's contention that there should be a cost imputed to Big Stone Unit II for future CO₂ regulation in an amount equal to \$7.80-\$30.50, with a mid-case range of \$19.10 per ton. None of these bills passed either branch of Congress. One proposal that appeared to have the best chance of passing the Senate last year, but was never voted on, had a maximum "safety valve" allowance price cap of less than \$6.36 per ton. Various planning numbers were discussed at the hearing in the \$5-\$6 range, and Minnesota has a CO₂ environmental cost value for use in electric generation resource planning between \$.35 and \$3.64 for in-state generation. In any event, all reasonable planning numbers for possible future CO₂ regulation were substantially less than the Intervenor's \$19.10 mid-case number, and none appeared to affect the cost-effectiveness of the Big Stone Unit II project as compared to alternatives. App. Ex. 30, pp. 4-28.

199. Because there does not yet exist any federal or state regulation on CO₂ emissions, and because we do not yet know what effect such regulation may have on ratepayers in the future, the Commission finds that it is important for Applicants to keep the Commission informed of developments relative to the project involving CO₂ and that a condition so requiring is appropriate. The Applicants shall submit an annual report to the Commission on CO₂, with the first such report to be filed on or before July 8, 2008. Such report shall review any federal or state action taken to regulate carbon dioxide, how the operator plans to act to come into compliance with those regulations, the expected costs of those compliance efforts and the estimated effect of such compliance on rate-payers. The report should also evaluate operational techniques and commercially-available equipment being used to control CO₂ emissions at pulverized coal plants, the cost of those techniques or equipment, and whether or not the operator has evaluated the prudence of implementing those techniques or equipment.

Each finding contains citations to the record that support each finding.

It is clear these findings are supported by the evidence in the record.

Furthermore, it is clear that the Commission examined all of the evidence submitted by Applicants, Minnesota Center, and Ms. Stueve in formulating the findings and conclusions and devising the conditions for the permit. Minnesota Center submitted 12 proposed findings of fact specific to carbon dioxide. *See* SR 8157-8159, Appendix A. Of these, the Commission accepted Minnesota Center's proposed finding of fact number 5 and incorporated it into finding of fact number 133 with limited modification. *See* SR 8320. As to the other 11 findings proposed by Minnesota Center specific to carbon dioxide, the Commission rejected the same, explaining their decision to do so in Attachment A to the Final Decision and Order. SR 8320-8321. As the Commission explained with regard to Minnesota Center's proposed findings 6 through 16:

In Finding 135, the Commission finds that even though the emissions of CO₂ seem significant on a tonnage basis, they will represent only a minute fraction of total U.S. anthropogenic emissions and a much more minute fraction of global emissions. The Commission is only called upon to determine whether this particular facility will have a serious adverse

impact on the environment, and there is insufficient evidence in this record on which to base a finding that Big Stone II will have any appreciable effect on the global climate. It is clear from this record that if a consensus is ever reached at the national level concerning global warming and the contribution of CO₂ to the problem, regulation of carbon emissions will have to occur in a national or even global context. In Findings 139 and 199, the Commission notes that there is no federal or state regulation of CO₂, and thus far the debate at the Federal level and DENR at the state level are charged with regulation of air pollutants, and neither agency has yet seen fit to implement regulations. The Commission acknowledges the concerns about CO₂ in Finding 199, and believes that the approach it has taken in that Finding and in Condition 6 is a proper approach given the current record and the absence of regulations or standards.

SR 8320.

As further evidence the Commission thoroughly considered the issues relative to CO₂, the Commission adopted a condition of the permit requiring Applicants to review any legislation regulating CO₂ emissions and carbon control technology. *See Order*, p. 34. The condition requires:

Because there does not yet exist any federal or state regulation of CO₂ emissions, and because we do not yet know what effect such regulation may have on ratepayers in the future, the Applicants shall submit an annual report to the Commission on CO₂ with the first such report to be filed on or before July 1, 2008. Such report shall review any federal or state action taken to regulate carbon dioxide, how the operator plans to act to come into compliance with those regulations, the expected costs of those compliance efforts and the estimated effect of such compliance on rate-payers. The report should also evaluate operational techniques and commercially-available equipment being used to control CO₂ emissions at pulverized coal plants, the cost of those techniques and equipment, and whether or not the operator has evaluated the prudence of implementing those techniques or equipment.

