



414 Nicollet Mall  
Minneapolis, MN 55401

July 27, 2017

—Via Electronic Filing—

Daniel P. Wolf  
Executive Secretary  
Minnesota Public Utilities Commission  
121 7th Place East, Suite 350  
St. Paul, Minnesota 55101-2147

RE: RENEWABLE DEVELOPMENT FUND OVERSIGHT PROCESS  
1<sup>ST</sup>, 3<sup>RD</sup> AND 4<sup>TH</sup> CYCLE QUARTERLY STATUS AND PROGRESS REPORT  
DOCKET NOS. E002/M-00-1583, E002/M-07-675 AND E002/M-12-1278

Dear Mr. Wolf:

Enclosed for filing is our quarterly status report on the various energy production projects, research and development projects and higher education block grant programs that have received a grant award from Xcel Energy's Renewable Development Fund. In addition, we have also included a summary of the 2017 Minnesota Legislation as it affects the Renewable Development Fund (RDF).

This progress report is being provided for informational purposes only. We do not request a comment period concerning this information. If a party wishes to comment on a specific project, we believe they should do so through a request to the Minnesota Public Utilities Commission.

We have electronically filed this document with the Commission, and copies have been provided to parties on the service lists noted above. If you have any questions regarding this filing please contact me at [bria.e.shea@xcelenergy.com](mailto:bria.e.shea@xcelenergy.com) or (612) 330-6064.

Sincerely,

/s/

BRIA SHEA  
DIRECTOR, REGULATORY AND STRATEGIC ANALYSIS

Enclosure  
c: Official Service List

STATE OF MINNESOTA  
BEFORE THE  
MINNESOTA PUBLIC UTILITIES COMMISSION

Nancy Lange	Chair
Dan Lipschultz	Commissioner
Matthew Schuerger	Commissioner
John Tuma	Commissioner
Katie Seiben	Commissioner

IN THE MATTER OF THE PETITION OF  
NORTHERN STATES POWER COMPANY  
FOR APPROVAL OF A RENEWABLE  
DEVELOPMENT FUND OVERSIGHT  
PROCESS

DOCKET NOS. E002/M-00-1583  
E002/M-07-675  
E002/M-12-1278

**QUARTERLY STATUS REPORT**

**INTRODUCTION**

Northern States Power Company, doing business as Xcel Energy, submits to the Minnesota Public Utilities Commission (Commission) this second quarter 2017 status report<sup>1</sup> on 20 RDF projects regarding Renewable Development Fund (RDF) project activity for the first, third, and fourth funding cycles totaling more than \$43 million and more than 7,300 kW of renewable electric capacity.<sup>2</sup>

**2017 MINNESOTA LEGISLATION**

On May 30<sup>th</sup>, the Governor signed legislation that modified the RDF Statute, Minn. Stat. § 116.779. The RDF has been renamed the Renewable Development Account (RDA) and will be administered by the commissioner of management and budget (MMB). A copy of the new legislation is provided as Attachment A to this report.

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<sup>1</sup> This status report reflects updated information on all active RDF projects from the previous quarterly report. It does not include projects that have been completed during a prior quarter. A final report for all completed projects has been posted to the RDF website at: [www.xcelenergy.com/rdf](http://www.xcelenergy.com/rdf).

<sup>2</sup> All project and administrative costs and activities associated with Docket No. E002/M-03-1883 have been satisfied, as such the second funding cycle is not included in this quarterly report. See the *Petition of Northern States Power Company for Approval of a Renewable Development Fund Oversight Process*, Docket Nos. E002/M-00-1583 et al., COMPLIANCE FILING – QUARTERLY STATUS REPORT (July 29, 2015).

The new legislation required Xcel Energy to transfer “all funds in the renewable development account” to the MMB, but “[f]unds award to grantees in previous grant cycles that have not yet been expended and unencumbered funds required to be paid in calendar year 2017 under . . . are not subject to transfer . . .”. Pursuant to the Commission’s April 20, 2001 Order (Docket No. E002/M-00-1583, annual RDF obligation, based on the number of casks the Company has at Prairie Island and Monticello, is a liability that is deferred until costs are actually incurred. Pursuant to Minn. Stat. § 216B.1645, “[t]he expenses incurred by the utility over the duration of the approved contract or useful life of the investment and expenditures made pursuant to the [RDF Statute] shall be recovered from the ratepayers of the utility, to the extent they are not offset by utility revenues attributable to the contracts, investments, or expenditures.”

Based on this statute, RDF funds are collected from ratepayers only when the expenses are known and measurable criteria. These “known and measurable” criteria were approved by the Commission in its March 17, 2011 Order (Docket No. E002/M-10-1054). Practically speaking, this means that the Company has a liability, but there are no funds in the RDF account unless the Company has received approval to recover for known and measurable expenses. As the Company did not have any “funds in the renewable development account” that were not encumbered to pay grantees or legislative mandates, the Company did not transfer any monies to MMB by July 1, 2017. On June 22, 2017 the Company notified MMB via email that there were no funds to transfer on July 1, 2017. A copy of the email is provided as Attachment B to this report.

The legislation also stated that no later than 30 days after the effective date of the legislation, the Company must notify each entity that has received a grant funded from the RDF to return any unspent RDF funds if certain conditions regarding site control and the start of construction have not been achieved (Attachment C). On June 30, 2017 letters (a copy of which is provided as Attachment D) were sent to the following two grant recipients that received a grant funded before January 1, 2012:

- Crown Hydro (AH-01)
- Coaltec USA, Inc. (RD3-77)

On June 30, 2017 letters (a copy of which is provided as Attachment E) were sent to the following eighteen grant recipients that received a grant funded after January 1, 2012:

- Innovative Power Systems, Inc. (EP4-11)
- Minnesota Renewable Energy Society (EP4-15)
- Target Corporation (EP4-20)
- Minneapolis Park and Recreation Board (EP4-22)
- Bergey Windpower Co. (EP4-24)
- Dragonfly Solar, LLC (EP4-29)
- City of St. Paul (EP4-34)
- Minnesota State University (HE4-1)
- University of St. Thomas (HE4-2)
- University of Minnesota (HE4-3)
- University of Minnesota (RD4-1)
- University of Minnesota (RD4-2)
- InterPhases Solar (RD4-7)
- City of Red Wing (RD4-8)
- University of Minnesota (RD4-11)
- University of Minnesota (RD4-12)
- University of Minnesota (RD4-13)
- Barr Engineering Co. (RD4-14)

## First Funding Cycle – Project Status and Progress

### AH-01: Crown Hydro (*3.2 MW Hydroelectric Generation Facility*)

**Start Date:** April 3, 2002

**Grant Amount:** \$5,100,000

**End Date:** 400 days from Property Acquisition Date

**Funds Invoiced:** \$1,538,591

**Project Summary:** This Renewable Energy Production Project is located on the Mississippi River as it flows through the City of Minneapolis and is designed to provide 3.2 MW of renewable hydropower near the historic St. Anthony Falls Milling District.

**Second Quarter Activity:** Crown Hydro continues to work toward approval of the amendment to its Federal Energy Regulatory Commission (FERC) license to move the project boundaries to within property controlled by the United States Army Corps of Engineers (USACE) and to extend the dates of the license. In prior quarters FERC issued a draft Environmental Assessment (EA) for Crown's amendment, which is a first step toward issuing an order on the license. As Crown works on issues raised in the EA they are also waiting to receive FERC's response to EA comments filed by other parties for which the public comment period closed in November of 2016. Crown continues work with Minnesota State Historic Preservation Office (SHPO), which is expected to be complete in the next quarter. This includes revising the Area of Potential Effect (APE) to account for indirect effects to historic properties, completion of a viewshed study and to conduct a Phase II intensive study. The Phase II study is to determine direct effects to potentially intact archaeological deposits and structural remains beneath the USACE parking lot. Recent correspondence from FERC requested Crown provide a written update during the next quarter on issues identified by SHPO and provide schedule for completing any open issues. Crown has no updates on the litigation previously briefed in the prior quarter summary report.

## THIRD FUNDING CYCLE – PROJECT STATUS AND PROGRESS

### RD3-77: Coaltec (*Gasification of Alternative Fuels to Convert Waste Material to Energy*)

**Start Date:** October 22, 2008

**Grant Amount:** \$1,000,000

**End Date:** July 22, 2012<sup>3</sup>

**Funds Invoiced:** \$850,000

**Project Summary:** This Research and Development Project is intended to use one or more locally available biomass products, such as turkey litter, to supply a solid-fuel, fixed-bed gasifier to prove the feasibility of Combined Heat and Power (CHP) technology using alternative fuels in a commercial setting to generate electricity.

**Second Quarter Activity:** In this quarter, Coaltec continued to seek funding, through either an investor or in conjunction with another project they are involved with, to complete the remaining two milestones which require the procurement of a turbine to obtain heat and power generation data for analysis. As summarized in previous quarters, Coaltec is developing a similar project which will process chicken, turkey, and swine manure to produce power through the use of an Organic Rankin Cycle (ORC) unit. An ORC operates as a chiller running backward and converts heat into electrical energy. Installation of a 175 kW ORC unit has been completed and it has operated successfully for the last two months of the quarter. Delivery of the larger, permanent power unit has been delayed until the end of the 3rd quarter due to an issue with one of the components. Power generation will begin as soon as these units arrive. Work continues on the development of the biochar market. Since biochar output is reliably available now, it has become easier to promote the product. Opportunities to utilize the product have been secured - it is now a matter of establishing a consistent price.

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<sup>3</sup> A contract extension is pending to allow for the discovery and acquisition of satisfactory financing for the acquisition of a power generator. If such funding is obtained, RDF administration will review the financing terms and determine, with input from the advisory group, if certain administrative amendments to the grant contract are warranted to facilitate completion of the final project milestones.

## FOURTH FUNDING CYCLE –PROJECT STATUS AND PROGRESS

### Renewable Energy Production Projects

#### **EP4-11: Innovative Power Systems** (*0.96727 MW<sub>DC</sub> Solar Generation Project*)

**Start Date:** December 1, 2015

**Grant Amount:** \$1,850,000

**End Date:** April 1, 2018

**Funds Invoiced:** \$0

**Project Summary:** This project involves the installation of 967.27 kW<sub>DC</sub> solar photovoltaic (PV) capacity on four commercial buildings within the Energy Innovation Corridor in Saint Paul to demonstrate a development process utilizing private investment as a strategy for prudent commercial solar growth.

**Second Quarter Activity:** During this quarter, the 432.96kW<sub>DC</sub> array at 2550 University Avenue and the 384.58kW<sub>DC</sub> array at 1000 Westgate Drive obtained final electrical and utility commissioning which completed the installation process. Both of these arrays are now 100% operational and providing power to the host. The 111.52kW<sub>DC</sub> array at 1919 University Avenue has been cleared by the local electrical inspector, Xcel Energy, and neighboring property owners to have an upgraded electrical gear installed. Once installed, the system can be energized within 1 - 2 weeks time with all required testing and commissioning to occur within 3 - 4 weeks. The electrical gear will be purchased early in the next quarter and is scheduled to be installed during a full-building shut-down over the Labor Day weekend.

A minor contract modification requiring administrative approval was made to reflect a change in the Project Manager contact information and the contract end date. On May 8, 2017 a no-cost contract amendment was executed (see Attachment F) to extend the contract end date to 28 months after the contract start date in Exhibit C of the RDF grant contract and to modify the business address of the Project Manager in Exhibit D of the RDF grant contract. The modification was made and approved according to procedures stipulated in Part 4, Paragraph C of the RDF grant contract EP4-11.

