EL 04-015

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May 6, 2004

Ms. Pam Bonrud, Executive Director
South Dakota Public Utilities Commission
State Capitol Building
500 East Capitol Avenue
Pierre, South Dakota 57501-5070

Re: Petition to include certain Renewable Development Fund costs in the Fuel Adjustment Clause.

Dear Ms. Bonrud:

Enclosed for filing is an original and ten copies of a petition of Northern States Power Company d/b/a Xcel Energy to include certain costs related to its Renewable Development Fund in the Fuel Clause adjustment.

If anyone has any questions, please call me at 339-8350

Sincerely,

Jim Wilcox

c. Kent Larson
Judy Poferl

BEFORE THE SOUTH DAKOTA
PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE PETITION OF NORTHERN STATES POWER COMPANY D/B/A XCEL ENERGY FOR APPROVAL TO INCLUDE CERTAIN RENEWABLE ENERGY DEVELOPMENT FUND COSTS IN THE ELECTRIC FUEL CLAUSE ADJUSTMENT	)	Docket No. EL04-__ **PETITION FOR APPROVAL OF THE INCLUSION OF CERTAIN RENEWABLE DEVELOPMENT FUND COSTS IN ITS FUEL CLAUSE**

INTRODUCTION

Pursuant to SDCL 49-34A-25 and related South Dakota Administrative Rules, Northern States Power Company d/b/a Xcel Energy ("Xcel Energy" or "Company") hereby petitions the South Dakota Public Utilities Commission ("Commission") for an order approving the inclusion in the monthly fuel clause adjustment of project costs associated with the Company's Renewable Development Fund energy production projects. Recovery of Renewable Development Fund expenditures would be accomplished by including costs from FERC Account 407.3 in the monthly Fuel Clause adjustment. The Company also submits as part of this filing a revised South Dakota Fuel Clause Rider tariff, which the Company proposes as the rate mechanism for recovering these costs.

Specifically, the Company seeks Commission approval of:

- Rate recovery of the South Dakota jurisdictional allocation of qualified Renewable Development Fund ("RDFd") payments directed only to projects that result in new, renewable energy production. Recovery of any and all other RDFd disbursements (except for certain administrative costs) is not being requested in this application;
- Rate recovery of the South Dakota jurisdictional allocation of a prorated portion of the administrative costs related to the renewable energy production project disbursements.
- The existing Fuel Clause Adjustment ("FCA") as the mechanism to attach a renewable energy production cost recovery factor, determined from the actual renewable development fund renewable energy production project expenditures and South Dakota electric sales;

- An allocation method to properly compute the South Dakota portion of the renewable energy production project expenditures and the applicable administrative expenses;
- The corresponding Fuel Clause Rider No. 1 tariff sheets, revised.

In 2004, the new renewable energy production cost portion of the fuel clause adjustment factor would recover approximately $301,109 in renewable energy production project grant payments. This amount consists of $156,807 paid in 2003 and $144,302 in payments expected to occur in 2004. (See Attachment C) The bill impact to a typical South Dakota electric residential customer using 800 kWh would be about 7.2¢ per month. In 2005 and beyond, the amounts will vary depending on the magnitude and timing of future RDFd funding cycles, the timing of project construction and the associated award payments, as well as electric sales.

I. General Filing Information

A. Name, Address and Telephone Number of Utility

Northern States Power Company d/b/a Xcel Energy
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(605)339-8200

B. Name, Address and Telephone Number of Utility Attorneys

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Pierre, SD 57501
(605)224-8803

C. Date of Filing and Date Proposed Change Will Take Effect

The date of this filing is May 6, 2004. The Company requests that this filing become effective on the first day of the month following approval of the Petition.

D. Title of Utility Employee Responsible for Filing

James C. Wilcox
Manager, Government & Regulatory Affairs
Xcel Energy
500 West Russell Street
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II. Background

SDCL 49-34A-25 permits public utilities to automatically adjust charges to reflect changes in the cost of purchased energy, and changes in the cost of fuel consumed in the generation of electricity. The company's current fuel adjustment clause is based on the sum of the current period cost of energy purchased and the cost of fuel consumed per kWh less the base period electric cost per kWh. The cost of energy purchased has traditionally been defined as the cost of purchased power and net interchange for those items listed in the Federal Energy Regulatory Commission ("FERC") uniform system of accounts Account 555. Also, other system-wide fuel resource related items like hydro, wind power and other renewable energy purchase contracts as well as the customer buyback program[1] and financial instruments expenses are currently reflected in the fuel clause recovery computation.

This filing seeks authority to allow the inclusion of part of the Renewable Development Fund expenses in the monthly fuel clause adjustment. That is, the Renewable Development Fund

[1]The Customer Buyback Program is used only during extreme high cost periods or during emergency conditions and after all other resources including interruptible load relief programs have been called upon.

provides grants for both energy production projects as well as research and development type projects. This petition seeks cost recovery only for expenses that relate to energy production projects funded through the Renewable Development Fund and a prorated portion of the related administrative expenses. The Company also requests approval to update its South Dakota Fuel Clause Rider tariff language in order to provide for a rate mechanism through which these costs can be recovered.

III. Proposed Application of Renewable Development Fund Expenses to Fuel Adjustments

A. Background of the Renewable Development Fund

Xcel Energy operates the Prairie Island Nuclear Generating Plant near Red Wing, Minnesota to provide low-cost base load electric power to customers in South Dakota, North Dakota, Minnesota, Wisconsin, and Michigan. A "dry cask" repository is located at the plant site to temporarily store spent nuclear fuel from the generation of electricity at the plant. In 1994, the Minnesota legislature passed an Act[2] enabling this temporary spent fuel repository. In exchange for this approval, the Act established, among other things, a "Renewable Development Fund" for the purpose of promoting and funding projects involved in the research, development, and creation of renewable energy sources.

Xcel Energy was initially required to transfer $500,000 into the Fund annually for each dry cask containing spent fuel located at Prairie Island after January 1, 1999 (this amounted to $8.5 million per year from the 17 casks in use). During the 2003 Minnesota legislative session, the funding calculation was modified from a per cask basis to a flat $16 million per year, effective January 1, 2003.

An advisory committee was formed in 1999 to develop criteria and procedures for administering the Fund. The criteria are used in the process for determining eligibility and selecting projects to be ultimately funded through the Renewable Development Fund. The advisory committee consisted of two representatives from Xcel Energy and two representatives from the environmental community. In the summer of 2000, the advisory committee

[2] Minn. Stat. 116C.779.

drafted the RDFd selection criteria. After the criteria were finalized, the advisory committee was dissolved and a "Renewable Development Board" was formed. The 2003 MN legislation also added a fifth member representing the Prairie Island Indian Tribe to this board.

The Renewable Development Board ("Board") is responsible for administrating the Fund, including implementing the funding process, evaluating and selecting requests, and disbursing funds to successful applicants. All decisions of the Board are made by consensus, and the Board may seek technical consulting resources as necessary to administrate the program. Projects receive funding if they are selected through a bid solicitation process.

Attachment A summarizes the project categories and evaluation process that was used in the first RDFd funding cycle. Attachment B contains brief descriptions of those projects that were awarded RDFd grants during the initial funding cycle.

On February 25, 2003 Xcel Energy filed an RDFd cost recovery application with the South Dakota Public Utilities Commission. In its application, the Company sought to recover the allocable South Dakota portion of all types of projects (Categories A, B, and C) funded through the RDFd as well as the corresponding fund administrative costs through the existing Fuel Clause Adjustment ("FCA"). On March 2, 2004 the Commission closed this first docket.

On December 30, 2003 the Company issued another Fund request-for-proposal ("RFP"), beginning the second RDFd funding cycle. A maximum of $25 million is available to be awarded under the second RFP for investment in renewable energy research, development, and for energy production related projects. Prospective applicants had until March 16, 2004 to respond. Grant awardees will be announced later in 2004.

B. Proposed Application of RDFd Expenses to the Fuel Clause

Due to the changing nature of the funding administered through the RDFd, Xcel Energy proposes that only certain types of RDFd payments - those supporting projects directly resulting in the generation of electricity - and a prorated portion of the Administrative costs be allocated to and recovered from each of

the various state jurisdictions it serves. The Company believes that the remainder of program/project payments made through the RDFd as well as the Minnesota prorated share of the Fund's administrative costs should be recovered from State of Minnesota electric jurisdiction ratepayers.

Today, expenditures made from the RDFd include the following:

- Renewable Energy Production grants - for projects resulting in the renewable generation of electric energy. The payments are made based on the achievement of certain project milestones as defined in each grant contract, referred to in the Company's February 2003 application as Category A projects. These grants are the only project expenditures for which recovery is being sought in South Dakota;
- Research and Development grants - for research and development programs formerly referred to in the Company's February 2003 application as Category B and C projects (see Attachment A);
- MN DOC Renewable Energy Production Incentive ("REPI") program payments - small wind and biogas projects, for use by entities in addition to Xcel Energy and required to be located in the State of Minnesota; and,
- RDFd program administration costs. The Company is proposing recovery of a prorated portion of these costs in South Dakota.