Id.

Viewing the evidence specific to carbon dioxide and as a whole, there is no basis in the record that warrants this Court holding that findings of fact 133-139 and 199 are clearly erroneous.

D. The Testimony Of Minnesota Center's Global Warming Expert, Dr. Hausman, Was Refuted And The Commission Was Not "Duty-Bound" To Adopt Dr. Hausman's Testimony.

Rather than attack the specific factual underpinnings of the Commission's decision, Minnesota Center claims that the decision of the Commission granting the facility permit is either clearly erroneous or arbitrary and capricious, in general, because the Commission was "duty-bound" to accept Dr. Hausman's predictions which Minnesota Center characterizes as "scientific findings which are wholly un rebutted in the record. . ." Minnesota Center Brief p. 22. However, as demonstrated above, even though Dr. Hausman was not cross examined, it is incorrect to characterize his testimony as "unrebutted."

Dr. Hausman's testimony was contradicted and undermined by that of Ward Uggerud who testified that the Project's carbon dioxide emissions will constitute only 0.0007 or seven hundredths of one percent of total U.S. carbon dioxide emissions and 0.00014 or less than two hundredths of one percent of the world's carbon dioxide emissions and that relative amount that will decline in the future as the Third World continues to industrialize. SR 4660-4661. Minnesota Center does not challenge Mr. Uggerud's mathematical conclusions. *See* Minnesota Brief p. 29. There is no evidence in the record that the incremental increase of CO₂ emissions attributable to Big Stone Unit II will have any effect on global climate change, much less that these emissions will pose a threat of "serious" injury to the environment.⁷

⁷ Minnesota Center also claims the testimony of the PUC Staff's expert witness, Dr. Denney, supports their argument that the project will cause a range of environmental damage from tens of millions to billions of dollars. Minnesota Center Brief pp. 24-26. Dr. Denney attempted to employ a wide range of estimated externality costs to assess the project. *See* SR 8752. Ironically, Minnesota Center also accuses the Commission of

It is also a misstatement of law to claim that the Commission was "duty-bound" to accept the testimony and conclusions of Dr. Hausman. *See* Minnesota Center Brief p. 22. It is well within the authority and capacity of a finder of fact to accept or reject the testimony of a witness, even that of an expert. *Matter of Estate of Davis*, 524 NW2d 125 (SD 1994). A trier of fact may weigh and evaluate expert opinions with supporting data and take such parts as it sees fit. *Great Western Bank v. H&E Enterprises, LLP, et. al.*, 2007 SD 38, ¶ 10. This Court has recognized the ability of an administrative agency to make such a determination. *Sauer v. Tiffany Laundry & Dry Cleaners*, 2001 SD 24, ¶ 14, 622 NW2d 741, 745. "Fact finders are free to reasonably accept or reject all, part, or none of an expert's opinion." *Id.* (citing *Goebel v. Warner Transp.*, 2000 SD 79, ¶ 33, 612 NW2d 18, 27).

Dr. Hausman never opined as to any causal connection between his predictions and the minute incremental increase in CO₂ emissions from Big Stone Unit II. Nevertheless, Minnesota Center urges this Court to characterize the incremental increase as "huge" and to conclude Applicants have simply downplayed the incremental increase as "small." *See* Minnesota Center Brief p. 22-23. Such a characterization is merely a result of a disagreement as to the conclusion to be drawn from the evidence. The Commission resolved that disagreement when it found the CO₂ emissions from the Project "will not contribute materially to [an] increase in the production of anthropogenic carbon dioxide." Finding 135. Ultimately, Minnesota Center is asking this Court to adopt

improperly using Dr. Denney's calculations to engage in a balancing of potential economic harms versus potential economic benefits. *See* Minnesota Center Brief pp. 18-20. As the Commission's findings of fact and conclusions of law indicate, however, the Commission did not engage in any such balancing and did not adopt Dr. Denney's estimates for any other purpose.

its interpretation of the evidence and, in doing so, substitute the Court's judgment for that of the Commission. However, simply because some conflict in the evidence may exist, such conflict does not allow this Court to substitute its judgment for that of the Commission. See *Abild*, 1996 SD 50 at ¶ 6, 547 NW2d at 558. In light of all the evidence, Applicants submit there is no basis for this Court to arrive at a firm and definite conclusion that the Commission made a mistake when it granted Co-owners application for the facility permit.