#### **EP4-15: Minnesota Renewable Energy Society** (*1.0 MW<sub>DC</sub> Solar Garden Pilot*)

**Start Date:** February 17, 2015

**Grant Amount:** \$2,661,320

**End Date:** May 17, 2017

**Funds Invoiced:** \$0

**Project Summary:** The goal of this project is to install 1,000 kW<sub>DC</sub> solar PV capacity and demonstrate the concept of collective Solar Garden ownership as a way to increase the penetration of solar renewable electric production in Minnesota.

**Second Quarter Activity:** During this quarter initial site evaluations were done using LIDAR to begin drafting preliminary designs. A 386kW<sub>DC</sub> urban array will be a roof-mount photovoltaic system with a ballasted racking system at a 10% tilt directly facing south. A 614kW<sub>DC</sub> rural array will be a fixed-position, ground-mount system and use helical. A cost-benefit analysis was done regarding a fixed vs. seasonal tilt racking system for the rural array. With newer, higher output panel choices the decision was been made that the fixed system is the best choice since it will eliminate any possibility of malfunction with the seasonal tilt mechanics. MRES has requested from several vendors a request for quotes for installation and technical equipment to determine installation options. Applications for interconnection studies were submitted during April for both the urban and rural arrays. Final solar site evaluations will be completed after all documentation are signed and the interconnection studies are complete. MRES expects 90% of the capacity will go to low-income subscribers. Low-income model research is being conducted as to the most effective strategy to engage and motivate participants.

**EP4-20: Target Corporation** (*350 kW<sub>AC</sub> Target Midway Solar PV*)

**Start Date:** June 12, 2015

**Grant Amount:** \$583,513

**End Date:** October 12, 2017

**Funds Invoiced:** \$0

**Project Summary:** The intent of this project is to install 350 kW<sub>AC</sub> solar PV capacity as part of a retail showcase development at the SuperTarget Midway store in the St. Paul Midway area within the Energy Innovation Corridor (EIC).

**Second Quarter Activity:** During the past quarter the facility generated 174 MWh's of energy which is 96% the estimated expected value. The Midway solar system is operating efficiently with minimal maintenance requirements. Target continues to monitor performance and perform maintenance as needed and is pleased with how the system is operating.

A minor contract modification requiring administrative approval was made to reflect a change in the contract end date. On June 14, 2017 a no-cost contract amendment was executed (see Attachment G) to extend the contract end date to 28 months after the contract start date in Exhibit C of the RDF grant contract. The modification was made and approved according to procedures stipulated in Part 4, Paragraph C of the RDF grant contract EP4-20.



**EP4-22: Minneapolis Park and Recreation Board** (*200 kW<sub>DC</sub> Solar Generation Facility*)

**Start Date:** October 28, 2014

**Grant Amount:** \$969,741

**End Date:** April 28, 2016

**Funds Invoiced:** \$0

**Project Summary:** This project intends to demonstrate the effectiveness of alternative solar designs, such as carports and canopies, when roof-mounted designs are not feasible. This is achieved through the installation of 200 kW<sub>DC</sub> of solar PV capacity at seven locations within the Minneapolis park system.

**Second Quarter Activity:** During the past quarter construction of the Nokomis Park array commenced. Since the area of the park is heavily used, necessary fencing was installed for safety and securing during construction. A fence included signage explaining the RDF project and the installation process. During construction a sewer line was discovered and the system had to be moved approximately four feet to accommodate the helical piers that anchor the canopy scaffolding in the site's sandy soils. Once the piers were installed, the prefabricated canopy was installed, anchored to the piers. Tenksolar panels which had been delivered in November 2016 and kept in storage were utilized on the array. Construction has been completed and the array will be commissioned in the next quarter.



Photo 1: Installation of canopy structure to hold 7.380 kW<sub>DC</sub> array at Nokomis Park

**EP4-24: Bergey Windpower** (*500 kW<sub>AC</sub> Wind Generation Facility*)

**Start Date:** November 24, 2014

**Grant Amount:** \$1,106,600

**End Date:** November 24, 2017

**Funds Invoiced:** \$0

**Project Summary:** This project intends to increase the market penetration of small wind turbines within Minnesota. The project achieves that goal by installing fifty 10 kW<sub>AC</sub> wind turbines in Stearns, Benton, and Meeker Counties.

**Second Quarter Activity:** During the past quarter the first 10 kW turbine installation in Ruthton has operated at 100% availability and produced 5,621 kWh during the second quarter. As expected, monthly generation was greatest during early spring with 2,173 kWh generated in April, 1,864 kWh in May; and 1,584 kWh in June. Several new turbines are under consideration. Marketing efforts have become more challenging with the reduction in the federal business Investment Tax Credit (ITC) from 30% to 24% and the loss of the 30% residential ITC for the homeowners. Bergey Windpower has indicated that it will seek an extension on the project.

**EP4-29: Dragonfly Solar** (*997.5 kW<sub>DC</sub> Solar Generation Facility*)

**Start Date:** September 8, 2016

**Grant Amount:** \$1,650,000

**End Date:** December 8, 2017

**Funds Invoiced:** \$0

**Project Summary:** This project intends to improve the infrastructure efficiencies and power production of an existing set of wind farm by installing up to 997.5 kW<sub>DC</sub> solar capacity at a wind farm south of Dodge Center, Minnesota. By adding solar to the wind facility the net effect is an increase in production which is closer in the aggregate to firm capability.

**Second Quarter Activity:** During the past quarter efforts focused on amending the conditional use permit with the county, finish negotiations of the power purchase agreement, modification of the site design, redefining the lease area and equipment selection. The location of the array has been moved to a site that is more convenient for the landowner to farm around and also provides drier soil conditions. The new site is closer to the 34.5kV transmission line interconnection point which will reduce the amount of cabling. As a result of this relocation on the wind farm, the solar glare hazard analysis had to be redone as well as a revised county permit. The revised project plans and revised solar glare analysis will be submitted to Dodge County early in the next quarter with approval expected within a month after submission. Both parties have signed the PPA and the contract is being prepared to be filed with the MPUC. Due to pricing and availability, a 4-high landscape racking system from AP Alternatives and Jinko JKM 325P modules has been selected.

**EP4-34: City of Saint Paul** (*Lowertown Ballpark 103.5 kW<sub>DC</sub> Solar Generation Facility*)

**Start Date:** February 9, 2015

**Grant Amount:** \$555,750

**End Date:** June 9, 2017

**Funds Invoiced:** \$500,175

**Project Summary:** As a component of the City of Saint Paul's Sustainability Program, this project proposed to install 103.5 kW<sub>DC</sub> solar PV capacity at the new Lowertown Ballpark (CHS Stadium) in downtown Saint Paul.

**Second Quarter Activity:** During the second quarter of 2017 the two solar arrays produced have been fully operational and generating power. During the first year the facility has generated 118,569 kWh of power at CHS Field. This value is around 6% lower than what had been estimated. The pavilion array has a lower angle design since it is also a canopy for people to gather underneath. The lower generation may be due to the lower angle does not shed snow as quickly during the winter months which results in decreased production. All the energy has been used on site which is approximately 12% of the ballparks energy use. This provides a hedge against increasing electrical cost and reduces demand and stress on the grid. During the first year CO<sub>2</sub> emissions were reduced by 118,806 lbs.

### **Research and Development Projects**

**RD4-1: University of Minnesota** (*Development of a Novel Gasification Technology for Distributed Power Generation from Solid Wastes*)

**Start Date:** January 4, 2017

**Grant Amount:** \$999,999

**End Date:** January 4, 2020

**Funds Invoiced:** \$36,192

**Project Summary:** The goal of this project is to develop a fast gasification-based electricity generation technology that based on microwave heating to raise the process temperature and increase heating rate enables distributed generation of electricity from biomass and other solid waste at the site of biomass generation.

**Second Quarter Activity:** During the past quarter screening of the various microwave absorbents were conducted and data collected. Based on the preliminary results, absorbents selected for the comparison study were activated carbons (AC), Silicon Carbide (SiC), Manganese Oxide (MnO), magnetite and char from pyrolysis (CH). The methodology was developed for measurement of dielectric properties of the absorbents and procedures for monitoring the dynamic changes in dielectric properties and temperature during heating. Experiments have been initiated to characterize the heating behaviors of the absorbents. Also investigated was the microwave absorption ability of absorbents as a function of type, amount, and particle

size of the absorbents and the size of the reactor. The relationships between temperature rise rate and these variables were quantified.

**RD4-2: University of Minnesota** (*Optimizing Renewable Electric Energy Generation on Minnesota Dairy Farms*)

**Start Date:** June 2, 2015

**Grant Amount:** \$982,408

**End Date:** June 2, 2018

**Funds Invoiced:** \$407,279

**Project Summary:** The goal of this project is to develop a renewable electric generation model that improves the long-term profitability of Minnesota dairy farms and reduces their carbon footprint by establishing a model net-zero energy dairy parlor. An integrated on-site generation system consisting of approximately 20 kW<sub>DC</sub> of wind and 54 kW<sub>DC</sub> of solar PV capacity will be designed, installed, and performance-tested as part of this project.

**Second Quarter Activity:** During the past quarter the installation and utility interconnection of two 10 kW wind turbines were completed. One of the turbines uses a single phase power inverter and was interconnected without issue. The other turbine uses three multi-phase inverters to create a 3-phase installation. The electric utility has concerns with multi-phase inverters because the electric grid is designed to remain in operation in the event of a single phase failure. The concern is that a multi-phase inverter could provide power on a phase line that is down if the other phases are still operating, potentially endangering a line worker making repairs. The solution was to install a phase monitoring relay that isolates all the inverters if utility power is lost on any phase. A 4 kW pole-mounted photovoltaic array associated with one of the turbines was also interconnected without issue. New sensors were installed in the dairy parlor thermal energy systems to solve operational issues with the heat pump that chills freshly harvested milk. These new sensors corrected issues with prior sensors that froze milk and overheated the storage tank which caused heat pump faults. Now that the heat pump is operating properly, it has become apparent that the thermal storage tank is not large enough to store all the thermal energy removed from the milk. Bids are being solicited on an air handling unit that will redirect heat from the tank into the parlor in the winter and outside in the summer to allow the heat pump to fully cool the milk during each milking period.

**RD4-7: InterPhases Solar** (*New CIS Solar Cells with All-Solution-Based Roll-to-Roll Processing*)

**Start Date:** January 12, 2017  
**End Date:** January 12, 2020

**Grant Amount:** \$1,000,000  
**Funds Invoiced:** \$0

**Project Summary:** The goal of this project is to advance copper indium selenide thin-film (CIS) technology towards commercial production by combining the deposit of all the device components into a roll-to-roll (R2R) single step electrodeposition (SSE) process for CIS solar cell manufacturing.

**Second Quarter Activity:** During this quarter the newly constructed flow cell R2R system was subjected to preliminary tests for solution flow, leaks and foil positioning. Since it is the first-of-the-kind prototype for deposition of semiconductor compounds, the R2R flow cell has been designed with many re-adjustable features. For example, the flow cell elements (anode, spacer/holder plastic bars) are designed to be removable and rearranged into different configurations to alter the solution flow patterns. Several parts of the system were tweaked to optimize the fluid dynamics, fine tune the foil position in the horizontal plane and maintain continuous solution contact to the entire surface of the foil during the operation. Initial runs utilized heated water. Upon sealing minor plumbing leaks and adjusting pumping speed, continuous smooth solution flow over the foil was obtained. Next the water was replaced with the plating solution and electrodes connected to operate in a potentiostatic mode. While the flow cell functioned well, the first plating runs showed incomplete coverage of the stainless steel foil with the CIS film. This attributed to the thinness of the solution layer in the flow cell caused by the steep flow cell tilt angle. Fortunately, the flow cell system included large flexibility for adjustments in cell geometry solution composition, flow rate etc. With a few adjustments to these factors the deposition process successfully coated the entire foil. Currently, InterPhases is further optimizing the process parameters to obtain the desired CIS stoichiometry and adhesion to the foil.