In this application, the Company is proposing to jurisdictionally allocate to South Dakota renewable energy production project disbursements and a prorated portion of the administrative costs, since these projects result in the generation of electric energy and have no strict geographic requirements. The portion of these costs attributable to Northern States Power Company - Minnesota Company ("NSP-MN") and NSP-Wisconsin Company ("NSP-WI") is determined through the FERC approved Minnesota - Wisconsin Companies Interchange Agreement. The NSP-MN Co. amount is then proportionately allocated to customers in its South Dakota, North Dakota, and Minnesota jurisdictions.

To be clear, the Company is seeking to recover 100 percent of all other Fund expenditures and the Minnesota prorated share of Fund administrative expenses from the State of Minnesota electric retail customers. These costs include all research and development projects, Minnesota-located renewable energy

production incentive program small wind and biogas projects, and a portion of the expenses associated with administering the RDFd program overall.

1) Recovery of Renewable Energy Production Project Funding from All NSP Electric Jurisdictions

Xcel Energy believes that all states in its NSP electric system should participate in the costs of an adequate and diverse supply of electricity. To that end, the company believes that it is appropriate to share the costs of renewable energy production projects - which result in the generation of electricity from renewable sources - among all of the jurisdictions in the NSP system that will consume the electricity produced by those projects. This is consistent with the allocation of fuel and purchased energy costs recovered through the Fuel Clause Adjustment.

Such cost sharing is also consistent with that defined in the Minnesota - Wisconsin Companies "Interchange Agreement," a FERC-approved tariff that establishes a formula rate for sharing costs between the NSP-MN and NSP-WI operating companies. The formula rate in the tariff includes very specific language on the types of costs appropriate for sharing between the two companies. One of the requirements of the Interchange Agreement is that there be an Interchange Agreement Coordinating Committee made up of two representatives from each company. The function of the Interchange Agreement Coordinating Committee is to administer the Interchange Agreement, which includes determining the costs appropriate to be shared between the two companies. The Interchange Agreement Coordinating Committee recently reviewed the disbursements made through the RDFd and determined that only those costs related to energy supply projects (with no requirement to be built within the State of Minnesota) are appropriate to be shared between the companies.

2) Recovery of All Other RDFd Program / Project Payments Only From Minnesota Jurisdiction Retail Electric Customers

While Minnesota statutes do not specifically address the jurisdictional allocation of RDFd investments, it is the

Company's position that the intent of the 1994 and 2003 Prairie Island legislation in Minnesota was to 1) encourage Xcel Energy to provide financial support for renewable energy research and production, and 2) assure that the Company would be able to recover in rates all costs to do so. The Minnesota statutory intent is clear because the legislation included specific language allowing for the recovery of RDFd program costs through an automatic recovery mechanism and the Minnesota legislature only has the authority to establish rate recovery for the Minnesota jurisdiction.

However, allocating to other jurisdictions those RDFd costs that do not directly result in new energy production introduces an undue risk to the Company that not all program expenditures will be recovered. Xcel Energy recognizes that, in general, each state Commission has their own set of policies and priorities. It is not uncommon for the state Commissions to disagree on the necessity of various investments or expenses, or their recoverability in utility rates.

Traditional power supply costs (fuel, purchased energy) incurred by the Company for its NSP system load are shared among all jurisdictions by methods approved in South Dakota, North Dakota, and Minnesota (and to NSP-WI through the FERC-approved Interchange Agreement). When the RDFd legislation was approved, the manner of distributing funds and the purpose of the projects chosen for distribution were not known. Given that Minn. Stat. 116.779 states that the funds are to be used for "renewable energy projects," Xcel Energy presumed initially that these would continue to remain power supply costs and that it would have an opportunity to recover these costs through the fuel cost recovery mechanisms in other state jurisdictions.

However, of the $16.0 million awarded in the first cycle of RDFd grants, $6.2 million was awarded to research and development projects (see Attachments A and B). In addition, as a result of the 2003 legislative session, the annual RDFd fund outlays were expanded to include more research and development. The 2003 legislation directed a one-time payment of $10 million be made from the existing Fund balance to the University of Minnesota Initiative for Renewable Energy and the Environment to support basic and applied research and demonstration activities at the University. In addition, the legislation called for an annual payment of $6 million for Renewable Energy Production Incentive (REPI) payments, a renewable energy subsidization program administered by the Minnesota Department of Commerce. This

program focuses on the development of small wind and biogas projects available to entities other than Xcel Energy, with the requirement that they be located in the State of Minnesota. This component was intended to replace a state tax credit, as evidenced by the statutory references to that program.

Most research and development programs, and those projects that are intended to be a replacement for a Minnesota tax credit (and which constitute a significant portion of total RDFd funding) provide no direct benefit and little if any indirect benefit to South Dakota ratepayers. This is unlike energy production projects that can be located outside of Minnesota. Allocating this portion follows the more traditional allocation of energy-related costs that are shared on a system-wide basis.

Attachment C summarizes the pattern of total Fund disbursements made in 2003 and forecasted to occur in 2004 as a result of the grants awarded in the initial RDFd funding cycle and the additional funding requirements defined in the 2003 Prairie Island legislation. This application proposes recovery in South Dakota of only the allocable portion of renewable energy production expenditures. The basis for allocating the renewable energy production costs to South Dakota is retail electric sales, which is consistent with other fuel and purchased energy expenses.

3) Recovery of a Prorated Portion of Fund Administrative Costs in South Dakota

The Company is seeking to allocate a portion of the administrative costs to the South Dakota jurisdiction, in proportion to the funding for renewable energy production (Category A) projects. The Company proposes to establish an allocation on a monthly basis based on a prorated share of expenditures. The majority of administrative costs are incurred during the bidding and selection process for each funding cycle, well before the associated contract awards are paid, and payments can span five or more years. Therefore, we propose to allocate administrative costs based on the target funding guidelines set forth for the second funding cycle RFP. Using the information regarding expected awardees from the fund ($16

million annually) we calculate the allocation to be applied to administrative costs as follows:

Administrative Cost Weighting

Project Category	Funding	Cost Recovery
Funding for REPI	$ 6 million	Minnesota
Project Funding		
Category A	$ 6 million	All Jurisdictions
Category B	$ 4 million	Minnesota
Total Funding	$16 million	

This weighting results in $10 million being assigned directly to Minnesota with $6 million allocated to all jurisdictions, or 62.5 percent assigned to Minnesota ($10 million / $16 million) and 37.5 percent allocated to all jurisdictions ($6 million / $16 million). During 2003 and 2004, Xcel Energy anticipates spending about $807,924 in administrative costs. The above percentages would result in $302,972 ($807,924 X 37.5%) allocated to all jurisdictions and $12,532 ($3,202 in 2003 and $9,330 in 2004) allocated to the South Dakota jurisdiction, specifically. Attachment C to this filing includes the calculation of the South Dakota portion of RDFd Administrative costs.

Xcel Energy's perspective in assigning a prorated portion of the RDFd Administrative costs to all jurisdictions is that these costs are necessary in support of the:

1) Bidding process - choosing those projects most likely to result in the successful production of electric energy; and,

2) Monitoring process - ensuring successful completion of the defined milestones prior to grant payments.

Therefore, it is appropriate that all those jurisdictions that share in the benefits of the energy production projects also share in the cost of selecting and monitoring those projects.

C. Description of Accounting and Proposed Recovery

The Company proposes to include RDFd costs recorded in FERC Account 407.3 (Regulatory debits) in the calculation of the fuel clause adjustment. SDCL 49-34A-25 provides that "[t]he

commission shall permit a public utility to file rate schedules containing provisions for the automatic adjustment of charges for public utility service in direct relation to …" costs of fuel, which enables the Commission to permit this variance to the existing FCA rules to allow for this accounting treatment.

Using the existing automatic fuel clause adjustment mechanism would be more efficient, more economical, and less confusing than creating another rate adjustment mechanism or billing line item.

To accomplish this, the Company believes the appropriate method is to include RDFd costs associated with energy production projects in FERC Account 407.3 in the calculation of the fuel clause. A sub-account and work order used exclusively to track this RDFd activity within this FERC account will ensure an appropriate audit trail. Account 407.3 is the expense account to which regulatory assets in account 182.3 would be amortized. This results in consistent ratemaking and FERC accounting treatment. The proposed accounting is further detailed in Attachment D.

The Company's proposed recovery includes amounts related to 2003 and the months in 2004 prior to the prospective approval of the requested recovery. Xcel Energy proposes to amortize this beginning balance over the remaining months of 2004. For example, if the Commission were to approve recovery commencing in July 2004, we would propose to sum the total RDFd expense allocable to the South Dakota jurisdiction to that point, $237,837 ($156,807 from 2003 and $81,030 from 2004), and amortize it over the 6-month period July through December 2004. This would result in a monthly amortization of $39,639, which would then be added to the monthly RDFd expense allocable to South Dakota through the end of 2004.

Xcel Energy believes that this proposal is the optimal recovery methodology for these costs because:

1. SDCL 49-34A-25 clearly applies to fuel costs associated with the Prairie Island Nuclear Generating Plant, as one of the ". . . costs of fuel used in generation of electricity . . .." Disposal of spent fuel is but one of the necessary components of the use of that fuel.

2. The public interest is enhanced by the increased efficiency and elimination of customer confusion by using an already available and proven recovery mechanism.