E. Minnesota Center's Cumulative Impact Argument Is Flawed.

Minnesota Center argues that the Project's effect on global warming must be addressed "cumulatively" with other carbon dioxide emitting sources, regardless of location. Minnesota Center Brief at pp. 27-29. Minnesota Center's argument would substitute for SDCL 49-41B-22(2) a new environmental impact standard that would prohibit any proposed facility simply because it will add carbon dioxide to the global concentration, regardless of whether the addition might be relatively minuscule. The Commission rejected this analysis, concluding "[t]he Commission is only called upon to determine whether this particular facility will have a serious adverse impact on the environment, and there is insufficient evidence in this record on which to base a finding that Big Stone Unit II will have any appreciable effect on the global climate." SR 8320 (emphasis added).

ARSD 20:10:22:13 requires applicants for energy conversion facility permits to supply information to the Commission regarding environmental effects "which may be cumulative or synergistic consequences of siting the proposed facility in combination with any operating energy conversion facilities, existing or under construction." The rule

does not provide a substantive standard for issuance or denial of a permit, and certainly not one that supplants the clear language of SDCL 49-41B-22(2). Clearly, the Commission did examine the Project “in combination with” other energy conversion facilities either operating or under construction. The only other energy conversion facility in South Dakota which Big Stone Unit II is being sited “in combination with” is Big Stone Unit I.

As the Commission clearly recognized, the "synergistic consequences" of the location of Big Stone I and Big Stone Unit II together will be positive, not negative. As Commissioner Dusty Johnson noted at the July 14, 2006 hearing of the Commission where the decision to grant the application was announced:

[M]uch has been made of the environmental concerns with this project, and what has not received as much publicity are the environmental benefits. When this project is completed, the sulfur dioxide emissions from Big Stone I and Big Stone II combined will be one-seventh of the levels coming out of Big Stone I today. There will also be less particulate matter. The NOX [nitrous oxides] and mercury emissions at the Big Stone I plant will be cut in half. And I just don't think there are very many opportunities you get in this world to build a new generation source while at the same time so dramatically reducing the pollution from an older one. It's also noteworthy that the Big Stone II plant will produce 18 percent less carbon dioxide than existing coal-fired power plants. Clearly there are tremendous environmental benefits to the permitting of this plant.

SR 8276-8277. Commissioner Johnson's statement indicates the Commission examined more than just potential CO₂ emissions and found in light of all the evidence, construction of the Project will have a positive effect on emissions at the site.

Minnesota Center's underlying argument seems to be that global warming is such a serious issue that any addition of carbon dioxide from any proposed facility requires denial of the permit. Such a conclusion leads to the absurd result of a ban on construction

of new fossil-fuel burning facilities in the state. Neither the South Dakota legislature nor any other state has imposed such a restriction, and understandably so. Ironically, any of the alternatives to the Project examined in this matter pursuant to ARSD 20:10:22:30 also would result in carbon dioxide emissions. A natural gas plant creates carbon dioxide when the gas is burned. An integrated gasification combined cycle (IGCC) plant emits carbon dioxide. Appellants acknowledge that even wind development resources would require a fossil fuel backup facility to provide baseload power and energy. SR 7301-7458; Finding 170. Therefore, any of these alternative generation resources would also result in a "fractional share" of worldwide anthropogenic CO₂ emissions.

F. This Court Should Affirm The Judgment Entered By The Circuit Court.

Minnesota Center has not demonstrated the Circuit Court erred in affirming the decision of the Commission to issue an energy conversion facility permit to the Big Stone II Project. Minnesota Center believes the PUC, the Circuit Court and this Court should begin and end analysis of potential environmental harm with the testimony of Dr. Hausman. Minnesota Center would have this Court believe the only way Applicants could have met their burden under SDCL 49-41B-22(2) was to present the testimony of a witness with credentials similar to those of Dr. Hausman who would offer opinions that either global climate change does not exist or, if it does, that anthropogenic CO₂ emissions play no role in it. However, Minnesota Center ignores the shortcomings of Dr. Hausman's testimony. The Commission did not ignore those shortcomings when it found Applicants carried their burden of proof to demonstrate the Big Stone II Project will not pose a threat of serious injury to the environment within the defined siting area, or

elsewhere. The Circuit Court clearly recognized this to be a fact-driven issue requiring affirmance in the absence of clear error.