**RD4-8: City of Red Wing** (City of Red Wing Refuse Derived Fuel Production Facility)

**Start Date:** February 6, 2017  
**End Date:** February 6, 2021

**Grant Amount:** \$1,999,500  
**Funds Invoiced:** \$0

**Project Summary:** The goal of this project is to demonstrate the production of a cleaner refuse derived biomass fuel by improving the recovery of more recyclables, the removal of fuel contaminates and achieve a reduction in fuel hauling costs.

**Second Quarter Activity:** During the first part of the second quarter Red Wing approved a contract amendment with ECCO Construction for building improvements. The Red Wing Solid Waste Campus had a major fire within the Incinerator Building on the evening of June 7, 2017. The source of the fire was in the west side of the tipping room from which the fire spread into the fuel processing room through a conveyor opening in the wall that divides the two rooms. Due to the fire portions of the roof structure have lost wind, snow and dead load carrying as well as the lateral (wind) load resisting capability has been compromised. In the event of high winds or the onset of winter weather (snow), areas showing damage should not be occupied for life safety reasons. The fire has resulted in project work to halt and the construction contract has been stopped. Red Wing is currently determining how to proceed with restoring the building. Because some of the support beams have been warped in the fire, there is a chance a portion of the building may need to be tore down and rebuilt. Red Wing is committed to restoring the building and resuming businesses as soon as possible.

**RD4-11: University of Minnesota** (*Demonstrating Potential for Distributed Power Generation Using Converted Biomass*)

**Start Date:** September 3, 2015

**Grant Amount:** \$1,899,449

**End Date:** October 3, 2018

**Funds Invoiced:** \$17,482

**Project Summary:** The goal of this project is to reduce greenhouse gas emissions by using torrefaction to produce a biofuel that can be used for cost-effective distributed power generation.

**Second Quarter Activity:** During the past quarter detailed engineering on the boiler system was nearly completed and engineering of the piston engine made steady progress. Engineering work has focused primarily on staybolt spacing and pitch. Staybolts are used to tie pairs of parallel sheets in a pressure vessel to one another and buttress against the expansive steam forces seeking to push those parallel sheets apart. The bolts are primarily in tension, and the spacing, size, and design of the bolts is a non-trivial exercise. Significant effort has been placed into the sizing characteristics to ensure that the optimal number and size of bolts are employed. Material selection of the boiler is completed as well as a draft version of the engineering calculations. The University has received quotes from two different material handling vendors. Once complete, the majority of the major equipment for this project will be sourced. All testing using the pilot moving bed torrefaction reactor has been completed and the information garnered is being used in completing the final design of the demonstration unit. A detailed analysis for the new unit is underway with the expectation that the final reactor design will be completed during the next quarter.

A minor contract modification requiring administrative approval was made to reflect a change in the contract end date. On June 14, 2017 a no-cost contract amendment was executed (see Attachment H) to extend the contract end date to 37 months after the contract start date in Exhibit C of the RDF grant contract. The modification was made and approved according to procedures stipulated in Part 4, Paragraph C of the RDF grant contract RD4-11.

**RD4-12: University of Minnesota** (*Wind Turbine Generated Sound*)

**Start Date:** June 2, 2015

**Grant Amount:** \$625,102

**End Date:** September 2, 2018

**Funds Invoiced:** \$234,263

**Project Summary:** The goal of this project is to provide technically defensible data on noise from wind turbines and usable information on how humans perceive and respond to wind turbine sound.

**Second Quarter Activity:** During the past quarter the initial project phase of field data collections and analysis was largely complete and work transitioned to the human response testing phase of the project. All required fieldwork required for human response testing was completed and is being analyzed. Analysis and reporting of the 2012 Eolos dataset is almost complete and the report is under internal review. Additional analysis of infrasound data was determined to be needed during the internal review of the finding and this is currently underway. The human response testing phase of the project is approximately 50% complete. The sample size is approaching a large enough size such that trends can start to be discussed. Two members of the research team attended and presented at the Wind Turbine Noise conference from May 2 through May 5 in Rotterdam, Netherlands. In addition to presenting the project work to an audience with extensive noise expertise, the conference provided research staff with some international perspectives on regulation. This will provides a good basis for the third and final phase of the project which involves information for use in regulation.

**RD4-13: University of Minnesota** (*Virtual Wind Simulator with Advanced Control and Aeroelastic Model for Improving the Operation of Wind Farms*)

**Start Date:** June 2, 2015

**Grant Amount:** \$1,391,684

**End Date:** June 2, 2020

**Funds Invoiced:** \$500,140

**Project Summary:** The goal of this project is to develop, demonstrate, and transfer into practice a numerical wind simulation model for optimization of performance, financial decision making, and operational planning for existing and new wind energy plants. The predictive capabilities of the Virtual Wind Simulator (VWS) developed

and validated from Cycle Three research will be augmented by adding an aeroelastic model and integrating advanced turbine control algorithms.

**Second Quarter Activity:** During the past quarter the Individual Pitch Control (IPC) gain was modified to ensure a smooth transition from collective pitch control to individual pitch control. Simulation results showed that the modification works well with the IPC module. For concerns of low wind speeds in May, the IPC was simulated with the turbine in a de-rated mode (operating a turbine at a lower power than it could deliver based on the wind speed and its power curve). The results suggested that the integral IPC can be used when the turbine is de-rated lower than 1.5MW (corresponding to a wind speed of 9m/s) while a H-infinity (a robust, multi-variable and multi-objective optimal design for the worst case scenario)controller should only be used when it is de-rated above 1.5MW. This difference will be taken into considerations for experiments. The test plan for commissioning the IPC firmware has been finalized. IPC firmware has been installed and uploaded to the turbine. Barr Engineering has been collecting wind data at the Pleasant Valley wind farm. SoDAR was employed for the wind speed measurement. The wind speed data was recorded at different vertical locations from the ground with 5-meters increment. The temporal resolution was 10 minutes and 1 minute for later deployments. The University has started averaging the wind fields for time-averaged quantities. A simulation of the Pleasant Valley wind field, which provides the incoming wind condition for wind farm simulations, has been carried out. Simulation of the Pleasant Valley wind farm was finished. Analysis of the computed results is underway.

**RD4-14: Barr Engineering** (*Development of Health Assessment Tool for Utility-Scale Wind Turbine Towers and Foundations*)

**Start Date:** November 16, 2016

**Grant Amount:** \$161,081

**End Date:** November 16, 2018

**Funds Invoiced:** \$16,794

**Project Summary:** The goal of this project is to develop portable sensors to assess the health and life expectancy of wind turbine towers and foundations.

**Second Quarter Activity:** During the past quarter the equipment was bench tested and deployed into the field to start data collection from the EOLOS wind turbine. Prior to deployment to the EOLOS wind turbine, bench testing of the tiltmeter was completed at the Saint Anthony Falls Laboratory. Using a linear actuator and a precision laser distance finder, U of M was able to set up a dynamic tilt system .to provide an accurate measurement of the vertical displacement sensing abilities of the devise. A similar bench test was attempted with the accelerometer, but only noisy signals with no discernable pattern were measured. On May 30, 2017, the foundation monitoring sensor system was installed on the Eolos wind turbine. Foundation data,



meteorological data, and wind turbine SCADA data have been continuously logged since this time. Three accelerometers, spaced 120 degrees apart, were installed near the tower base flange on the concrete pedestal. The accelerometer mounting plate was attached to the concrete pedestal. Three strain gauges were installed on the Eolos tower. The gauges are spaced 120 degrees apart and located 2 ft. above the base flange of the tower. Meteorological and wind turbine SCADA data have been logged since the turbine began operation in 2012. Comparison between the portable monitoring system being developed and the existing sensors on the Eolos turbine shows good agreement between the new and old systems; however, a more detailed investigation will be performed in the coming months.

### **Higher Education Block Grant Programs**

#### **HE4-1: Minnesota State Higher Education Block Grant**

**Start Date:** April 11, 2016

**Grant Amount:** \$5,500,000

**End Date:** April 11, 2019

**Funds Invoiced:** \$2,400,000

**Program Summary:** Minnesota State (aka Minnesota State Colleges and Universities) has formed a program administered by the Minnesota Energy Center (MnEC), to stimulate research and development into renewable electric energy technologies. MnEC will disburse funding for multiple projects within the MnSCU system. The primary focus is development of programming to prepare technicians for the energy production industry including biomass, solar, and wind.

**Second Quarter Activity:** During the prior quarter research activity has been progressing for all five projects.

- All solar panels have been installed for the solar soiling project at Century College. Students were able to be involved in many of the assembly and construction phases to assist the contractor. The weather station has been installed and currently working through the calibration process. Data collection systems, sensors, cameras, monitoring units and dashboard interfaces are now being configured and expect to be operational early in August.
- All six algal bioreactor systems have been constructed and are now operational which will be used for both SCSU projects which involve research using anaerobic digestion for power production from food waste. Substrate is being grown and stored for evaluation as an anaerobic digester accelerant to treat the food waste. The bioreactor space renovation is slightly behind schedule but is on track to open the next quarter which will align well with opening of the academic year.
- The wind tunnel elements of the project at MSU have been researched including collaboration with the U of M St Anthony Falls Laboratory (SAFL) facility. Design work for a smaller boundary layer wind tunnel for the Mankato campus has been

completed. Two graduate students have been working on flow simulation models and turbulence modeling required for the project. Weather station hardware has been tested and tower design has been finalized.

- MSU Mankato and Riverland College have established high level project requirements, functional and communications protocols for program operation. The power converter module development is continuing with current work focused on converter stage simulation. Construction on electric vehicles, trailer arrays and trailer mounted wind turbines is continuing. Discussions are ongoing with the City of Albert Lea to maximize visibility and outreach activities as a demonstrate site is established.

Identification and selection of round two projects continues. Merit review selected four projects and is anticipating have these awards made prior to the start of fall semester.

#### **HE4-2: University of St. Thomas Higher Education Block Grant**

**Start Date:** August 12, 2015

**Grant Amount:** \$2,157,215

**End Date:** August 12, 2018

**Funds Invoiced:** \$1,438,143

**Program Summary:** The University of St. Thomas (UST) will install a sustainable, 0.25 MW peak, multi-purpose microgrid at their Saint Paul Campus and establish an Engineering Senior Design Clinic to provide a platform for power systems engineering education for undergraduate and graduate students in the School of Engineering. UST will establish a K-12 educational curriculum developed in conjunction with Minnesota State Academic Standards for renewable energy, which will integrate live remote access to the facility across Minnesota.

**Second Quarter Activity:** In the past quarter project planning with the general contractor, Ryan and Hallberg Engineering, has moved into the initial Request for Information, Request for Proposals and Request for Quotes (RFQ) stages. RFQs for the microgrid breakers, relays, protection, and associated controls were submitted to several vendors. Responses from SEL (via Protec), EMI, ASCO, and States were received and are being evaluated. The one-line diagram for the microgrid was finalized. The vendor selection process continues for the backbone switchgear, safety, and monitoring parts of the microgrid.

#### **HE4-3: University of Minnesota Higher Education Block Grant**

**Start Date:** August 20, 2015

**Grant Amount:** \$3,000,000

**End Date:** August 20, 2018

**Funds Invoiced:** \$2,000,000

**Program Summary:** The University of Minnesota has formed the Renewable Electricity for Minnesota's Future, a \$3 million block grant for funding research in renewable electric energy. The grant will be managed by the Institute on the Environment (IonE) and used to support research in renewable electric energy generation and management by University of Minnesota scientists and engineers.