3. The variance does not conflict with any provision of law; rather, it represents an efficient means of achieving the recovery of these fuel resource-related costs.

For these reasons, Xcel Energy believes that authority from the Commission for a variance to its automatic adjustment clause rules is warranted.

D. Update of Tariff Language in Fuel Clause Rider

Consistent with this request, Attachment E depicts the proposed revised Fuel Clause Rider (Sheet No. 64, 2nd Revision). The Company would also like to take this opportunity to update certain descriptions of the Rider along with the new Renewable Development Fund section to make this Rider language easier to understand and to be consistent with the language the Company uses in Minnesota and North Dakota. The Company believes that these revisions will clarify the fuel and purchased power recovery mechanism.

IV. The Requested Authorization is in the Public Interest

1. The Public Interest Is Not Adversely Affected

The Company believes that the public interest would not be adversely affected; that ratepayers benefit from the continued operation of the Prairie Island nuclear plant. Granting this request will provide the Company with the appropriate incentive to continue to encourage renewable fuel sources. Regulatory oversight of this request will be assured through the use of the accounting and record keeping procedures identified in Section III as well as the associated FERC Account 407.3 data to be disclosed on the monthly Fuel Clause Adjustment report (see sample on Attachment D).

2. The Requested Authorization Will Not Conflict With Standards Imposed By Law

The Renewable Development Fund is a crucial step needed to extend the operating life of the Prairie Island nuclear generating plant. Therefore, the Renewable Development Fund helps to minimize the Company's fuel cost making this proposal consistent with the purpose of the Automatic Adjustment of Rates law and rules. Similarly, the Company currently has been purchasing energy from a variety of renewable resources like hydro, wind and biomass. The purchased energy from these renewable resources broadens our energy supply portfolio. Moreover, the relative magnitude of these renewable energy purchases is low, meaning that they will not create a burden to ratepayers.

V. Conclusion

Xcel Energy respectfully requests that the Commission approve this filing pursuant to SDCL 49-34A-25 and other relevant rules, allowing for recovery of Renewable Development Fund expenditures paid to date and in the future through the Fuel Clause Adjustment, effective on the first day of the month following the date of approval by the Commission.

Respectfully submitted this 6th day of May 2004.

Xcel Energy

By: _____

JAMES C. WILCOX
MANAGER, GOVERNMENT & REGULATORY AFFAIRS

I. RDF Proposal Solicitation Process

RFP Release and Response

In the initial RDF funding cycle, the Request For Proposals ("RFP") was issued to a list of more than 200 interested persons on July 16, 2001, leading to 76 proposals being received on August 20, 2001. Of the 76 proposals, 29 projects were proposed which would produce energy from biomass, hydro, solar and wind facilities (Category A) and 47 projects were of the experimental and research and development variety (Categories B and C). The Board was extremely pleased with the number and variety of proposals submitted, but recognized the challenge ahead in sorting through and analyzing this volume of materials in the short period of time allowed.

Definition of Categories

The RFP described the three categories of projects that were identified and prioritized for funding. For the initial funding cycle, the Board allocated funds to these categories using the following annual targets:

Category A – Commercial Technology - 60%
Category B – Experimental Technology - 20%
Category C – Research & Development - 20%

The Board has the discretion to vary from the funding targets for Category A if it determines that greater value can be realized by supporting a different mix of projects. In no case will the Board exceed the targets set for Category B and C projects. In this initial round of bidding, there were an ample number of Category A projects offered. If there had been an insufficient number of selected Category A projects to meet the target allocation, funds could have been deferred to future years, but that was not the case in this initial cycle. The Board will have the opportunity to consider revising these targets prior to future funding cycles.

Bidders were asked to identify their projects as being associated with a specific category; however, the Board could choose to evaluate projects in another category as well which it did in several cases. Applicants and the Board used the following guidelines to prepare and evaluate proposals.

Category A - Commercial Technology

Projects that result in the actual development of new, commercially viable renewable resources will belong to Category A.

- A new renewable resource is defined as either a newly constructed renewable energy facility or a refurbishment of an existing renewable energy facility that results in an increase in the production of renewable energy.
- Projects are considered to be commercially viable if the technology employed has been demonstrated to generate electricity on a commercial (not experimental) basis.
- Eligible technologies for new resource development include wind, solar, hydro and biomass. For this RFP, biomass and hydro resources were further defined.
    - Biomass resources: organic matter available on a renewable basis, limited to dedicated energy crops and trees; agricultural food and feed crops; agricultural crop wastes and residues; wood wastes and residues; aquatic plant and animal waste gasification. Biomass resources types that are not eligible for funding include direct combustion of animal waste or municipal waste.
    - Hydro projects: run of river with a head of less than 66 feet (20 meters).

- Cost-effectiveness and overall value will be given significant weight in evaluating proposals in this category.

- The Board desired to fund a minimum of four projects in Category A. The Board also sought to fund a diverse mix of renewable resource technology types in this category.

Category B - Experimental Technology

Projects that advance research and development of technologies that are in a stage of development between the fully commercial scale and the fundamental (experimental) research stage, and could result in small-scale energy production.

- Projects in the pilot-scale or field-testing stage of development are encouraged in this category. Technologies that potentially can be duplicated on a large scale are preferred.

- Technologies that could enhance the reliability and dispatchability of commercially viable projects are encouraged in this category. Examples might include energy storage or hybrid systems that could address the intermittent nature of renewables and improve the firmness of the resource.
- Projects that enhance the value of renewable energy production although the project does not actually have to produce renewable energy, e.g. storage technology.
- Funding decisions will consider whether continuing support of a successful project through additional stages of development could ultimately lead to full commercial viability.
- The Board encouraged proposals that provide for participation in larger collaborative programs and were cost-shared by others. Such a strategy could have the potential to reduce the duplication of several smaller programs and result in larger technology advances.

Category C - Research & Development

Projects that involve basic fundamental experimental research and development of "pre-commercial" renewable technologies in the early stages of development.

- This category includes fundamental research and development projects that could eventually lead to or support the development of commercially viable technologies.
- Technologies in this category could be 5 – 25 years from commercial viability.
- As stated in Category B above, the Board encouraged proposals that provide for participation in larger collaborative programs and were cost-shared by other contributions.

II. PROPOSAL EVALUATION

Guidelines for Assessing Proposal Eligibility

In addition to the priorities described above, the Board developed a set of guidelines for assessing proposal eligibility. These guidelines emphasized projects that would promote economic development in the region, offer resources priced reasonably relative to conventional electricity resources,

provide additional value by leveraging requested RDF funds with other sources, and have strategies in place for dissemination, use and replication of the renewable energy technology.

Proposals utilizing commercial technology (Category A) were evaluated separately from proposals for research and development (Categories B and C). Category A projects would result in the actual production of renewable energy. To evaluate the cost-effectiveness of these proposals it was necessary to take into consideration the amount of funding requested, the amount of energy to be produced, the price of energy, and other factors that are not applicable to proposals in Categories B and C, which involve exploration of developing technologies in an experimental or research and development form.

Project Evaluation Steps

The proposal evaluation and scoring process in the initial funding cycle consisted of the following activities:

- Upon receiving proposals on August 10, 2001, Xcel Energy staff provided one complete set of proposals to each of the four members of the RDF Advisory Board.
- Xcel Energy retained the services of PA Consulting, the National Renewable Energy Laboratory (NREL) and Oak Ridge National Laboratory (ORNL) to assist staff with synthesizing and evaluating proposals. NREL's and ORNL's roles were limited to proposals in Categories B and C.
- Xcel Energy staff developed spreadsheets containing information about all of the proposals. The spreadsheets were programmed to automate the process of screening and scoring proposals.
- The scoring spreadsheet was distributed to each of the RDF Advisory Board members who reviewed each proposal independently.
- Xcel Energy staff conducted a cost-effectiveness evaluation of proposals in Category A and incorporated the results of this evaluation into the scoring spreadsheets
- The Advisory Board met in person and conducted conference calls to review and discuss the merits of each proposal.
- Xcel Energy staff incorporated the scores assigned by each Board member into a master scoring spreadsheet that calculated average scores from each of the four Board members' individual scores.

- All Category A proposals were ranked according to their total scores, and by technology type.
- The Board reviewed the results of the master scoring spreadsheet and made Category A funding selections based on the resultant rankings, as well as its stated preference to fund a diverse mix and number of renewable energy technologies.
- The Advisory Board discovered that the scoring system did not work as well with Category B and C proposals as it did with Category A proposals. Although the criteria were valid, the scoring system seemed to place too much emphasis on nonscientific criteria. Consequently, in determining winning Category B and C proposals, the Board reduced its reliance on the scoring tableau and relied more on the following:
    - the guidelines set up for the fund;
    - the advice from NREL and ORNL;
    - a preference for funding within the Company's service area;
    - a preference for biomass or biomass enhancing technology because of the agricultural base of the region;
    - and a preference for strong links to renewable energy.

- The Board made Category B and C funding selections based on input received from NREL and ORNL and its own experience and review of proposals received, as well as its stated preference to fund a diverse mix and number of renewable energy technologies.