CONCLUSION

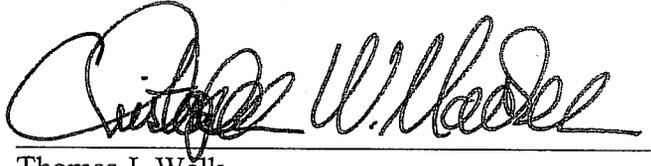
Based on the foregoing, Appellee Otter Tail Power Company on behalf of the Big Stone II Co-owners respectfully requests that this Court affirm the Judgment of Affirmance entered by the Circuit Court in this matter.

REQUEST FOR ORAL ARGUMENT

Appellee Big Stone II respectfully requests oral argument.

RESPECTFULLY SUBMITTED

Dated this 18th day of June, 2007.



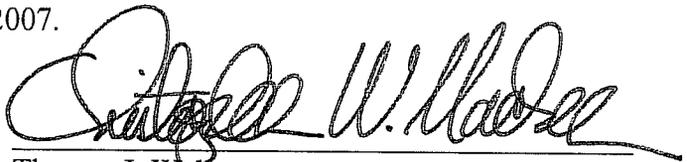
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CERTIFICATE OF COMPLIANCE

Christopher W. Madsen, attorney for Appellee Big Stone II Co-Owners, hereby certifies that the foregoing Brief of Appellee Big Stone II Co-Owners complies with the page and type volume limitations established by SDCL 15-26A-66(b). Proportionally spaced Times New Roman font was used in this Brief. Excluding the cover pages, Table of Contents, Table of Authorities, Certificate of Service and Certificate of Compliance, the Appellee's Brief contains 7, 417 words or 39, 990 characters and 27 pages. Microsoft Word was the program used in preparing this Brief.

Dated this 18th day of June, 2007.



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CERTIFICATE OF SERVICE

I, Christopher W. Madsen, do hereby certify that I am a member of the law firm of Boyce, Greenfield, Pashby & Welk, L.L.P., attorneys for the Co-Owners of the Big Stone II Project and that on the 18th day of June, 2007, true and correct copies of the *Brief of Appellee Big Stone II Co-Owners* was served on the following by mailing the same to them by United States first class mail, postage thereon prepaid, at the address shown below on this the 18th day of June, 2007.

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APPENDIX A

APPENDIX

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**BEFORE THE SOUTH DAKOTA
PUBLIC UTILITIES COMMISSION**

**In the Matter of the Application by Otter Tail)
Power Company on behalf of the Big Stone II)
Co-owners for an Energy Conversion Facility)
Siting Permit for the Construction of the Big)
Stone II Project)**

Case No. EL05-022

**PROPOSED
FINDINGS OF FACT AND
CONCLUSIONS OF LAW**

FINDINGS OF FACT

1. Applicants seek permission to construct a new 600 MW pulverized coal plant on the eastern border of South Dakota.

2. Applicants represent seven different utilities serving load in North Dakota, Minnesota, and Iowa as well as South Dakota. Two of the Applicants, Otter Tail Power Company and Montana-Dakota Utilities, which together propose to own about forty percent of the plant's output, are investor-owned utilities whose South Dakota retail sales are subject to rate regulation by this Commission. Great River Energy, Missouri River Energy Services, Central Minnesota Municipal Power Agency, Heartland Consumer Power District, and Southern Minnesota Municipal Power Agency are a mix of cooperative and municipal utilities, some of which provide power in South Dakota but which are not rate-regulated.

Carbon Dioxide Emissions

5. According to Applicants, if built, Big Stone II would emit approximately 4.7 million tons of carbon dioxide (CO₂) per year. Applicants' Exhibit 29 at 6, l. 9-10. Assuming an operating lifetime for Big Stone II of 50 years, the plant will emit over 225 million tons of CO₂ before it closes. Exhibit JI-2 at 26, l. 25-26.