**Second Quarter Activity:** In the past quarter work proceeded well amongst all four research teams.

- Research to develop pyrite as a more cost-effective and earth abundant photovoltaic material resulted in an article to be published, "Potential Resolution to the Doping Puzzle in Iron Pyrite: Carrier Type Determination by Hall Effect and Thermopower" in the new journal *Physical Review Materials*. Another article on surface electronic properties is in the final stages of presentation, and additional conference presentations/seminars have been made. Experimental and theoretical work establishing missing sulfur atoms as the origin of the all-important doping in iron sulfide is now nearing completion. Research into reduced order modeling for real-time wind farm management analyzed measurement data collected during the 2016-2017 snow season from the Eolos Wind Research Station's wind turbine in Dakota county, made improvements to the Eolos turbine by deployment of a supplementary cooling systems to allow the machine to run at its rated speeds, and continued development of their high-fidelity simulation tool and study of low-order wind farm models for optimization. To further their research project, they also visited the Department Of Energy's headquarters and Capitol Hill in Washington, D.C. to introduce their wind energy research.
- Research into the direct conversion of heat to electricity grew a series of thin films of ferroelectric Barium titanate ( $\text{BaTiO}_3$ ) with different composition (i.e. Ba/Ti content) and oxygen on conductive substrates. Detailed structural characterizations were carried out to investigate synthesis parameter-structure relationships. It was observed that small amounts of zirconium (Zr) added to  $\text{BaTiO}_3$  can achieve the important condition for low loss energy conversion. This has resulted in the development of a predictive model of ferroelectric energy conversion that serves as the basis of the design of energy conversion devices.
- Grid-Interface research a novel control scheme to allow a back-to-back Modular Multilevel Converter based power-electronic transformer (PET) to interface large amounts of power to the utility grid at high voltage. Such a scheme replaces conventional line frequency transformers (which are expensive, heavy and difficult to maintain) with high-frequency transformers that are potentially smaller and lighter. This will improve overall performance of high power wind generation systems. Real-time simulation models are being developed to allow validation and rapid prototyping of proposed schemes. In addition, the University has begun developing teaching material (high-school and undergraduate level) to generate awareness about renewable energy and its impact on society at large.

## **Other Cycle 4 Activity**

During the second quarter of 2017, activities have progressed related to development of the remaining Cycle Four grant contracts. 24 Cycle Four grant contracts have been executed. As of the end of the second quarter of 2017, five Energy Production projects have been completed and one Energy Production project was terminated. The remaining executed Cycle 4 contracts include 15 Energy Production and Research and Development project contracts and three Higher Education Block Grant program contracts currently active, as described above.

As reported previously, the Company continues to collect requested due diligence materials, develop contract exhibits to be attached to the remaining RDF grant contracts, and work with the four remaining grantees to move their projects forward. Drafts of contract exhibits have been prepared and provided to all four grant recipients for review and modification. Xcel Energy continues to keep the RDF advisory group updated on the progress of these projects.

## **CONCLUSION**

Xcel Energy appreciates this opportunity to provide this report summarizing the projects funded by the RDF during the second quarter of 2017.

July 27, 2017  
Northern States Power Company

**2017 Session Laws**  
**Chapter 94**  
**Article 10, Section 3**

Minnesota Statutes 2016, section 116C.779, subdivision 1, is amended to read:

**Subdivision 1. Renewable development account.** (a) The renewable development account is established as a separate account in the special revenue fund in the state treasury. Appropriations and transfers to the account shall be credited to the account. Earnings, such as interest, dividends, and any other earnings arising from assets of the account, shall be credited to the account. Funds remaining in the account at the end of a fiscal year are not canceled to the general fund but remain in the account until expended. The account shall be administered by the commissioner of management and budget as provided under this section.

(b) On July 1, 2017, the public utility that owns the Prairie Island nuclear generating plant must transfer all funds in the renewable development account previously established under this subdivision and managed by the public utility to the renewable development account established in paragraph (a). Funds awarded to grantees in previous grant cycles that have not yet been expended and unencumbered funds required to be paid in calendar year 2017 under paragraphs (f) and (g), and sections 116C.7792 and 216C.41, are not subject to transfer under this paragraph.

(c) Except as provided in subdivision 1a, beginning January 15, 2018, and continuing each January 15 thereafter, the public utility that owns the Prairie Island nuclear generating plant must transfer to ~~a renewable development~~ the renewable development account \$500,000 each year for each dry cask containing spent fuel that is located at the Prairie Island power plant for each year the plant is in operation, and \$7,500,000 each year the plant is not in operation if ordered by the commission pursuant to paragraph ~~(e)~~ (i). The fund transfer must be made if nuclear waste is stored in a dry cask at the independent spent-fuel storage facility at Prairie Island for any part of a year.

~~(b)~~ (d) Except as provided in subdivision 1a, beginning January 15, 2018, and continuing each January 15 thereafter, the public utility that owns the Monticello nuclear generating plant must transfer to the renewable development account \$350,000 each year for each dry cask containing spent fuel that is located at the Monticello nuclear power plant for each year the plant is in operation, and \$5,250,000 each year the plant is not in operation if ordered by the commission pursuant to paragraph ~~(e)~~ (i). The fund transfer must be made if nuclear waste is stored in a dry cask at the independent spent-fuel storage facility at Monticello for any part of a year.

(e) Each year, the public utility shall withhold from the funds transferred to the renewable development account under paragraphs (c) and (d) the amount necessary to pay its obligations under paragraphs (f) and (g), and sections 116C.7792 and 216C.41, for that calendar year.

(f) If the commission approves a new or amended power purchase agreement, the termination of a power purchase agreement, or the purchase and closure of a facility under section 216B.2424, subdivision 9, with an entity that uses poultry litter to generate electricity, the

public utility subject to this section shall enter into a contract with the city in which the poultry litter plant is located to provide grants to the city for the purposes of economic development on the following schedule: \$4,000,000 in fiscal year 2018; \$6,500,000 each fiscal year in 2019 and 2020; and \$3,000,000 in fiscal year 2021. The grants shall be paid by the public utility from funds withheld from the transfer to the renewable development account, as provided in paragraphs (b) and (e).

(g) If the commission approves a new or amended power purchase agreement, or the termination of a power purchase agreement under section 216B.2424, subdivision 9, with an entity owned or controlled, directly or indirectly, by two municipal utilities located north of Constitutional Route No. 8, that was previously used to meet the biomass mandate in section 216B.2424, the public utility that owns a nuclear generating plant shall enter into a grant contract with such entity to provide \$6,800,000 per year for five years, commencing 30 days after the commission approves the new or amended power purchase agreement, or the termination of the power purchase agreement, and on each June 1 thereafter through 2021, to assist the transition required by the new, amended, or terminated power purchase agreement. The grant shall be paid by the public utility from funds withheld from the transfer to the renewable development account as provided in paragraphs (b) and (e).

(h) The collective amount paid under the grant contracts awarded under paragraphs (f) and (g) is limited to the amount deposited into the renewable development account, and its predecessor, the renewable development account, established under this section, that was not required to be deposited into the account under Laws 1994, chapter 641, article 1, section 10.

~~(e)~~ (i) After discontinuation of operation of the Prairie Island nuclear plant or the Monticello nuclear plant and each year spent nuclear fuel is stored in dry cask at the discontinued facility, the commission shall require the public utility to pay \$7,500,000 for the discontinued Prairie Island facility and \$5,250,000 for the discontinued Monticello facility for any year in which the commission finds, by the preponderance of the evidence, that the public utility did not make a good faith effort to remove the spent nuclear fuel stored at the facility to a permanent or interim storage site out of the state. This determination shall be made at least every two years.

~~(d)~~ (j) Funds in the account may be expended only for any of the following purposes:

~~(1) to increase the market penetration within the state of renewable electric energy resources at reasonable costs;~~

~~(2) to promote the start up, expansion, and attraction of renewable electric energy projects and companies within the state;~~

~~(3) to stimulate research and development within the state into of renewable electric energy technologies; and~~

~~(4) to develop near commercial and demonstration scale renewable electric projects or near commercial and demonstration scale electric infrastructure delivery projects if those delivery projects enhance the delivery of renewable electric energy~~

(2) to encourage grid modernization, including, but not limited to, projects that implement electricity storage, load control, and smart meter technology; and

(3) to stimulate other innovative energy projects that reduce demand and increase system efficiency and flexibility.

Expenditures from the fund must benefit Minnesota ratepayers receiving electric service from the utility that owns a nuclear-powered electric generating plant in this state or the Prairie Island Indian community or its members.

The utility that owns a nuclear generating plant is eligible to apply for ~~renewable development account~~ grants under this subdivision.

(k) For the purposes of paragraph (j), the following terms have the meanings given:

(1) "renewable" has the meaning given in section 216B.2422, subdivision 1, paragraph (c), clauses (1), (2), (4), and (5); and

(2) "grid modernization" means:

(i) enhancing the reliability of the electrical grid;

(ii) improving the security of the electrical grid against cyberthreats and physical threats;  
and

(iii) increasing energy conservation opportunities by facilitating communication between the utility and its customers through the use of two-way meters, control technologies, energy storage and microgrids, technologies to enable demand response, and other innovative technologies.

~~(e) Expenditures authorized by this subdivision from the account may be made only after approval by order of the Public Utilities Commission upon a petition by the public utility. The commission may approve proposed expenditures, may disapprove proposed expenditures that it finds to be not in compliance with this subdivision or otherwise not in the public interest, and may, if agreed to by the public utility, modify proposed expenditures. The commission may approve reasonable and necessary expenditures for administering the account in an amount not to exceed five percent of expenditures. Commission approval is not required for expenditures required under subdivisions 2 and 3, section 116C.7791, or other law.~~

~~(f) The account shall be managed by the public utility but the public utility must consult about account expenditures with an~~ (l) A renewable development account advisory group that includes, among others, representatives of the public utility and its ratepayers, and includes at least one representative of the Prairie Island Indian community appointed by that community's tribal council, shall develop recommendations on account expenditures. The commission may require that other interests be represented on the advisory group. The advisory group must be consulted with respect to the general scope of expenditures in designing design a request for

proposal and ~~in evaluating~~ evaluate projects submitted in response to a request for proposals. ~~In addition to consulting with~~ The advisory group, ~~the public utility~~ must utilize an independent third-party expert to evaluate proposals submitted in response to a request for proposal, including all proposals made by the public utility. A request for proposal for research and development under paragraph ~~(d)~~ (j), clause ~~(3)~~ (1), may be limited to or include a request to higher education institutions located in Minnesota for multiple projects authorized under paragraph ~~(d)~~ (j), clause ~~(3)~~ (1). The request for multiple projects may include a provision that exempts the projects from the third-party expert review and instead provides for project evaluation and selection by a merit peer review grant system. ~~The utility should attempt to reach agreement with the advisory group after consulting with it but the utility has full and sole authority to determine which expenditures shall be submitted to the commission for commission approval.~~ In the process of determining request for proposal scope and subject and in evaluating responses to request for proposals, the ~~public utility~~ advisory group must strongly consider, where reasonable, potential benefit to Minnesota citizens and businesses and the utility's ratepayers.

(m) The advisory group shall submit funding recommendations to the public utility, which has full and sole authority to determine which expenditures shall be submitted by the advisory group to the legislature. The commission may approve proposed expenditures, may disapprove proposed expenditures that it finds not to be in compliance with this subdivision or otherwise not in the public interest, and may, if agreed to by the public utility, modify proposed expenditures. The commission shall, by order, submit its funding recommendations to the legislature as provided under paragraph (n).

~~(g) Funds in~~ (n) The commission shall present its recommended appropriations from the account to the senate and house of representatives committees with jurisdiction over energy policy and finance annually by February 15. Expenditures from the account may not must be directly appropriated by the legislature by a law enacted after January 1, 2012, and unless appropriated by a law enacted prior to that date may be expended only pursuant to an order of the commission according to this subdivision. In enacting appropriations from the account, the legislature:

(1) may approve or disapprove, but may not modify, the amount of an appropriation for a project recommended by the commission; and

(2) may not appropriate money for a project the commission has not recommended funding.