Evaluation Framework & Scoring Matrix

As described in the RFP, each proposal was evaluated and scored based on its responsiveness to five evaluation criteria:

1. Project Approach & Work Plan;
2. Project Team;
3. Economic Development Impact;
4. Technology Advancement (Categories B & C only);
5. Cost-effectiveness.

Each of the Board members assigned a score for each criterion that was multiplied by a specific weighting factor for each of the five criterion, as shown below. This scoring matrix applied to all criteria and project types (except the cost-effectiveness criterion for Category A projects).

Proposal Scoring - Point System

0 points Not Responsive to the Criterion
1 point Response is Minimal
2 points Responds Satisfactorily to Most RFP Requirements
3 points Responds Satisfactorily to All RFP Requirements
4 points Response is Specific and Superior, both quantitatively & qualitatively

Scoring Matrix

Criteria	Category A		Category B		Category C	
	Weight	Possible Score	Weight	Possible Score	Weight	Possible Score
Project Approach and Work Plan	15%	60	15%	60	15%	60
Project Team	10%	40	10%	40	15%	60
Economic Development Impact	15%	60	15%	60	10%	40
Technology Advancement	na	na	30%	120	40%	160
Cost-Effectiveness	60%	240	30%	120	20%	80
Total Possible Points	*100%*	*400*	*100%*	*400*	*100%*	*400*

Criteria Descriptions

Project Approach and Work Plan

- The project approach demonstrates a clear, appropriate and complete plan for achieving the program goals and objectives.
- The proposed work plan represents a well thought out and collaborative effort among different project activities and team members.
- There is a well-defined set of products to be produced as a result of the project work, and the products help to achieve the stated goals and objectives for the project.
- The schedule for implementing the work plan allows realistic timeframes for completing project activities and delivering products such as data, reports and/or renewable energy.
- The work plan allows for regular reporting of project progress to the Board or the RDF project manager.

Project Team

- The structure of the team provides clear roles and responsibilities among team members and ensures the project can stay on track, on schedule and within budget.
- The team members have the skill, experience and knowledge to conduct the work needed to develop the proposed technologies, products or services.
- The team includes entities with the financial ability and market position to facilitate the transfer of knowledge or products to the market.

Economic Development Impact

- The project could lead to diversification of electricity supplies in the Xcel Energy service area, especially those that are sustainable and indigenous to the region.
- The project provides benefits to the regional economy through:
  - Commercialization of useful products or services in the short-, medium-, or long-term;
  - Jobs created by the science, knowledge or commercialization of technology resulting from the program; and
  - Tax revenues or abatements, or other fiscal benefits resulting from development or expansion of new industries or creation of jobs.

Technology Advancement (Categories B and C only)

- The project will lead to the development of technologies, products or services that have a likelihood of commercial success.
- The proposal explains how the work is not duplicative of R&D work being conducted elsewhere, or how the proposed work will complement any related efforts.
- The proposal contains an explanation of how the proposed R&D work is not adequately provided by the competitive or regulated markets.

Cost-Effectiveness

The cost-effectiveness evaluation was conducted by Xcel Energy staff (to the extent possible for Categories B and C) and reviewed and discussed among the RDF Advisory Board.

In evaluating the cost-effectiveness of proposals in Category A, it was important to apply a method that was appropriate for the wide range of

projects proposed in terms of size, technology type, amount of funding requested, and whether the applicant was planning to sell the energy produced, or consume it on-site. For applicants that were planning to sell energy produced, the Board also considered the likelihood of success in obtaining a power purchase agreement at the price provided in the proposal.

As described in the RFP, staff calculated the amount of renewable energy generated over a 15-year period per dollar of RDF funding requested. The Board and staff also determined that the Ratepayer Impact Test ("RIM") test was the most relevant measure of Category A proposals as discussed further below.

The RIM test is calculated as follows:

$$\frac{\text{Xcel Avoided Energy Cost}}{\text{RDF \$ Requested + Energy Payments to Applicant + Lost Utility Revenue}}$$

In the numerator of this formula, Xcel Energy's avoided cost is the amount Xcel Energy would otherwise spend to purchase the amount of energy proposed on the open market. It is derived by multiplying the amount of energy proposed (on-and off-peak) times the forecasted market prices (on-and off-peak) in the MAPP region.

The denominator of the formula is calculated by summing the amount of funding requested, plus the energy payments that would be made to the project (if applicable), plus revenues lost to the utility (if applicable). For proposals that required a power purchase agreement with Xcel Energy or another entity, the energy payment amount was based on the price stated in each proposal. For proposals that qualified for net metering and proposed selling energy back to the utility, an estimate was made based on the net metering tariff. For proposals for self-generation, lost utility revenues were based on a applicants' rate class and associated tariff. For applicants located outside of Xcel Energy's service territory, we estimated revenue losses for the affected utility.

The numerator and denominator are both present valued to the year 2002 using a discount rate of 7.75% over a 15-year period, thereby accounting for the time value of money.

Category B and C Proposal Evaluation

After conducting its initial review of Category B and C proposals submitted in the initial funding cycle, the Advisory Board and Xcel Energy staff decided that they didn't have the technical expertise necessary to evaluate many of the proposals. To assist with the evaluation of these proposals, Xcel Energy retained the services of the National Renewable Energy Laboratory (NREL) to provide insight into the viability of the proposed technology studies and speak toward duplicative research being done in the field.

Scoring criteria developed and approved for Category B and C were thought to be an adequate assessment tool; however, once 'actual proposals' were in hand, the information did not fit well into the initial framework. Although the Board concluded that the scoring matrix outlined in the RFP was not well suited for evaluation of proposals received in Category B and C, it still considered how well each proposal complied with the evaluation criteria listed in the RFP.

Consequently, although the Board may not rely primarily on the numerical scoring approach, it may use the underlying evaluation criteria, to help steer final selections. The Board is confident that decision-making will be improved if rigid use of the numerical scoring approach is avoided.

In conducting its evaluation of the projects submitted in the initial cycle, the Board grouped each proposal within their technology type and combined their judgments with the comments and rankings from NREL and ORNL. Category B and C proposals were discussed together for better comparison, and the funds allocated for Category B and C were then combined and distributed as one amount. The general groupings were:

- Fuel development
- Biomass co-firing
- Fuel cell development
- Facility design & feasibility studies
- Hybrid systems, including storage for wind systems
- Hydro
- Wind forecasting/modeling/data collection systems
- Small wind
- Mechanical improvements and prototypes

All of the items that are intrinsic to the evaluation criteria established in the RFP were used for comparison. Research concepts, vision of future application possibilities, team experience, various cost components all helped inform the Board's opinions and assisted in valuing each of the proposals. Geographic preference was measured based on the location for the work to be done. As with Category A Proposals, the Board also had a preference to select an overall mix among project technologies.

With this initial project funding cycle, the Board relied much on the NREL/ORNL advice, but tempered it with judgments about where the money was going, a desire to fund across technologies and some preference toward biomass because of the agricultural nature of the upper Midwest.

Proposal Scoring and Selection Results

To incorporate the results of the RIM tests into the Category A scoring spreadsheet, the highest RIM test ratio was given a score of 4, and the lowest ratio was given a score of 0. All proposals then received a score between 0 and 4 based on an interpolation between the highest and lowest ratio. The resultant interpolated RIM test score was then entered into the Category A scoring spreadsheet under the cost-effectiveness criteria. As described above, for criteria other than cost-effectiveness, each individual Board member's scores were averaged and inserted into a master scoring spreadsheet.

In making funding decisions for Category A projects, the Board considered the results of the scoring matrix as well as its desire to select a diverse group of renewable technology types. The Board also considered how combinations of different proposals aggregated to fit with the total amount of funding available.

The total scores were calculated for each proposal by averaging the scores assigned to proposals by each Board.

For Categories B and C, project scoring was based primarily on the following:

- The degree to which requested funding leverages other investment sources. The proposed budget should clearly identify the amount of RDF funds to be used to perform the work identified in the work plan, and how any match funds will be allocated to the work plan. Xcel Energy wants to leverage the greatest amount of capacity per dollar of funding investment.

- The amount of RDF funding should be appropriate based on the identified goals and objectives of the project and the anticipated value and benefits of the project;
- The proportion of the budget dedicated to direct expenses (labor and materials) relative to overhead and other administrative costs.

Categories B and C are scored using a cost-effectiveness weighting factor of 30 and 20, respectively. Both Category B and C projects will be scored by multiplying these factors by a value between 0 and 4 in the Proposal Response scoring matrix.

As stated in the RFP, the numeric results from the bid evaluation are to be considered by the Renewable Development Board in awarding selection, but are not binding on the Board. The Board retains the right to consider other factors consistent with the best overall use of the Fund that the Board in its judgment determines appropriate, including the right to reject all bids.

Given the challenges of the scoring process for Categories B and C, the Board worked diligently to arrive at Board consensus through a thoughtful process that would yield meaningful results. The Board considered the criteria as well as its desire to select a diverse group of renewable technology types. As with Category A proposals, the Board also considered how combinations of different projects aggregated to fit with the total amount of funding available within Categories B and C.

III. PROPOSALS SELECTION

The Board selected the research and development projects it believes will best serve Xcel Energy customers in the 5-20 year future.