6. CO₂ is a heat-trapping gas that is a major contributor to global warming. Exhibit JI-2 at 5, l. 10-15.

7. Big Stone II is proposed to be built when scientists, policy-makers, and businesses are growing increasingly apprehensive about the impact of global warming, and when the federal government is debating various policy responses, all of which target CO₂ emissions from coal plants. Exhibit JI-2 at 6-11; JI-1 at 5-6.

8. Scientific academies of 11 nations, including the National Academy of Sciences in the U.S., recently issued a joint statement urging all nations "to acknowledge that the threat of

climate change is clear and increasing” and to “take prompt action to reduce the causes of climate change.” Exhibit JI-2-D (Joint Science Academies Statement).

9. The Intergovernmental Panel on Climate Change (IPCC), representing the world’s leading researchers in the field of climate science, brought together to assess the science and advise the world’s policymakers. See Exhibit JI-2 at 6-9. The IPCC finds that the planet is currently experiencing unnatural warming, predicts much more serious warming ahead if current energy trends continue, and identifies a range of likely harmful consequences. Exhibit JI-2, Exhibit JI-2-B (IPCC Working Group I Summary for Policymakers); and Exhibit JI-2-C (IPCC Working Group II Summary for Policymakers).

10. Among the serious negative impacts associated with this predicted warming are rising sea levels, damaged or lost ecosystems, greater species extinction, expansion of disease and pest vectors, greater heat waves, more intense precipitation causing more flooding, landslides and erosion, and in continental interiors like South Dakota, increased summer drying causing more droughts, reduced crop yields, and reduced water availability and quality. Exhibit JI-2 at 18, l. 17-29. The more CO₂ emitted, the more severe the impacts are likely to be. *Id.* at 18, l. 30-32.

11. In South Dakota, global warming is predicted to manifest itself in decreased soil moisture likely to harm both crops and natural vegetation; greater morbidity and mortality from heat stress; increased summer drought; displacement of today’s plant and animal species; more agricultural pests and diseases; and increased storm intensity, causing greater flooding, water pollution, and erosion. Exhibit JI-2 at 21-22. The region’s Prairie Pothole Region, is particularly vulnerable to climate warming, threatening the ducks and other migratory waterfowl for which the region is a critical breeding ground. *Id.* at 23-24.

12. The evidence in this record establishing the gravely serious nature of the global warming threat is overwhelming and wholly un rebutted.

13. The recent statement from the U.S. National Academy of Sciences and its counterpart academies from 10 other nations calls it “vital” to take immediate steps to reduce CO₂ emissions now because “[f]ailure to implement significant reductions in net greenhouse gas emissions now, will make the job much harder in the future.” Exhibit JI-2-D. Action taken now to reduce greenhouse emissions will lessen the rate and magnitude of climate change ahead; the academies note that a lack of full scientific certainty about some aspects of climate change is “not a reason for delaying an immediate response that will, at a reasonable cost, prevent dangerous anthropogenic interference with the climate system.” *Id.*

14. Applicants have not attempted to rebut any of the evidence that global warming is a tremendous problem, that coal plants are a major cause of it, or that Big Stone II will greatly increase South Dakota’s contribution to it for many decades to come (indeed centuries, considering the lingering impact of its emissions).

15. Commission Staff’s analysis of the environmental damage caused by Big Stone II’s CO₂ emissions shows that Big Stone II will cause from tens of millions to billions of dollars worth of environmental damage. Staff Exhibit 2, at 38, l. 4-8 and Table 6A and 7A.

16. Although there is a wide range of quantified CO₂ environmental damages Staff reviewed and applied to Big Stone II, depending on the CO₂ cost value chosen and the discount rate applied, the environmental damages of Big Stone II are enormous even when one focuses analysis on the lower end of Staff's range of values. For example, the low EPA value for annual CO₂ damages (\$1.50 per ton) associated with Big Stone II (at 4.36 million tons CO₂ per year), yields \$50,098,876 in CO₂ damages over 40 years of plant operation at a 10% discount rate. Applying a 3% discount rate, these minimum EPA-quantified damages increase to \$154,043,273. The highest level of damages Staff reviewed (EPA's \$51 value) represents five billion dollars worth of cumulative harm caused by the CO₂ emissions of this one plant.