~~(h)~~ (n) A request for proposal for renewable energy generation projects must, when feasible and reasonable, give preference to projects that are most cost-effective for a particular energy source.

~~(i)~~ (o) The ~~public utility~~ advisory group must annually, by February 15, report to the chairs and ranking minority members of the legislative committees with jurisdiction over energy policy on projects funded by the account for the prior year and all previous years. The report must, to the extent possible and reasonable, itemize the actual and projected financial benefit to the public utility's ratepayers of each project.



(p) By February 1, 2018, and each February 1 thereafter, the commissioner of management and budget shall submit a written report regarding the availability of funds in and obligations of the account to the chairs and ranking minority members of the senate and house committees with jurisdiction over energy policy and finance, the public utility, and the advisory group.

~~(q)~~ (q) A project receiving funds from the account must produce a written final report that includes sufficient detail for technical readers and a clearly written summary for nontechnical readers. The report must include an evaluation of the project's financial, environmental, and other benefits to the state and the public utility's ratepayers.

~~(r)~~ (r) Final reports, any mid-project status reports, and renewable development account financial reports must be posted online on a public Web site designated by the ~~commission~~ commissioner of commerce.

~~(s)~~ (s) All final reports must acknowledge that the project was made possible in whole or part by the Minnesota renewable development ~~fund~~ account, noting that the ~~fund~~ account is financed by the public utility's ratepayers.

(t) Of the amount in the renewable development account, priority must be given to making the payments required under section 216C.417.

#### **EFFECTIVE DATE.**

This section is effective the day following final enactment.<sup>1</sup>

<sup>1</sup> 2017 Session Laws, Chapter 94 was signed by Governor Dayton on May 30, 2017.

**From:** Evans, Rick  
**Sent:** Thursday, June 22, 2017 4:55 PM  
**To:** Conboy, Marianne (MMB)  
**Cc:** Chris Zempel; Logsdon, Laura (MMB); Pearson, James G; Bob Eleff; McKiernan, Grania E  
**Subject:** RE: July 1st

Hi Marianne,

My information was incorrect earlier this week. We are not meeting with PUC staff until next Thursday. Because this conflicts with your timetable, I wanted to respond to your question in advance of that meeting.

Based on our reading of the new statute, as explained below, we do not have any funds to transfer to MMB on July 1.

As you may know, the way that the Renewable Development Fund (RDF) has been administered under PUC orders is that no funds are collected from our customers until they are committed to a grant or program AND until the calendar year that they will be actually paid. The new statute directs us to transfer to the new Renewable Development Account (RDA) "all funds" in the RDF, excluding "unexpended" funds awarded to grantees and "unencumbered funds required to be paid in 2017." Because of the way the RDF has been administered, we do not have and will not receive any funds in 2017 that have not already been encumbered for 2017.

I will be out of the office after today (Thursday). If you have questions or concerns, you can contact one of my colleagues, Jim Pearson (651-239-6021) ([james.g.pearson@xcelenergy.com](mailto:james.g.pearson@xcelenergy.com)) or Grania McKiernan (612-770-1968) ([grania.mckiernan@xcelenergy.com](mailto:grania.mckiernan@xcelenergy.com)), at Xcel and they should be able to help you.

**Rick Evans**  
Xcel Energy | Responsible By Nature

**Director, Regional Government Affairs**  
414 Nicollet Mall, 7th Floor, Minneapolis, MN 55401  
P: 612-337-2256 C: 612.770.1966 F: 612.330.7601  
E: [rick.evans@xcelenergy.com](mailto:rick.evans@xcelenergy.com)

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**XCELENERGY.COM**

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**CHAPTER 94**  
**ARTICLE 10**  
**ENERGY POLICY**

**Section 29. Renewable Development Account, Transfer of Unexpended Grant Funds.**

(a) No later than 30 days after the effective date of this section, the utility subject to Minnesota Statutes, section 116C.779, subdivision 1, must notify in writing each person who received a grant funded from the renewable development account previously established under that subdivision:

(1) after January 1, 2012; and

(2) before January 1, 2012, if the funded project remains incomplete as of the effective date of this section.

The notice must contain the provisions of this section and instructions directing grant recipients how unexpended funds can be transferred to the clean energy advancement fund account.

(b) A recipient of a grant from the renewable development account previously established under Minnesota Statutes, section 116C.779, subdivision 1, must, no later than 30 days after receiving the notice required under paragraph (a), transfer any grant funds that remain unexpended as of the effective date of this section to the clean energy advancement fund account if, by that effective date, all of the following conditions are met:

(1) the grant was awarded more than five years before the effective date of this section;

(2) the grant recipient has failed to obtain control of the site on which the project is to be constructed;

(3) the grant recipient has failed to secure all necessary permits or approvals from any unit of government with respect to the project; and

(4) construction of the project has not begun.

(c) A recipient of a grant from the renewable development account previously established under Minnesota Statutes, section 116C.779, subdivision 1, must transfer any grant funds that remain unexpended five years after the grant funds are received by the grant recipient if, by that date, the conditions in paragraph (b), clauses (2) to (4), have been met. The grant recipient must transfer the unexpended funds no later than 30 days after the fifth anniversary of the receipt of the grant funds.

(d) A person who transfers funds to the clean energy advancement fund account under this section is eligible to apply for funding from the clean energy advancement fund account.

**EFFECTIVE DATE.**

This section is effective the day following final enactment.<sup>1</sup>

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<sup>1</sup> 2017 Minnesota Session Law, Chapter 94 was signed by Governor Dayton on May 30, 2017.



414 Nicollet Mall  
Minneapolis, Minnesota 55401-1993

June 30, 2017

Richard Savelkoul  
Crown Hydro  
332 Minnesota Street, Suite W2750  
St. Paul, MN 55101

Re: RDF Grant Award AH-01

Dear Richard:

I am writing regarding the Renewable Development Fund (RDF) grant you received from Northern States Power Company, a Minnesota corporation (Xcel Energy) before January 1, 2012 that remains incomplete as of the date of this letter. As you may know, there were several statutory changes to the Renewable Development Fund during the 2017 legislative session. 2017 Session Law Chapter 94, Article 10, Section 29 requires Xcel Energy to notify in writing grantees who received RDF grants before January 1, 2012, if the funded project remains incomplete. A complete copy of 2017 Session Law Chapter 94, Article 10, Section 29 is included with this letter for your reference.

Pursuant to this law, a RDF grant recipient must transfer to the State of Minnesota clean energy advancement fund account any grant funds that remain unexpended as of May 31, 2017 if all of the following conditions are met:

- the grant was awarded more than five years before May 31, 2017.
- the grant recipient has failed to obtain control of the site on which the project is to be constructed;
- the grant recipient has failed to secure all necessary permits or approvals from any unit of government with respect to the project; and
- construction of the project has not begun.

If these conditions are met, then you must transfer the unexpended funds to the State of Minnesota no later than thirty days after receiving this notice. You should send a check made payable to Minnesota Management and Budget (or the State of Minnesota) to:

Minnesota Management and Budget  
ATTN: Fiscal Services – RDA  
400 Centennial Building  
658 Cedar Street  
St. Paul, MN 55155

If you transfer funds to the State of Minnesota under this section, you are still eligible to apply for funding from the fund in the future.

Please respond back to me at [mark.g.ritter@xcelenergy.com](mailto:mark.g.ritter@xcelenergy.com) within 30 days of receipt of this letter indicating the amount of unexpended grant funds that were transferred to the State of Minnesota or

to explain and provide documentation as to why a transfer to the State of Minnesota was not necessary.

Sincerely,



Mark G. Ritter  
RDF Grant Administrator

Enclosure: 2017 Session Law Chapter 94, Article 10, Section 29

Cc: Bill Hawks



414 Nicollet Mall  
Minneapolis, Minnesota 55401-1993

June 30, 2017

Michael McGolden  
Coaltec Energy USA, Inc.  
11561 Village Lane  
Evansville, IN 47725

Re: RDF Grant Award RD3-77

Dear Michael:

I am writing regarding the Renewable Development Fund (RDF) grant you received from Northern States Power Company, a Minnesota corporation (Xcel Energy) before January 1, 2012 that remains incomplete as of the date of this letter. As you may know, there were several statutory changes to the Renewable Development Fund during the 2017 legislative session. 2017 Session Law Chapter 94, Article 10, Section 29 requires Xcel Energy to notify in writing grantees who received RDF grants before January 1, 2012, if the funded project remains incomplete. A complete copy of 2017 Session Law Chapter 94, Article 10, Section 29 is included with this letter for your reference.

Pursuant to this law, a RDF grant recipient must transfer to the State of Minnesota clean energy advancement fund account any grant funds that remain unexpended as of May 31, 2017 if all of the following conditions are met:

- the grant was awarded more than five years before May 31, 2017.
- the grant recipient has failed to obtain control of the site on which the project is to be constructed;
- the grant recipient has failed to secure all necessary permits or approvals from any unit of government with respect to the project; and
- construction of the project has not begun.

If these conditions are met, then you must transfer the unexpended funds to the State of Minnesota no later than thirty days after receiving this notice. You should send a check made payable to Minnesota Management and Budget (or the State of Minnesota) to:

Minnesota Management and Budget  
ATTN: Fiscal Services – RDA  
400 Centennial Building  
658 Cedar Street  
St. Paul, MN 55155

If you transfer funds to the State of Minnesota under this section, you are still eligible to apply for funding from the fund in the future.

Please respond back to me at [mark.g.ritter@xcelenergy.com](mailto:mark.g.ritter@xcelenergy.com) within 30 days of receipt of this letter indicating the amount of unexpended grant funds that were transferred to the State of Minnesota or

to explain and provide documentation as to why a transfer to the State of Minnesota was not necessary.

Sincerely,

Mark G. Ritter  
RDF Grant Administrator

Enclosure: 2017 Session Law Chapter 94, Article 10, Section 29



414 Nicollet Mall  
Minneapolis, Minnesota 55401-1993

June 30, 2017

Ralph Jacobson  
Innovative Power Systems, Inc.  
2670 Patton Road  
Roseville, MN 55113

Re: RDF Grant Award EP4-11

Dear Ralph:

I am writing regarding the Renewable Development Fund (RDF) grant you received from Northern States Power Company, a Minnesota corporation (Xcel Energy) sometime after January 1, 2012. As you may know, there were several statutory changes to the Renewable Development Fund during the 2017 legislative session. 2017 Session Law Chapter 94, Article 10, Section 29 requires Xcel Energy to notify in writing all grantees who received RDF grants after January 1, 2012. A complete copy of 2017 Session Law Chapter 94, Article 10, Section 29 is included with this letter for your reference.

Pursuant to this law, a RDF grant recipient must transfer to the State of Minnesota clean energy advancement fund account any grant funds that remain unexpended five years after the grant funds are received if, by that date:

- the grant recipient has failed to obtain control of the site on which the project is to be constructed;
- the grant recipient has failed to secure all necessary permits or approvals from any unit of government with respect to the project; and
- construction of the project has not begun.

If these three conditions are met, then you must transfer the unexpended funds to the State of Minnesota no later than thirty days after the fifth anniversary of the receipt of grant funds. You should send a check made payable to Minnesota Management and Budget (or the State of Minnesota) to:

Minnesota Management and Budget  
ATTN: Fiscal Services – RDA  
400 Centennial Building  
658 Cedar Street  
St. Paul, MN 55155

If you transfer funds to the State of Minnesota under this section, you are still eligible to apply for funding from the fund in the future.