After careful consideration, the Board selected 8 Category A projects[1] comprising four renewable technologies - three biomass, one hydro, two solar and two wind projects. A total funding amount of almost $9.8 million will result in the development of over 12,000 kW of renewable energy.

[1] One project, MN Corn Processors, Inc., was withdrawn in mid-2002.

The Board selected 11 Category B and C projects comprising three renewable technologies - 7 biomass, 1 solar and 3 wind projects. A total funding amount of almost $6.3 million was granted for these projects.

IV. NEXT STEPS

Grant Contract Negotiations and Process Review

Disbursements from the renewable development fund will be made in accordance with individually negotiated grant contracts. RDF money will be used to reimburse the contractor for expenses paid by the contractor and will be paid after the Xcel Energy has received and approved the deliverables due for the billing period. Xcel Energy will administer and monitor expenses to be paid so that funds paid out do not exceed the total amount of funds granted to the project and authorized by the Board. Negotiations will begin immediately to complete and execute grant contracts with each of the Category B and C recipients. No power purchase agreements will be required for any selected proposal in these categories. Executed grant contracts will be submitted to the Commission for approval as soon as practical.

Of the $16.5 million accumulated for the Renewable Development Fund in this first cycle, a total of $15.6 million was awarded to selected projects over all categories. The remaining amount will be 1) used for allowable Board and administrative expenses, and 2) rolled forward into the next funding cycle. Additionally, in the event that any projects selected for funding do not come to fruition, money allocated to those projects will be returned to the fund and available for use in the next funding cycle.

Over the next few months, Xcel Energy staff and the Board is completing review of the experiences of this first RDF funding cycle taking note of which parts of the bidding and evaluation process went as expected and which parts may need alternative approaches. As with all new programs, "lessons learned" provide valuable opportunity for process improvement and enhancement. The Company intends on submitting a report on these lessons in the near future.

Category "A" Projects (Commercial Technology)

Crown Hydro
(Hydro, $5,100,000)

The Crown Hydroelectric project is a run of river, 3.2 MW facility with approximately 45 feet of head, located on the west bank of St. Anthony Falls in Minneapolis. It's anticipated that Crown Hydro will sell energy to Xcel Energy or another entity. In addition to the electrical generation component, this project will also help to revitalize the Mississippi riverfront at the Mill Ruins Park. Commercial operation of the Crown Hydro plant is expected in December 2002, with final completion of the project in April 2003.

AnAerobics, Inc.
(Biomass, $1,300,00)

AnAerobics, Inc. currently owns and operates a treatment system in Montgomery, Minnesota for Seneca Foods Corporation, the largest canned vegetable processor in the U.S. Using a first-of-its-kind technology, AnAerobics is simultaneously converting both solid and liquid waste from the corn and pea processing plant into methane gas and carbon dioxide. This facility generates methane that will be scrubbed and used as fuel to generate 1.7 MW of electricity to be sold to either Alliant or Xcel Energy. AnAerobics has partnered with Alliant Energy to operate the electrical generation system. The estimated completion date for the project is late 2002.

Minnesota Department of Commerce
(Solar, $1,150,000)

Under this proposal, the Minnesota Department of Commerce, State Energy Office will administer a rebate program for grid-connected photovoltaic energy installations that will buydown the up-front costs of facilities up to 4 kW in capacity. The rebate program will provide a rebate of $2,000/kW for up to 4 kW based on the nameplate rated capacity of the equipment, with a program total of approximately 400 kW of grid-capacity installed. Program participants will provide an estimated cost-share of $7000/kW, providing excellent leveraging of RDF dollars. The duration of the rebate program is four years.

Project Resources Corporation
(Wind, $900,000)

Project Resources Corporation, together with its development partner, enXco, Inc. will construct six 900 kW wind turbines, two each at three separate locations near distribution substations in southwest Minnesota. The development will employ the use of prototype Enron turbines that have yet to

be installed in the U.S. The development incorporates a new landowner investment program where individuals from the community can purchase shares and earn a return from the project without having turbines located on their land.

Pipestone – Jasper School System
(Wind, $752,835)
The Pipestone-Jasper Cooperative Wind Energy Project will result in the development of a 900 kW wind turbine, located on the property of a public school that is currently under construction. The school will use approximately 75% of the energy produced and will sell 25% to the Sioux Valley Southwestern Electric.

Minnesota Corn Processors *[* project withdrawn *]*
(Biomass, $400,000)
Minnesota Corn Processors, LLC (MCP) will install a methane engine to utilize methane from this processing facility located in Marshall, Minnesota. The methane, which is produced from an on-site residual-processing stream, is presently being flared. A reciprocating engine will burn methane to produce electricity at a capacity of 580 kW, which will be used on-site. The application of burning methane in a reciprocating engine has been used at many sites across the country however the methane production at this facility is a new process because it will use methane from a different residual process stream. The project will develop a report that can be used to show other industrial process facilities in the State how to implement similar projects. The estimated in-service date for the project is October 2002.

Science Museum of Minnesota
(Solar, $100,000)
The Science Museum of Minnesota is in the process of completing design work on a 1,000 square-foot, year-round building that will serve as an Environmental Experiment Center (ECC) and the operating headquarters for its 1.2 acre enclosed outdoor exhibit space called Science Park. This building will generate more energy than it uses on an annual basis by employing a photovoltaic-integrated roof. The excess electrical energy generated by the ECC will be fed directly into the Science Museum's nearby electrical service so there will be no need for a power purchase agreement. Contributions from the RDF financed the rooftop solar panel that was installed and operational in the summer of 2002.

Greden Dairy & Crop Farm
(Biomass, $80,000)

The Greden Dairy and Crop farm is a 900-cow facility located in Altura, Minnesota. This dairy farm animal waste project will anaerobically digest dairy manure waste to produce methane. The system will have a capacity of 100 kW, with about 325,000 Btu of excess heat being generated and used on site. Excess energy generated will be sold to Xcel Energy at a net metering rate, although the proposal also has a sub-proposal that will use the excess energy on site to operate a soybean processing facility. Under this option, soybean oil will be produced and either sold or used to replace diesel fuel in the farm machinery.

Category "B" and "C" Projects (Research and Development)

University of North Dakota Energy & Environmental Research Center
(Biomass, $1,250,142)

Development and Testing of an SOFC Gasification System

Biomass gasification is a concept that has been researched and demonstrated in smallscale demonstration projects, but has not been successfully demonstrated in largescale gasification plants or small-scale distributed production plants.

The work done under this proposal will pave the way for an economical small biomass power system by incorporating solid oxide fuel cells (SOFC) with gasification systems and eliminating redundant equipment, thereby reducing the cost of biomass gasification. The project will design and build a working, self-contained biomass gasification power system without external heating or cooling devices. Secondary design goals include a modular design that allows economic manufacture of components and making the system as automated as possible.

Colorado School of Mines
(Biomass, $1,116,742)

New Electrocatalysts for Proton Exchange Membrane Fuel Cells Based on Heteropoly Acids

Fuel cells represent an efficient link between renewable fuels - such as hydrogen and methanol from biomass or ethanol directly from corn – and

the generation of electricity. The proton exchange membrane fuel cell (PEMFC) has many distinct advantages but is limited to the use of clean hydrogen at temperatures <100 degrees C and employs large amounts of precious metal catalyst.

This project will study the behavior of metal substituted heteropoly acids (HPA) in a PEMFC using hydrogen, methanol or ethanol. This research could lead to the development of a direct methanol or ethanol fuel cell or to a more robust hydrogen powered system.

National Renewable Energy Laboratory
(Solar, $934,628)
Solid State Titania Solar Cell
This effort is fundamental research on a new solid state solar cell based on mesoporous Titanium Dioxide Film. The materials of the cell would be low-cost and readily available. The process steps in cell production will all be bench-top, wet chemistry, and significantly lower cost than other expensive procedures used in other solar cell production methods. Objectives of the project are (1) improving the efficiency of present day examples of such cells by adopting a novel sensitization method and (2) making the cell practical for the marketplace by developing a solid state version of the cell.

Sebesta Blomberg & Associates, Inc.
(Biomass, $738,654)
Feasibility of Producing Electricity and Heat Utilizing Steam Turbines and Spark Ignited Engine Generators at Generation II's Corn Ethanol Plant
This study will investigate the feasibility of producing electricity using steam turbines and spark-ignited generators based on gasification of spent distiller grains from the production of ethanol. The team will evaluate energy conditions at the Generation II plant, determine optimum gasifier and steam turbine sizes with the drying process, compare this sizing with the biomass fuel availability, characterize the fuel, and determine the site layout for the gasifier island and on-site fuel storage capacity. The Generation II ethanol plant is planned for construction in Brewster, Minnesota, in mid-2004.

The team anticipates that the wet distiller grains will be dried in a dryer and then sent to a gasifier where the dried distiller grains will be combusted. The hot gas from the gasifier will be used in two ways. Part of the gas will be sent to boilers where steam will be produced which will drive steam turbines to

produce electricity. Part of the gas will be sent to spark-ignited engine generators that will combust the low Btu gas to generate electricity. Although the equipment proposed consists of proven technology, it has not been integrated into a corn-ethanol plant as proposed in this study. Sebesta Blomberg will present the team's findings at the next annual International Fuel Ethanol Workshop.