Mercury Emissions

17. During its first three years of operation, Big Stone II will greatly exceed the EPA's 144-lbs. annual mercury emissions allocation for South Dakota, and indeed, during that time period, the Applicants do not commit to emissions of less than 210 pounds of mercury per year for just the new Big Stone II unit, plus that emitted by Big Stone Unit I, which in 2004 was about 189 lbs., for a site total of about 400 lbs. Exhibit A-34 at 2-3.

18. According to Commission Staff witness Dr. Denney, the average cost of the annual environmental damage associated with Big Stone's mercury emissions is equal to \$3,953,015, meaning that Big Stone project's mercury emissions will cost \$11,859,045 worth of environmental damage over its first three years of operation. Based on the Commission Staff's higher cost scenario of mercury emissions damages, costs could run as high as \$22,203,525 over these first three years.

Wind Potential

19. South Dakota has one of the best wind resources in the nation. According to the American Wind Energy Association, South Dakota ranks third in the nation among states with the best wind resource. Exhibit JI-4 at 9, l. 8-11. And yet South Dakota lags behind its less windy neighbors in its development of that wind resource. T. at 713-714, and see, Department of Energy National Renewable Energy Laboratory web site, http://www.eere.energy.gov/windandhydro/windpoweringamerica/wind_installed_capacity.asp.

20. Now that utilities in the region are looking to expand their energy supplies, South Dakota has a natural opportunity to substantially develop its wind resource, and as the record shows, wind is not just a viable option to Big Stone II, but a financially preferable one. Exhibit JI-3 at 6-11.

21. If the 600 MW of additional supply that Applicants say they need are met with Big Stone II, those 600 MW of need cannot be met with a wind-based alternative. That market share – and the investment sunk into Big Stone II – will be lost to the regional wind industry as long as Big Stone II operates. T. 712, l. 11-20.

CONCLUSIONS OF LAW

1. Under SDCL 49-41B-22 (2), Big Stone II Applicants must prove that the plant will not pose a threat of serious injury to the environment nor to the social and economic condition of inhabitants or expected inhabitants in the siting area.
2. SDCL 49-41B-22 (2) does not give this Commission legal authority to attempt to “net” environmental damage caused by a proposed facility against estimated economic development benefits. In other words, this statutory requirement not to threaten the environment with serious injury is unqualified.
3. In addition, under Commission rules, ARSD 20:10:22:13, Applicants are required to provide “estimates of changes in the existing environment which are anticipated to result from construction and operation of the proposed facility, and identification of irreversible changes which are anticipated to remain beyond the operating lifetime of the facility.” Specifically, Applicants are required to calculate Big Stone II’s environmental effects “to reveal and assess demonstrated or suspected hazards to the health and welfare of human, plant and animal communities which may be cumulative or synergistic consequences of siting the proposed facility in combination with any operating energy conversion facilities, existing or under construction.” ARSD 20:10:22:13.
6. Applicants failed to provide the estimates required by ARSD 20:10:22:13, but such information is included in testimony and exhibits submitted by Joint Intervenors regarding the effects of the proposed facility’s CO₂ emissions, and in Staff’s testimony. Staff’s calculations of environmental damages demonstrate that Big Stone II poses a threat of serious injury to the environment even under the most optimistic of assumptions for both CO₂ emissions and mercury emissions. Tens of millions to billions dollars in damages from carbon dioxide is a “serious threat” to the environment and public health. Eleven million to \$22 million in environmental damage from mercury is a “serious threat” to the environment and public health.
7. Applicants have not met their burden under SDCL 49-41B-22 (2), and indeed, the record shows that the proposed Big Stone II plant poses a threat of serious injury to the environment as a result of both mercury and carbon dioxide emissions.
8. Under SDCL 49-41B-22(4), Big Stone II Applicants must prove that the facility will not unduly interfere with the orderly development of the region with due consideration having been given the views of governing bodies of affected local units of government.
9. SDCL 49-41B-22 (4) essentially requires the Commission to consider alternative forms of economic development that the region might expect, and consider how the proposed plant might interfere with that development. The most obvious alternative path of economic development that Big Stone II interferes with is the exploitation of South Dakota’s ample – and as yet almost completely undeveloped – wind resource. Testimony in this proceeding shows that the development of Big Stone II would likely interfere with realizing full development potential of South Dakota’s wind resource, an industry that brings with it substantial and sustainable economic development benefits.