Please respond back to me at [mark.g.ritter@xcelenergy.com](mailto:mark.g.ritter@xcelenergy.com) within 30 days of receipt of this letter to let me know whether you believe this law may require you to transfer any unexpended RDF grant funds to the State of Minnesota at some point in the future.

Sincerely,



Mark G. Ritter  
RDF Grant Administrator

Enclosure: 2017 Session Law Chapter 94, Article 10, Section 29



414 Nicollet Mall  
Minneapolis, Minnesota 55401-1993

June 30, 2017

Kitrina Stratton  
Minnesota Renewable Energy Society  
2928 5<sup>th</sup> Avenue South  
Minneapolis, MN 55408

Re: RDF Grant Award EP4-15

Dear Kitty:

I am writing regarding the Renewable Development Fund (RDF) grant you received from Northern States Power Company, a Minnesota corporation (Xcel Energy) sometime after January 1, 2012. As you may know, there were several statutory changes to the Renewable Development Fund during the 2017 legislative session. 2017 Session Law Chapter 94, Article 10, Section 29 requires Xcel Energy to notify in writing all grantees who received RDF grants after January 1, 2012. A complete copy of 2017 Session Law Chapter 94, Article 10, Section 29 is included with this letter for your reference.

Pursuant to this law, a RDF grant recipient must transfer to the State of Minnesota clean energy advancement fund account any grant funds that remain unexpended five years after the grant funds are received if, by that date:

- the grant recipient has failed to obtain control of the site on which the project is to be constructed;
- the grant recipient has failed to secure all necessary permits or approvals from any unit of government with respect to the project; and
- construction of the project has not begun.

If these three conditions are met, then you must transfer the unexpended funds to the State of Minnesota no later than thirty days after the fifth anniversary of the receipt of grant funds. You should send a check made payable to Minnesota Management and Budget (or the State of Minnesota) to:

Minnesota Management and Budget  
ATTN: Fiscal Services – RDA  
400 Centennial Building  
658 Cedar Street  
St. Paul, MN 55155

If you transfer funds to the State of Minnesota under this section, you are still eligible to apply for funding from the fund in the future.

Please respond back to me at [mark.g.ritter@xcelenergy.com](mailto:mark.g.ritter@xcelenergy.com) within 30 days of receipt of this letter to let me know whether you believe this law may require you to transfer any unexpended RDF grant funds to the State of Minnesota at some point in the future.

Sincerely,



Mark G. Ritter  
RDF Grant Administrator

Enclosure: 2017 Session Law Chapter 94, Article 10, Section 29



414 Nicollet Mall  
Minneapolis, Minnesota 55401-1993

June 30, 2017

Laura Teske  
Target Corporation  
33 South Sixth Street, CC-28693  
Minneapolis, MN 55402

Re: RDF Grant Award EP4-20

Dear Laura:

I am writing regarding the Renewable Development Fund (RDF) grant you received from Northern States Power Company, a Minnesota corporation (Xcel Energy) sometime after January 1, 2012. As you may know, there were several statutory changes to the Renewable Development Fund during the 2017 legislative session. 2017 Session Law Chapter 94, Article 10, Section 29 requires Xcel Energy to notify in writing all grantees who received RDF grants after January 1, 2012. A complete copy of 2017 Session Law Chapter 94, Article 10, Section 29 is included with this letter for your reference.

Pursuant to this law, a RDF grant recipient must transfer to the State of Minnesota clean energy advancement fund account any grant funds that remain unexpended five years after the grant funds are received if, by that date:

- the grant recipient has failed to obtain control of the site on which the project is to be constructed;
- the grant recipient has failed to secure all necessary permits or approvals from any unit of government with respect to the project; and
- construction of the project has not begun.

If these three conditions are met, then you must transfer the unexpended funds to the State of Minnesota no later than thirty days after the fifth anniversary of the receipt of grant funds. You should send a check made payable to Minnesota Management and Budget (or the State of Minnesota) to:

Minnesota Management and Budget  
ATTN: Fiscal Services – RDA  
400 Centennial Building  
658 Cedar Street  
St. Paul, MN 55155

If you transfer funds to the State of Minnesota under this section, you are still eligible to apply for funding from the fund in the future.

Please respond back to me at [mark.g.ritter@xcelenergy.com](mailto:mark.g.ritter@xcelenergy.com) within 30 days of receipt of this letter to let me know whether you believe this law may require you to transfer any unexpended RDF grant funds to the State of Minnesota at some point in the future.

Sincerely,



Mark G. Ritter  
RDF Grant Administrator

Enclosure: 2017 Session Law Chapter 94, Article 10, Section 29



414 Nicollet Mall  
Minneapolis, Minnesota 55401-1993

June 30, 2017

Craig Wilson  
Sustology, LLC  
2400 Cedar Shore Drive  
Minneapolis, MN 55416

Re: RDF Grant Award EP4-22

Dear Craig:

I am writing regarding the Renewable Development Fund (RDF) grant you received from Northern States Power Company, a Minnesota corporation (Xcel Energy) sometime after January 1, 2012. As you may know, there were several statutory changes to the Renewable Development Fund during the 2017 legislative session. 2017 Session Law Chapter 94, Article 10, Section 29 requires Xcel Energy to notify in writing all grantees who received RDF grants after January 1, 2012. A complete copy of 2017 Session Law Chapter 94, Article 10, Section 29 is included with this letter for your reference.

Pursuant to this law, a RDF grant recipient must transfer to the State of Minnesota clean energy advancement fund account any grant funds that remain unexpended five years after the grant funds are received if, by that date:

- the grant recipient has failed to obtain control of the site on which the project is to be constructed;
- the grant recipient has failed to secure all necessary permits or approvals from any unit of government with respect to the project; and
- construction of the project has not begun.

If these three conditions are met, then you must transfer the unexpended funds to the State of Minnesota no later than thirty days after the fifth anniversary of the receipt of grant funds. You should send a check made payable to Minnesota Management and Budget (or the State of Minnesota) to:

Minnesota Management and Budget  
ATTN: Fiscal Services – RDA  
400 Centennial Building  
658 Cedar Street  
St. Paul, MN 55155

If you transfer funds to the State of Minnesota under this section, you are still eligible to apply for funding from the fund in the future.

Please respond back to me at [mark.g.ritter@xcelenergy.com](mailto:mark.g.ritter@xcelenergy.com) within 30 days of receipt of this letter to let me know whether you believe this law may require you to transfer any unexpended RDF grant funds to the State of Minnesota at some point in the future.

Sincerely,

A handwritten signature in black ink, appearing to read 'M. Ritter', with a long horizontal flourish extending to the right.

Mark G. Ritter  
RDF Grant Administrator

Enclosure: 2017 Session Law Chapter 94, Article 10, Section 29



414 Nicollet Mall  
Minneapolis, Minnesota 55401-1993

June 30, 2017

Mike Bergey  
Bergey Windpower Co.  
2200 Industrial Blvd.  
Norman, OK 73069

Re: RDF Grant Award EP4-24

Dear Mike:

I am writing regarding the Renewable Development Fund (RDF) grant you received from Northern States Power Company, a Minnesota corporation (Xcel Energy) sometime after January 1, 2012. As you may know, there were several statutory changes to the Renewable Development Fund during the 2017 legislative session. 2017 Session Law Chapter 94, Article 10, Section 29 requires Xcel Energy to notify in writing all grantees who received RDF grants after January 1, 2012. A complete copy of 2017 Session Law Chapter 94, Article 10, Section 29 is included with this letter for your reference.

Pursuant to this law, a RDF grant recipient must transfer to the State of Minnesota clean energy advancement fund account any grant funds that remain unexpended five years after the grant funds are received if, by that date:

- the grant recipient has failed to obtain control of the site on which the project is to be constructed;
- the grant recipient has failed to secure all necessary permits or approvals from any unit of government with respect to the project; and
- construction of the project has not begun.

If these three conditions are met, then you must transfer the unexpended funds to the State of Minnesota no later than thirty days after the fifth anniversary of the receipt of grant funds. You should send a check made payable to Minnesota Management and Budget (or the State of Minnesota) to:

Minnesota Management and Budget  
ATTN: Fiscal Services – RDA  
400 Centennial Building  
658 Cedar Street  
St. Paul, MN 55155

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Please respond back to me at [mark.g.ritter@xcelenergy.com](mailto:mark.g.ritter@xcelenergy.com) within 30 days of receipt of this letter to let me know whether you believe this law may require you to transfer any unexpended RDF grant funds to the State of Minnesota at some point in the future.

Sincerely,



Mark G. Ritter  
RDF Grant Administrator

Enclosure: 2017 Session Law Chapter 94, Article 10, Section 29



414 Nicollet Mall  
Minneapolis, Minnesota 55401-1993

June 30, 2017

Robert Messerich  
Dragonfly Solar, LLC  
10583 202<sup>nd</sup> Street West  
Lakeville, MN 55044

Re: RDF Grant Award EP4-29

Dear Bob:

I am writing regarding the Renewable Development Fund (RDF) grant you received from Northern States Power Company, a Minnesota corporation (Xcel Energy) sometime after January 1, 2012. As you may know, there were several statutory changes to the Renewable Development Fund during the 2017 legislative session. 2017 Session Law Chapter 94, Article 10, Section 29 requires Xcel Energy to notify in writing all grantees who received RDF grants after January 1, 2012. A complete copy of 2017 Session Law Chapter 94, Article 10, Section 29 is included with this letter for your reference.

Pursuant to this law, a RDF grant recipient must transfer to the State of Minnesota clean energy advancement fund account any grant funds that remain unexpended five years after the grant funds are received if, by that date:

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ATTN: Fiscal Services – RDA  
400 Centennial Building  
658 Cedar Street  
St. Paul, MN 55155

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Please respond back to me at [mark.g.ritter@xcelenergy.com](mailto:mark.g.ritter@xcelenergy.com) within 30 days of receipt of this letter to let me know whether you believe this law may require you to transfer any unexpended RDF grant funds to the State of Minnesota at some point in the future.

Sincerely,



Mark G. Ritter  
RDF Grant Administrator

Enclosure: 2017 Session Law Chapter 94, Article 10, Section 29



414 Nicollet Mall  
Minneapolis, Minnesota 55401-1993

June 30, 2017

Chris Stark  
City of St. Paul  
400 City Hall Annex, 25 West 4<sup>th</sup> Street  
St. Paul, MN 55102

Re: RDF Grant Award EP4-34

Dear Chris:

I am writing regarding the Renewable Development Fund (RDF) grant you received from Northern States Power Company, a Minnesota corporation (Xcel Energy) sometime after January 1, 2012. As you may know, there were several statutory changes to the Renewable Development Fund during the 2017 legislative session. 2017 Session Law Chapter 94, Article 10, Section 29 requires Xcel Energy to notify in writing all grantees who received RDF grants after January 1, 2012. A complete copy of 2017 Session Law Chapter 94, Article 10, Section 29 is included with this letter for your reference.

Pursuant to this law, a RDF grant recipient must transfer to the State of Minnesota clean energy advancement fund account any grant funds that remain unexpended five years after the grant funds are received if, by that date:

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- construction of the project has not begun.

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Minnesota Management and Budget  
ATTN: Fiscal Services – RDA  
400 Centennial Building  
658 Cedar Street  
St. Paul, MN 55155

If you transfer funds to the State of Minnesota under this section, you are still eligible to apply for funding from the fund in the future.

Please respond back to me at [mark.g.ritter@xcelenergy.com](mailto:mark.g.ritter@xcelenergy.com) within 30 days of receipt of this letter to let me know whether you believe this law may require you to transfer any unexpended RDF grant funds to the State of Minnesota at some point in the future.