University of Minnesota, Department of Electrical Engineering (Wind, $654,309)

Enhancing the Dispatchability of Wind Energy Using Inertial Storage and Hybrid Systems

The intermittent nature of wind affects the reliability and dispatchability of the resource. An inertial storage system could overcome these shortcomings by "firming up" the wind resource on a short-term basis (over a few tens of minutes) and by better utilizing the available transmission capacity, thus preventing it from becoming a bottleneck.

The goal of this study is commercialization of hybrid-storage systems to enhance the dispatchability of wind-derived energy. The design of a full-scale unit for field-testing will be presented at the end of the proposed three-year research project. The project investigates a hybrid system of wind, storage, and a turbine where the turbine uses the sub-component of the storage unit to lower the overall system cost.

National Renewable Energy Laboratory (Biomass, 638,635)

Development of a Centrifugal Filter for Removal of Tars and Particulates From a Biomass Gasifier Stream

Biomass gasification coupled with prime movers such as internal combustion engines, gas turbines and fuel cells is a renewable technology that could add substantially to the nation's mix of power production options. While biomass gasification has been practiced on and off for decades, removal of contaminants (tars and particulates) from the gas stream has been one of the major technical issues preventing this technology from realizing its full potential.

This development program proposes to bring to market a centrifugal filter effective in removing extremely small contaminants from biomass gasification streams, with the post-filter particulate levels being acceptable

for gas turbines. NREL and CPC will guide the design and performance criteria required for a commercially viable filter. MagStar Technologies, located in Hopkins, Minnesota, will complete the detailed design work and then fabricate prototype filters specifically designed for removing tars and particulates from the gas stream.

University of North Dakota Energy & Environmental Research Center (Biomass, $444,478)

Impacts of Biomass Cofiring on the Operation of a Next-Generation Power System

This study will test co-firing of biomass and coal using a high temperature heat exchanger technology that is currently being developed. This technology has shown promise as an efficient, environmentally cleaner high performance power system, but has yet to be tested using biomass cofiring.

The study involves field testing of two types of biomass – a woody material and a herbaceous material - with a Powder River Basin coal (or other coal of interest to Xcel Energy) at two different mix levels. The study will be funded in part by contributions from the U.S. Department of Energy.

Energy Performance Systems, Inc.
(Biomass, $266,508))

Economic and Technical Feasibility of Modifying the Minnesota Valley Plant (at Granite Falls) to Utilize Whole Trees as a Primary Fuel Source

This study will evaluate the economic and technical feasibility of modifying an existing coal plant in Minnesota to utilize whole trees, bailed waste wood, and hybrid grown trees as primary fuel sources. The study will also examine the option of adding a combined-cycle gas turbine system to increase capacity and plant efficiency.

EPS has developed and patented a wood combustion technology considered by the Electric Power Research Institute (EPRI) as having potential to be the best available wood-fired generation technology. The successful implementation of this technology could produce a clean source of base-load power as well as a new alternative crop for area farmers. The study would enlist the support of Oak Ridge National Labs, the Electric Power Research Institute, the University of Minnesota and the U.S. Forest Service.

Global Energy Concepts, LLC
(Wind, $75,000)

Advanced Methods for Development of Wind Turbine Models for Control Design

Significant benefits could be gained from developing sophisticated control schemes for variable pitch and/or variable speed wind turbines. These benefits generally fall into two categories: improved energy capture and reduced loading. While both of these benefits have potential to reduce the cost of wind energy, the latter has only seen limited application in commercial wind turbines. One of the reasons for this is that the design of sophisticated control systems for complex structures requires system models of equal sophistication and accuracy.

This study will develop linear models required for designing the necessary controls for variable pitch and/or variable speed wind turbines. It will investigate leveraging an existing commercial general-purpose structural dynamics code to extract the linearized system model or use identification techniques to obtain a realization of the linearized system model. The project will review these two methodologies, develop and exercise the selected approach to demonstrate feasibility, and document the results for commercial application and further research.

D.H. Blattner & Sons, Inc.
(Biomass, $68,470)
The Design & Installation of a Self-Erecting Wind Turbine
This project proposes to develop a "self-erecting" system that avoids the requirement of large and expensive cranes to install and maintain wind turbines and to enable wind turbines to be placed at greater heights. This development would also allow installation of wind turbines in more complex terrain and at a greater number of geographic locations than are practical using conventional cranes.

D.H. Blattner, in partnership with Elgood Mayo Corporation, has performed significant conceptual design for this self-erecting technology. D.H. Blattner is a heavy civil contractor, based in Avon, Minnesota. The firm has extensive construction experience and currently has contacts to erect almost 700 wind turbines throughout the U.S. The work under this proposal would build on already-completed development efforts by finalizing design parameters, fabricating and delivering a fullscale operational lifting device, and demonstrating the technology through fieldtesting.

University of North Dakota Energy & Environmental Research Center (Biomass, $60,000)

Biomass Impacts on SCR Performance

The EERC is forming a consortium of interested parties to evaluate the long-term effectiveness of selective catalytic reduction (SCR) for NOx control in coal-fired boilers that are also cofiring biomass material. Cofiring of biomass fuels provides a renewable energy resource and can significantly reduce CO2 emissions involved with the generation of electricity from coal combustion. The effect that cofiring biomass will have on catalysts for SCR of nitrogen oxides is poorly understood at best.

This project will involve bench-scale evaluations as well as long-term field testing with the aim to enhance the value of renewable energy production through the cofiring of biomass. The goals of this project are to determine the fundamental mechanisms of NOx reduction and potential blinding or masking of SCR catalysts because of flue gas constituents released from biomass fuels or from reactions of biomass and coal combustion constituents.

RENEWABLE DEVELOPMENT FUND (RDFd)
Electric Utility - South Dakota Jurisdiction
Summary of Actual and Projected RDF Disbursements (2003-2004)

2003	***Nov'02***	***Dec '02***	Actual ***Jan '03***	Actual ***Feb '03***	Actual ***Mar '03***	Actual ***Apr '03***	Actual ***May '03***	Actual ***Jun '03***	Actual ***Jul '03***	Actual ***Aug '03***	Actual ***Sep '03***	Actual ***Oct '03***	Actual ***Nov '03***	Actual ***Dec '03***	***Total 2003***
Renewable Energy															
Production Project Expenses			$0	$50,000	$0	$0	$130,000	$1,263,000	$1,167,341	$0	$471,250	$0	$0	$677,835	$3,759,426
Total Administrative Costs			$0	$116,928	$39,284	$1,081	$0	$17,133	$2,493	$11,711	$5,616	$1,432	$3,755	$8,489	$207,924
Other RDFd Expenses															
Research & Development			$0	$665,901	$5,094	$168,984	$82,362	$355,548	$171,832	$243,655	$58,014	$28,290	$38,325	$205,347	$2,023,353
U of M Research			$0	$0	$0	$0	$0	$10,000,000	$0	$0	$0	$0	$0	$0	$10,000,000
MN DOC "REPI""Program			$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$37,785	$37,785
Total RDFd Disbursements			$0	$832,829	$44,378	$170,065	$212,362	$11,635,682	$1,341,667	$255,367	$534,880	$29,722	$42,080	$929,456	$16,028,487
Calculation of Proposed SD RDFd Expense Allocation (1)															
Calculation of SD % Allocation															
NSP System sales (mwh)	3,020,782	3,406,748	3,588,965	3,312,971	3,140,965	3,062,196	3,008,533	3,114,496	3,620,610	3,725,340	3,738,452	3,072,469	3,050,970	3,508,576	
SD Juris. sales (mwh)	122,786	140,703	144,609	130,608	127,741	121,749	121,913	131,097	157,880	167,565	160,260	126,018	126,267	145,538	
SD Allocation % (1)				4.0994%	4.0784%	3.9875%	4.0030%	4.0220%	4.0137%	4.1321%	4.2906%	4.4303%	4.3922%	4.2032%	
Proposed SD Portion of the Renewable Energy Production Projects 2003 (2)			$0	$2,039	$0	$0	$5,204	$50,798	$46,854	$0	$20,219	$0	$0	$28,491	$153,605
Proposed SD Portion of the Administrative Expenses (3)	% Allocated to all Juris.	37.50%	$0	$1,798	$601	$16	$0	$258	$38	$181	$90	$24	$62	$134	$3,202
Proposed Total SD RDFd Expenses - 2003			$0	$3,837	$601	$16	$5,204	$51,056	$46,891	$181	$20,310	$24	$62	$28,625	$156,807

2004	Actual ***Jan '04***	Actual ***Feb '04***	Actual ***Mar '04***	Projected ***Apr '04***	Projected ***May '04***	Projected ***Jun '04***	Projected ***Jul '04***	Projected ***Aug '04***	Projected ***Sep '04***	Projected ***Oct '04***	Projected ***Nov '04***	Projected ***Dec '04***	Projected ***Total 2004***
Renewable Energy													
Production Project Expenses	$0	$0	$100,000	$900,000	$850,000	$0	$0	$0	$871,000	$15,000	$0	$521,000	$3,257,000
Total Administrative Costs	$163	$2,916	$834	$133,333	$133,333	$133,333	$44,444	$44,443	$26,800	$26,800	$26,800	$26,800	$600,000
Other RDFd Expenses													$0
Research & Development	$95,000	$190,737	$262,132	$342,568	$330,590	$323,090	$454,953	$332,418	$398,734	$373,724	$355,704	$323,704	$3,783,353
MN DOC "REPI""Program	$69,202	$127,035	$155,295	$222,129	$222,129	$222,129	$222,129	$222,129	$222,129	$222,129	$222,129	$222,129	$2,350,691
Total RDFd Disbursements	**$164,366**	**$320,688**	**$518,261**	**$1,598,030**	**$1,536,052**	**$678,552**	**$721,525**	**$598,989**	**$1,518,663**	**$637,653**	**$604,633**	**$1,093,633**	**$9,991,045**
Calculation of Proposed SD RDFd Expense Allocation (1)													
Calculation of SD % Allocation													
NSP System sales (mwh)	3,565,943	3,466,616	3,102,354	2,930,743	3,025,698	3,257,996	3,920,638	3,788,675	3,375,638	3,264,376	3,181,100	3,439,809	
SD Juris. sales (mwh)	149,729	136,581	126,326	123,834	125,690	139,960	156,924	167,568	164,127	134,860	130,629	151,254	
SD Allocation % (1)	4.1200%	4.1437%	4.1989%	4.0712%	4.0023%	4.1465%	4.1891%	4.2276%	4.1357%	4.2091%	4.6298%	4.5028%	
Proposed SD Portion of the Renewable Energy Production Projects 2004 (2)	$0	$0	$4,199	$36,641	$34,019	$0	$0	$0	$36,022	$631	$0	$23,460	$134,971
Proposed SD Portion of the Administrative Expenses (3)	% Allocated to all Jurs.	37.50%	$3	$45	$13	$2,036	$2,001	$2,073	$698	$705	$416	$423	$465	$453	$9,330
Proposed Total SD RDFd Expenses - 2004	**$3**	**$45**	**$4,212**	**$38,676**	**$36,020**	**$2,073**	**$698**	**$705**	**$36,437**	**$1,054**	**$465**	**$23,912**	**$144,302**

NOTES:
(1) The SD allocation percent is calculated using NSP System Sales and SD jurisdictional sales from Both 3 months prior and two months prior. (i.e., Dec 2003 expenses are allocated based on mwh sales from Sept and Oct 2003.)
(2) The SD portion of the Renewable Energy Production projects is calculated by taking Production Project Expenses and multiplying it by the SD Allocation percent.
(3) The SD portion of Administrative Expenses is calculated by taking the Total Administrative Costs, multiplying it by the percent of Energy Production Projects to Total Expenditures (37.5%) and multiplying that number by the SD Allocation percent.

NORTHERN STATES POWER COMPANY D/B/A XCEL ENERGY
Generation Fuel and Purchased Power Costs Per KWH

South Dakota Retail - Applied in Billing Month of Feb-2003 (SAMPLE FORMAT WITH PROPOSED RDF RECOVERY)

Fuel and Purchased Power Costs	Dec-2002	Nov-2002	Two Month Total
	(A)	(B)	(C)
(1) Account 151	$21,271,097	$20,202,072	$41,473,169
(2) Account 518	5,121,655	4,462,883	9,584,538
(3) Account 555 (Less Demand Related) Economic Dispatch	17,912,745	18,447,724	36,360,469
(4) Total System Costs	44,305,497	43,112,679	87,418,176
(5) Fuel Cost - InterSystem Sales	(7,311,431)	(6,593,932)	(13,905,363)
(6a) Net System Costs	$36,994,066	$36,518,747	$73,512,813
(6b) Account 407.3 - Renewable Energy Production Exp	**$0**	**$0**	**$0**
(6c) Account 407.3 - RDFd Admin. Expenses	**$0**	**$0**	**$0**
(6d) Account 407.3 - Total RDFd Recovery	**$0**	**$0**	**$0**
(6e) Total [Line 6a + Line 6d]	$36,994,066	$36,518,747	$73,512,813
MWH Sales			
(7) Total Retail	3,339,324	2,972,865	6,312,189
(8) Non-Gen Municipals/Load Pattern Power	67,424	47,917	115,341
(9) Total System MWH Sales	3,406,748	3,020,782	6,427,530
(10) SD Retail MWH Sales	140,703	122,786	263,489
(11) Total Cost of Fuel Per KWH	1.086	1.209	1.144

Recovery Provision	South Dakota Rider	Recovery Provision Calculations:
(12) Two-Month Cost of Fuel/KWH - Oct-2002	1.062	
(13) Unrecovered Expenses per KWH - Oct-2002	0.024	Line (13) = 11A - 12
(14) Unrecovered Expenses ($) - Oct-2002	33,769	Line (14) = 10A x 13
(15) Recovery Adj Applied per KWH - Oct-2002	-0.152	
(16) Expenses Recovered ($) - Oct-2002	(213,869)	Line (16) = 10A x 15
(17) Prior Unrecovered Expenses ($)	(431,366)	
(18) Subtotal Unrecovered Expenses ($)	(183,728)	Line (18) = lines 14 - 16 + 17
(19) Carrying Charge on Unrecovered Expenses ($)	(1,490)	Line (19) = Overall Rate of Return/12 x Line 18
(20) Total Unrecovered Expenses ($)	(185,218)	Line (20) = line 18 + 19
(21) Rec. Provision per KWH Applied in Dec-2002	-0.070	Line (21) = line 20 / 10C
(22) Base Cost per KWH	1.092	Line (23) = line 11C + 21 - 22
(23) Refund Per KWH	0.000	
(24) Fuel Clause Adj per KWH Applied in Feb-2003	**-0.018**	Overall Rate of Return = 9.73

FUEL CLAUSE RIDER

Section No. 5
2nd Revised Sheet No. 64
Canceling 1st Sheet No. 64

FUEL CLAUSE RIDER (FCA) T

There shall be added to or deducted from the net monthly bill $0.00001 per kilowatt-hour for each $0.00001 increase above or decrease below $0.01092 in the fuel cost per kilowatt-hour sales.

The fuel cost shall be the sum of the following for the most recent two month period plus unrecovered (or less over recovered) prior cumulative energy costs:

1. The cost of fossil, nuclear, and other fuels consumed in the Company's generating stations as recorded in Accounts 151 and 518. C

2. The net energy cost of energy purchases, including hedging program gains, losses and transaction costs related to system supply, pursuant to Docket No. EL 99-021, as recorded in Account 555 exclusive of capacity or demand charges, when such energy is purchased:

   a. On an economic dispatch basis; C

   b. From a renewable energy source, including but not limited to hydro, wood, wind and biomass; N

   c. From a qualifying facility as defined in 18 C.F.R. Part 292 (PURPA). N

3. The actual identifiable fuel costs associated with energy purchased for reasons other than those identified in item (2) above. C

4. The applicable Renewable Development Fund expenses associated with renewable energy production projects and the administrative expenses as recorded in Account 407.3. N N

5 Less the fuel related costs recovered through intersystem sales. C

The kilowatt-hour sales shall be all kilowatt-hours sold excluding intersystem sales for the same period.

A carrying charge or credit will be included in the determination of monthly fuel adjustment factors. Said charge or credit will be determined by applying one-twelfth of the overall rate of return granted by the South Dakota Public Utilities Commission in the most recent rate decision to the recorded balance of deferred fuel cost as of the end of the month immediately preceding the fuel adjustment factor determination.

Xcel Energy℠

Jim Wilcox, Manager,
Government & Regulatory Affairs
500 West Russell Street
P.O. Box 988
Sioux Falls, SD 57101-0988
Telephone (605) 339-8350 fax 612/573-9083
internet - james.c.wilcox@xcelenergy.com

May 6, 2004

Ms. Pam Bonrud, Executive Director
South Dakota Public Utilities Commission
State Capitol Building
500 East Capitol Avenue
Pierre, South Dakota 57501-5070

Dear Ms. Bonrud: **CONFIDENTIAL TREATMENT REQUESTED**

Enclosed please find Northern States Power Company d/b/a Xcel Energy's ("Xcel Energy" or "Company") activity report in compliance to the Order under Docket EL03-020 pertaining to the application by the Company for approval of inclusion of financial incentives in its fuel clause through December 31, 2003.

After assessing the current energy market conditions, Xcel Energy does **not** plan to seek another extension of recovery of the financial effects of financial instruments through its fuel clause. Instead, the Company is considering development of a new gas hedging for electric generation program that parallels our hedging efforts on behalf of our gas utility service customers. As indicated in the attached report, the Company continues to believe that mitigating price risk for our customers is important. The market lack of liquidity, however, has allowed only limited use of this tool at this time.

Xcel Energy respectfully requests confidential treatment of the "NON-PUBLIC DOCUMENT" enclosed as specified in ARSD 20:10:01:41 - Requests for confidential treatment of information. All pages, which include such proprietary information, have been marked "Confidential." Following are Xcel Energy's responses to the 5 points cited in this administrative rule:

(1) An identification of the document and the general subject matter of the materials or the portions of the document for which confidentiality is being requested;

Xcel Energy seeks confidential treatment of trade secret data presented in this activity report.