Sincerely,



Mark G. Ritter  
RDF Grant Administrator

Enclosure: 2017 Session Law Chapter 94, Article 10, Section 29



414 Nicollet Mall  
Minneapolis, Minnesota 55401-1993

June 30, 2017

Bruce Peterson  
Minnesota State Energy Center of Excellence  
Minnesota State University – Granite Falls  
1593 11<sup>th</sup> Ave  
Granite Falls, MN 56241

Re: RDF Grant Award HE4-1

Dear Bruce:

I am writing regarding the Renewable Development Fund (RDF) grant you received from Northern States Power Company, a Minnesota corporation (Xcel Energy) sometime after January 1, 2012. As you may know, there were several statutory changes to the Renewable Development Fund during the 2017 legislative session. 2017 Session Law Chapter 94, Article 10, Section 29 requires Xcel Energy to notify in writing all grantees who received RDF grants after January 1, 2012. A complete copy of 2017 Session Law Chapter 94, Article 10, Section 29 is included with this letter for your reference.

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- construction of the project has not begun.

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ATTN: Fiscal Services – RDA  
400 Centennial Building  
658 Cedar Street  
St. Paul, MN 55155

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Please respond back to me at [mark.g.ritter@xcelenergy.com](mailto:mark.g.ritter@xcelenergy.com) within 30 days of receipt of this letter to let me know whether you believe this law may require you to transfer any unexpended RDF grant funds to the State of Minnesota at some point in the future.

Sincerely,



Mark G. Ritter  
RDF Grant Administrator

Enclosure: 2017 Session Law Chapter 94, Article 10, Section 29



414 Nicollet Mall  
Minneapolis, Minnesota 55401-1993

June 30, 2017

Greg Mowry  
School of Engineering  
University of St. Thomas  
2115 Summit Avenue  
Saint Paul, MN 55105

Re: RDF Grant Award HE4-2

Dear Greg:

I am writing regarding the Renewable Development Fund (RDF) grant you received from Northern States Power Company, a Minnesota corporation (Xcel Energy) sometime after January 1, 2012. As you may know, there were several statutory changes to the Renewable Development Fund during the 2017 legislative session. 2017 Session Law Chapter 94, Article 10, Section 29 requires Xcel Energy to notify in writing all grantees who received RDF grants after January 1, 2012. A complete copy of 2017 Session Law Chapter 94, Article 10, Section 29 is included with this letter for your reference.

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ATTN: Fiscal Services – RDA  
400 Centennial Building  
658 Cedar Street  
St. Paul, MN 55155

If you transfer funds to the State of Minnesota under this section, you are still eligible to apply for funding from the fund in the future.



Please respond back to me at [mark.g.ritter@xcelenergy.com](mailto:mark.g.ritter@xcelenergy.com) within 30 days of receipt of this letter to let me know whether you believe this law may require you to transfer any unexpended RDF grant funds to the State of Minnesota at some point in the future.

Sincerely,



Mark G. Ritter  
RDF Grant Administrator

Enclosure: 2017 Session Law Chapter 94, Article 10, Section 29



414 Nicollet Mall  
Minneapolis, Minnesota 55401-1993

June 30, 2017

Lewis Gilbert  
Institute on the Environment  
University of Minnesota, - St. Paul  
1954 Buford Avenue, Room 325 LES  
St Paul, MN 55108

Re: RDF Grant Award HE4-3

Dear Lewis:

I am writing regarding the Renewable Development Fund (RDF) grant you received from Northern States Power Company, a Minnesota corporation (Xcel Energy) sometime after January 1, 2012. As you may know, there were several statutory changes to the Renewable Development Fund during the 2017 legislative session. 2017 Session Law Chapter 94, Article 10, Section 29 requires Xcel Energy to notify in writing all grantees who received RDF grants after January 1, 2012. A complete copy of 2017 Session Law Chapter 94, Article 10, Section 29 is included with this letter for your reference.

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Minnesota Management and Budget  
ATTN: Fiscal Services – RDA  
400 Centennial Building  
658 Cedar Street  
St. Paul, MN 55155

If you transfer funds to the State of Minnesota under this section, you are still eligible to apply for funding from the fund in the future.

Please respond back to me at [mark.g.ritter@xcelenergy.com](mailto:mark.g.ritter@xcelenergy.com) within 30 days of receipt of this letter to let me know whether you believe this law may require you to transfer any unexpended RDF grant funds to the State of Minnesota at some point in the future.

Sincerely,



Mark G. Ritter  
RDF Grant Administrator

Enclosure: 2017 Session Law Chapter 94, Article 10, Section 29



414 Nicollet Mall  
Minneapolis, Minnesota 55401-1993

June 30, 2017

Roger Ruan  
University of Minnesota  
206 BioAgEng Building  
1390 Eckles Avenue  
St. Paul, MN 55108

Re: RDF Grant Award RD4-1

Dear Roger:

I am writing regarding the Renewable Development Fund (RDF) grant you received from Northern States Power Company, a Minnesota corporation (Xcel Energy) sometime after January 1, 2012. As you may know, there were several statutory changes to the Renewable Development Fund during the 2017 legislative session. 2017 Session Law Chapter 94, Article 10, Section 29 requires Xcel Energy to notify in writing all grantees who received RDF grants after January 1, 2012. A complete copy of 2017 Session Law Chapter 94, Article 10, Section 29 is included with this letter for your reference.

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Minnesota Management and Budget  
ATTN: Fiscal Services – RDA  
400 Centennial Building  
658 Cedar Street  
St. Paul, MN 55155

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Please respond back to me at [mark.g.ritter@xcelenergy.com](mailto:mark.g.ritter@xcelenergy.com) within 30 days of receipt of this letter to let me know whether you believe this law may require you to transfer any unexpended RDF grant funds to the State of Minnesota at some point in the future.

Sincerely,



Mark G. Ritter  
RDF Grant Administrator

Enclosure: 2017 Session Law Chapter 94, Article 10, Section 29



414 Nicollet Mall  
Minneapolis, Minnesota 55401-1993

June 30, 2017

Michael Reese  
West Central Research and Outreach Center  
46352 State Hwy 329  
Morris, MN 56267

Re: RDF Grant Award RD4-2

Dear Mike:

I am writing regarding the Renewable Development Fund (RDF) grant you received from Northern States Power Company, a Minnesota corporation (Xcel Energy) sometime after January 1, 2012. As you may know, there were several statutory changes to the Renewable Development Fund during the 2017 legislative session. 2017 Session Law Chapter 94, Article 10, Section 29 requires Xcel Energy to notify in writing all grantees who received RDF grants after January 1, 2012. A complete copy of 2017 Session Law Chapter 94, Article 10, Section 29 is included with this letter for your reference.

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ATTN: Fiscal Services – RDA  
400 Centennial Building  
658 Cedar Street  
St. Paul, MN 55155

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Please respond back to me at [mark.g.ritter@xcelenergy.com](mailto:mark.g.ritter@xcelenergy.com) within 30 days of receipt of this letter to let me know whether you believe this law may require you to transfer any unexpended RDF grant funds to the State of Minnesota at some point in the future.

Sincerely,



Mark G. Ritter  
RDF Grant Administrator

Enclosure: 2017 Session Law Chapter 94, Article 10, Section 29



414 Nicollet Mall  
Minneapolis, Minnesota 55401-1993

June 30, 2017

Shalini Menezes  
InterPhases Solar  
668 Flinn Avenue, Unit 23  
Moorpark, CA 93021

Re: RDF Grant Award RD4-7

Dear Shalini:

I am writing regarding the Renewable Development Fund (RDF) grant you received from Northern States Power Company, a Minnesota corporation (Xcel Energy) sometime after January 1, 2012. As you may know, there were several statutory changes to the Renewable Development Fund during the 2017 legislative session. 2017 Session Law Chapter 94, Article 10, Section 29 requires Xcel Energy to notify in writing all grantees who received RDF grants after January 1, 2012. A complete copy of 2017 Session Law Chapter 94, Article 10, Section 29 is included with this letter for your reference.

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ATTN: Fiscal Services – RDA  
400 Centennial Building  
658 Cedar Street  
St. Paul, MN 55155

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Please respond back to me at [mark.g.ritter@xcelenergy.com](mailto:mark.g.ritter@xcelenergy.com) within 30 days of receipt of this letter to let me know whether you believe this law may require you to transfer any unexpended RDF grant funds to the State of Minnesota at some point in the future.

Sincerely,

A handwritten signature in black ink, appearing to read 'M. Ritter', with a long horizontal flourish extending to the right.

Mark G. Ritter  
RDF Grant Administrator

Enclosure: 2017 Session Law Chapter 94, Article 10, Section 29



414 Nicollet Mall  
Minneapolis, Minnesota 55401-1993

June 30, 2017

Jeff Schneider  
City of Red Wing  
315 West 4<sup>th</sup> Street  
Red Wing, MN 55066

Re: RDF Grant Award RD4-8

Dear Jeff:

I am writing regarding the Renewable Development Fund (RDF) grant you received from Northern States Power Company, a Minnesota corporation (Xcel Energy) sometime after January 1, 2012. As you may know, there were several statutory changes to the Renewable Development Fund during the 2017 legislative session. 2017 Session Law Chapter 94, Article 10, Section 29 requires Xcel Energy to notify in writing all grantees who received RDF grants after January 1, 2012. A complete copy of 2017 Session Law Chapter 94, Article 10, Section 29 is included with this letter for your reference.

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Minnesota Management and Budget  
ATTN: Fiscal Services – RDA  
400 Centennial Building  
658 Cedar Street  
St. Paul, MN 55155

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Please respond back to me at [mark.g.ritter@xcelenergy.com](mailto:mark.g.ritter@xcelenergy.com) within 30 days of receipt of this letter to let me know whether you believe this law may require you to transfer any unexpended RDF grant funds to the State of Minnesota at some point in the future.

Sincerely,



Mark G. Ritter  
RDF Grant Administrator

Enclosure: 2017 Session Law Chapter 94, Article 10, Section 29

Cc: Tina Folch



414 Nicollet Mall  
Minneapolis, Minnesota 55401-1993

June 30, 2017

Donald Fosnacht  
Natural Resources Research Institute  
University of Minnesota Duluth  
5013 Miller Trunk Hwy.  
Duluth, MN 55811-1442

Re: RDF Grant Award RD4-11

Dear Don:

I am writing regarding the Renewable Development Fund (RDF) grant you received from Northern States Power Company, a Minnesota corporation (Xcel Energy) sometime after January 1, 2012. As you may know, there were several statutory changes to the Renewable Development Fund during the 2017 legislative session. 2017 Session Law Chapter 94, Article 10, Section 29 requires Xcel Energy to notify in writing all grantees who received RDF grants after January 1, 2012. A complete copy of 2017 Session Law Chapter 94, Article 10, Section 29 is included with this letter for your reference.

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Minnesota Management and Budget  
ATTN: Fiscal Services – RDA  
400 Centennial Building  
658 Cedar Street  
St. Paul, MN 55155

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Please respond back to me at [mark.g.ritter@xcelenergy.com](mailto:mark.g.ritter@xcelenergy.com) within 30 days of receipt of this letter to let me know whether you believe this law may require you to transfer any unexpended RDF grant funds to the State of Minnesota at some point in the future.

Sincerely,

A handwritten signature in black ink, appearing to read 'Mark G. Ritter', with a long horizontal stroke extending to the right.

Mark G. Ritter  
RDF Grant Administrator

Enclosure: 2017 Session Law Chapter 94, Article 10, Section 29



414 Nicollet Mall  
Minneapolis, Minnesota 55401-1993

June 30, 2017

Jeff Marr  
St. Anthony Falls Laboratory (SAFL)  
University of Minnesota  
2 Third Avenue SE  
Minneapolis, MN 55414

Re: RDF Grant Award RD4-12

Dear Jeff:

I am writing regarding the Renewable Development Fund (RDF) grant you received from Northern States Power Company, a Minnesota corporation (Xcel Energy) sometime after January 1, 2012. As you may know, there were several statutory changes to the Renewable Development Fund during the 2017 legislative session. 2017 Session Law Chapter 94, Article 10, Section 29 requires Xcel Energy to notify in writing all grantees who received RDF grants after January 1, 2012. A complete copy of 2017 Session Law Chapter 94, Article 10, Section 29 is included with this letter for your reference.