(2) The length of time for which confidentiality is being requested and a request for handling at the end of that time;

Xcel Energy requests these documents be maintained confidential through the lifetime of the EL03-020 Docket. Xcel Energy requests that all confidential

information provided by the Company in this docket be returned to Xcel Energy following resolution of this docket.

(3) The name, addresses, and phone number of a person to be contacted regarding the confidentiality request;

Jim Wilcox
PO Box 988
Sioux Falls, SD 57101-0988
605 / 339-8350

(4) The statutory or common law grounds and any administrative rules under which confidentiality is requested.

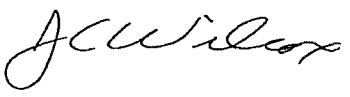
The material is proprietary information, the disclosure of which would result in material damage to the company's financial or competitive position. ARSD 20:10:01:42. The filing contains trade secret data of which disclosure might have an adverse impact on Xcel Energy and its ratepayers.

(5) The factual basis that qualifies the information for confidentiality under the authority cited.

The material reveals trade secret data.

If anyone has any questions, please call me at 339-8350

Sincerely,



Jim Wilcox

c. Kent Larson
Judy Poferl
Al Krug
John Chow

CONFIDENTIAL
NON-PUBLIC DOCUMENT
CONTAINS CONFIDENTIAL DATA

STATE OF SOUTH DAKOTA
BEFORE THE
SOUTH DAKOTA PUBLIC UTILITIES COMMISSION

Robert Sahr — Chair
Gary Hanson — Commissioner
James Burg — Commissioner

IN THE MATTER OF THE APPLICATION BY NORTHERN STATES POWER COMPANY FOR APPROVAL OF THE INCLUSION OF FINANCIAL INCENTIVES IN ITS FUEL CLAUSE

DOCKET NO. EL03-020

ACTIVITY REPORT

In Docket No. EL03-020, the Commission approved the Northern States Power Company d/b/a Xcel Energy's ("Xcel Energy" or "Company") request to flow the effects of various financial instruments through the fuel clause. In its Order, the Commission approved the petition and accompanying tariff change. The Commission also required Xcel Energy to submit a report containing a list of each hedging instrument entered into, the total MWh contracted for in each instrument, and the net gain or loss including transaction costs for each instrument.

Overview

Since our May 2003 compliance filing in this docket, Xcel Energy's use of financial instruments [CONFIDENTIAL INFORMATION BEGINS *has been limited. As has been noted in previous filings, this is due primarily to the lack of liquidity in the financial markets for electricity.* CONFIDENTIAL INFORMATION ENDS] The past year has seen the exit from the electric wholesale market of more counter-parties, thus further exacerbating a trend towards reduced liquidity. Thus, use of financial

instruments has not occurred as frequently as Xcel Energy had hoped for when we made our initial and subsequent filings. The Company also notes that [CONFIDENTIAL INFORMATION BEGINS *it did not use any other type of financial instrument other than natural gas call and put options to hedge the price risk associated with electric generation during the summer of 2003.* CONFIDENTIAL INFORMATION ENDS]

Discussion of Hedging Activity

[CONFIDENTIAL INFORMATION BEGINS *During the summer of 2003, Xcel Energy anticipated generating significant volumes of electricity through operation of our natural gas fired generating facilities. Thus, the Company believed it was important to provide some protection against potential spikes in the cost of natural gas and the resulting cost of generating electricity, for the relevant summer months. In the summer of 2002, Xcel Energy purchased call options for natural gas. This allowed Xcel Energy to ensure that the cost of natural gas to ratepayers would not exceed a certain level (the call option strike price), while at the same time allowing ratepayers to benefit from downward movements in the price of natural gas. For 2003, Xcel Energy altered this strategy slightly by simultaneously purchasing call options and selling put options for natural gas for July and August of 2003 (See Attachment 1). The call and put options were purchased and sold at equivalent premiums, with strike prices of $7.50/mmbtu and $5.20/mmbtu respectively. This created a "costless collar," which ensured that Xcel Energy's net cost of natural gas for this hedge would be between $5.20/mmbtu and $7.50/mmbtu. This strategy provided ratepayers with some protection against spikes in the price of natural gas, while still allowing ratepayers to benefit from natural gas price decrease down to a level of $5.20/mmbtu. This protection was provided at no up-front cost, due to the simultaneous purchase and sale of options. Ultimately, gas prices settled below $5.20/mmbtu for both July and August, resulting in a debit to the South Dakota fuel clause of $796 for July and $16,983 for August. These financial losses are the result of put options being exercised against Xcel*

Energy for the relevant months. In both instances, the net cost of gas to ratepayers was $5.20/mmbtu. CONFIDENTIAL INFORMATION ENDS]

Summary of Trading Activity

[CONFIDENTIAL INFORMATION BEGINS *As discussed above, for the reporting period, Xcel Energy's use of financial instruments was limited to the simultaneous purchase of natural gas call options and sale of natural gas put options. These options reduced potential volatility in the cost of generating electricity with natural gas. The net impact on the South Dakota fuel clause for all activity was a debit of $17,779.* CONFIDENTIAL INFORMATION ENDS]

CONCLUSIONS

Xcel Energy continues to believe that an important component of least cost procurement on behalf of ratepayers includes mitigating price risk for our customers. However, given the continued lack of liquidity in the markets employing financial instruments, we have been able to make only limited use of this tool, [CONFIDENTIAL INFORMATION BEGINS *primarily through hedging small quantities of gas used to generate electricity.* CONFIDENTIAL INFORMATION ENDS] However, for the current period, Xcel Energy intends to rely on bilateral forward agreements for physical energy as its primary tool to manage price risk. Therefore, the Company does not intend to seek another extension of recovery of the financial effects of financial instruments through its fuel clause. [CONFIDENTIAL INFORMATION BEGINS *Alternatively, the Company intends to develop a new gas hedging for electric generation program that parallels our hedging efforts on behalf of our gas utility service customers. We will submit a new proposal for Commission review in late 2004 or early 2005.* TRADE SECRET INFORMATION ENDS] Attachment 2 contains proposed Fuel Clause Rider tariff sheet No. 64 (2nd Revised Sheet) reflecting this change with the language under section 2, "Account 555 includes hedging program gains, losses

and transaction costs related to system supply, pursuant to Docket No. EL99-021" removed.

Please contact me at 339-8350 with any questions.

Respectfully submitted,

JIM WILCOX
MANAGER, REGULATORY AFFAIRS

Dated: May 6, 2004

NON-PUBLIC DOCUMENT CONTAINS TRADE SECRET DATA

Northern States Power Company d/b/a Xcel Energy
State of South Dakota
Compliance Report on Financial Instruments

CONFIDENTIAL

Fuel Clause Impact Analysis of Natural Gas for Electric Generation Contracts During 2003

Accrual Month	Trade Date	Number of Contracts	MWH's Hedged	MW Equivalent Futures Price	MW Equivalent Futures Price at Settlement	Actual vs. Futures Eqv. Difference	Total System Gain (Loss)	Transaction Cost	Total System Gain (Loss)	South Dakota Jurisdiction Gain (Loss)*
[TRADE SECRET DATA BEGINS ...										
July-2003	*05/27/2003*	*62 Contracts @ $7.50*	*66,133*	*$70.313*	*$48.469*	*($21.84)*	*$0*	*$0*	*$0*	*$0*
July-2003	*05/27/2003*	*62 Contracts @ $5.20*	*66,133*	*$48.750*	*$48.469*	*($0.28)*	*($18,600)*	*$0*	*($18,600)*	*($796)*
August-2003	*05/27/2003*	*62 Contracts @ $7.50*	*66,133*	*$70.313*	*$42.750*	*($27.56)*	*$0*	*$0*	*$0*	*$0*
August-2003	*05/27/2003*	*62 Contracts @ $5.20*	*66,133*	*$48.750*	*$42.750*	*($6.00)*	*($396,800)*	*$0*	*($396,800)*	*($16,983)*
Total									($415,400)	($17,779)

...TRADE SECRET DATA ENDS]

FUEL CLAUSE RIDER

Section No. 5
2nd Revised Sheet No. 64
Cancelling 1st Sheet No. 64

There shall be added to or deducted from the net monthly bill $0.00001 per kilowatt-hour for each $0.00001 increase above or decrease below $0.01092 in the fuel cost per kilowatt-hour sales.

The fuel cost shall be the sum of the following for the most recent two month period plus unrecovered (or less over recovered) prior cumulative energy costs:

1. The fossil and nuclear fuel consumed in the Company's generating stations as recorded in Accounts 151 and 518.

2. The net energy cost of energy purchases as recorded in Account 555 exclusive of capacity or demand charges, when such energy is purchased on an economic dispatch basis. D D

3. The actual identifiable fossil and nuclear fuel costs associated with energy purchased for reasons other than identified in (2) above, less

4. The fuel related costs recovered through intersystem sales.

The kilowatt-hour sales shall be all kilowatt-hours sold excluding intersystem sales for the same period.

A carrying charge or credit will be included in the determination of monthly fuel adjustment factors. Said charge or credit will be determined by applying one-twelfth of the overall rate of return granted by the South Dakota Public Utilities Commission in the most recent rate decision to the recorded balance of deferred fuel cost as of the end of the month immediately preceding the fuel adjustment factor determination.