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400 Centennial Building  
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Sincerely,



Mark G. Ritter  
RDF Grant Administrator

Enclosure: 2017 Session Law Chapter 94, Article 10, Section 29



414 Nicollet Mall  
Minneapolis, Minnesota 55401-1993

June 30, 2017

Fotis Sotiropoulos  
College of Engineering and Applied Sciences  
Stony Brook University  
100 Engineering Building  
Stony Brook, NY 11794-2200

Re: RDF Grant Award RD4-13

Dear Fotis:

I am writing regarding the Renewable Development Fund (RDF) grant you received from Northern States Power Company, a Minnesota corporation (Xcel Energy) sometime after January 1, 2012. As you may know, there were several statutory changes to the Renewable Development Fund during the 2017 legislative session. 2017 Session Law Chapter 94, Article 10, Section 29 requires Xcel Energy to notify in writing all grantees who received RDF grants after January 1, 2012. A complete copy of 2017 Session Law Chapter 94, Article 10, Section 29 is included with this letter for your reference.

Pursuant to this law, a RDF grant recipient must transfer to the State of Minnesota clean energy advancement fund account any grant funds that remain unexpended five years after the grant funds are received if, by that date:

- the grant recipient has failed to obtain control of the site on which the project is to be constructed;
- the grant recipient has failed to secure all necessary permits or approvals from any unit of government with respect to the project; and
- construction of the project has not begun.

If these three conditions are met, then you must transfer the unexpended funds to the State of Minnesota no later than thirty days after the fifth anniversary of the receipt of grant funds. You should send a check made payable to Minnesota Management and Budget (or the State of Minnesota) to:

Minnesota Management and Budget  
ATTN: Fiscal Services – RDA  
400 Centennial Building  
658 Cedar Street  
St. Paul, MN 55155

If you transfer funds to the State of Minnesota under this section, you are still eligible to apply for funding from the fund in the future.



Please respond back to me at [mark.g.ritter@xcelenergy.com](mailto:mark.g.ritter@xcelenergy.com) within 30 days of receipt of this letter to let me know whether you believe this law may require you to transfer any unexpended RDF grant funds to the State of Minnesota at some point in the future.

Sincerely,



Mark G. Ritter  
RDF Grant Administrator

Enclosure: 2017 Session Law Chapter 94, Article 10, Section 29



414 Nicollet Mall  
Minneapolis, Minnesota 55401-1993

June 30, 2017

Christopher Kopchynski  
Barr Engineering Co.  
4700 West 77<sup>th</sup> Street, Suite 200  
Minneapolis, MN 55401

Re: RDF Grant Award RD4-14

Dear Chris:

I am writing regarding the Renewable Development Fund (RDF) grant you received from Northern States Power Company, a Minnesota corporation (Xcel Energy) sometime after January 1, 2012. As you may know, there were several statutory changes to the Renewable Development Fund during the 2017 legislative session. 2017 Session Law Chapter 94, Article 10, Section 29 requires Xcel Energy to notify in writing all grantees who received RDF grants after January 1, 2012. A complete copy of 2017 Session Law Chapter 94, Article 10, Section 29 is included with this letter for your reference.

Pursuant to this law, a RDF grant recipient must transfer to the State of Minnesota clean energy advancement fund account any grant funds that remain unexpended five years after the grant funds are received if, by that date:

- the grant recipient has failed to obtain control of the site on which the project is to be constructed;
- the grant recipient has failed to secure all necessary permits or approvals from any unit of government with respect to the project; and
- construction of the project has not begun.

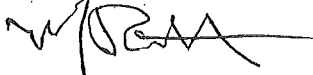
If these three conditions are met, then you must transfer the unexpended funds to the State of Minnesota no later than thirty days after the fifth anniversary of the receipt of grant funds. You should send a check made payable to Minnesota Management and Budget (or the State of Minnesota) to:

Minnesota Management and Budget  
ATTN: Fiscal Services – RDA  
400 Centennial Building  
658 Cedar Street  
St. Paul, MN 55155

If you transfer funds to the State of Minnesota under this section, you are still eligible to apply for funding from the fund in the future.

Please respond back to me at [mark.g.ritter@xcelenergy.com](mailto:mark.g.ritter@xcelenergy.com) within 30 days of receipt of this letter to let me know whether you believe this law may require you to transfer any unexpended RDF grant funds to the State of Minnesota at some point in the future.

Sincerely,

A handwritten signature in black ink, appearing to read 'M. Ritter', with a long horizontal stroke extending to the right.

Mark G. Ritter  
RDF Grant Administrator

Enclosure: 2017 Session Law Chapter 94, Article 10, Section 29

**GRANT CONTRACT AMENDMENT**  
**EP4-11: Innovative Power Systems**

**THIS AMENDMENT No. 1** ("Amendment No. 1") to the Grant Contract Between Northern States Power Company, a Minnesota corporation ("NSP"), with its principal place of business at 414 Nicollet Mall, Minneapolis, Minnesota 55401 and Innovative Power Systems, Inc. ("Contractor"), a Minnesota corporation, with its principal place of business at 2670 Patton Road, Roseville, MN 55113 is made this 3<sup>rd</sup> day of May, 2017, by and between NSP and Contractor. NSP and Contractor are sometimes individually referred to as a "Party" or collectively as the "Parties". Capitalized terms used herein but not defined herein shall have the meanings set forth in the Grant Contract.

**WHEREAS**, the Parties have entered into a Grant Contract for NSP to reimburse Contractor in accordance with Exhibit C to the Grant Contract, from the RDF, for Contractor's Project identified as EP4-11.

**WHEREAS**, Contractor and NSP desire to modify the Scheduled Completion Date, identified in Exhibit C of the Grant Contract and the Contractor's mailing and physical address.

**NOW, THEREFORE**, in consideration of the foregoing and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, and intending to be legally bound thereby, the Parties hereby agree as follows:

1. Milestone 1 – Commissioning in Exhibit C is deleted in its entirety and replaced with the following:

Milestone 1 – Commissioning

Install 967.27 kW<sub>DC</sub> PV arrays and complete all construction activities. Project (comprised of the four installation sites identified in Exhibit A) in service and producing and selling electricity to NSP through a Net-metering agreement. Facility is commissioned and metering requirements have been completed. To be completed approximately 28 months after the Grant Contract Start Date.

2. The mailing and physical address for Contractor in Exhibit D is deleted in its entirety and replaced with:

Innovative Power Systems, Inc.  
2670 Patton Road  
Roseville, MN 55113

3. The terms and provisions contained in this Amendment No. 1 to the Grant Contract constitute the entire agreement between NSP and Contractor with respect to the amendment of the Grant Contract and shall supersede all previous communications, representations, or agreements, either oral or written, between NSP and Contractor regarding amendment of the Grant Contract. This Amendment No. 1 may be amended, changed, modified, or altered in accordance with the terms of the Grant

Contract, *provided, however, that* such amendment, change, modification, or alteration shall be in writing.

4. This Amendment No. 1 is binding upon and shall inure to the benefit of the Parties hereto and their respective successors, legal representatives, and assigns.
5. Except and specifically provided in this Amendment No. 1, no other amendments, revisions, or changes are made or have been made to the Grant Contract.
6. Upon the effectiveness of this Amendment No. 1, each reference in the Grant Contract to "this Grant Contract", "herein", "hereto", or words of like import shall mean and be a reference to the Grant Contract, as amended hereby.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the Parties have executed this Amendment No. 1 as of the date first set forth above.

Northern States Power Company,  
a Minnesota corporation

By:  Date: 5/8/17

Its: *RVP Rate & Reg Affair*

Innovative Power Systems, Inc,  
a Minnesota corporation

By:  Date: 05/02/2017

Its: Project Manager

## GRANT CONTRACT AMENDMENT EP4-20: TARGET CORPORATION

**THIS AMENDMENT No. 2** (“Amendment No. 2”) to the Grant Contract Between Northern States Power Company, a Minnesota corporation (“NSP”), with its principal place of business at 414 Nicollet Mall, Minneapolis, Minnesota 55401 and Target Corporation (“Contractor”), a Minnesota corporation, with its principal place of business at 33 South 6<sup>th</sup> Street, Minneapolis, Minnesota is made this 14<sup>th</sup> day of June, 2017, by and between NSP and Contractor. NSP and Contractor are sometimes individually referred to as a “Party” or collectively as the “Parties”. Capitalized terms used herein but not defined herein shall have the meanings set forth in the Grant Contract.

**WHEREAS**, the Parties have entered into a Grant Contract for NSP to reimburse Contractor in accordance with Exhibit C to the Grant Contract, from the RDF, for Contractor’s Project identified as EP4-20.

**WHEREAS**, Contractor and NSP desire to modify the Scheduled Completion Date indicated on Exhibit C of the Grant Contract.

**NOW, THEREFORE**, in consideration of the foregoing and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, and intending to be legally bound thereby, the Parties hereby agree as follows:

1. The language underneath the caption Milestone 2 – Performance Assessment (Total Production of 150,000 kWh) in Exhibit C is deleted in its entirety and replaced with the following:

Achieve total production of 150,000 cumulative kWh as of commercial operation of solar PV facility. To be completed approximately 28 months after the Contract Start Date.

2. The language underneath the caption Milestone 3 – Performance Assessment (Total Production of 240,000 kWh) in Exhibit C is deleted in its entirety and replaced with the following:

Achieve total production of 240,000 cumulative kWh as of commercial operation of solar PV facility. To be completed approximately 28 months after the Contract Start Date.

3. The terms and provisions contained in this Amendment No. 2 to the Grant Contract constitute the entire agreement between NSP and Contractor with respect to the amendment of the Grant Contract and shall supersede all previous communications, representations, or agreements, either oral or written, between NSP and Contractor regarding amendment of the Grant Contract. This Amendment No. 2 may be amended, changed, modified, or altered in accordance with the terms of the Grant Contract, *provided, however, that* such amendment, change, modification, or alteration shall be in writing.

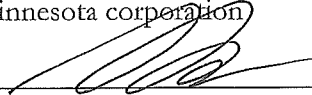
4. This Amendment No. 2 is binding upon and shall inure to the benefit of the Parties hereto and their respective successors, legal representatives, and assigns.
5. Except and specifically provided in this Amendment No. 2, no other amendments, revisions, or changes are made or have been made to the Grant Contract.
6. Upon the effectiveness of this Amendment No. 2, each reference in the Grant Contract to "this Grant Contract", "herein", "hereto", or words of like import shall mean and be a reference to the Grant Contract, as amended hereby.

[SIGNATURE PAGE FOLLOWS]



IN WITNESS WHEREOF, the Parties have executed this Amendment No. 2 as of the date first set forth above.

Northern States Power Company,  
a Minnesota corporation

By:  \_\_\_\_\_

Date: 6/14/17 \_\_\_\_\_

Its: RVP Rates & Reg Affairs \_\_\_\_\_

Target Corporation,  
a Minnesota corporation

By: Laura Teske  
Laura Teske (Jun 2, 2017) \_\_\_\_\_

Date: Jun 2, 2017 \_\_\_\_\_

Its: Renewable Energy Manager

**GRANT CONTRACT AMENDMENT  
RD4-11: UNIVERSITY OF MINNESOTA**

**THIS AMENDMENT No. 1** (“Amendment No. 1”) to the Grant Contract Between Northern States Power Company, a Minnesota corporation (“NSP”), with its principal place of business at 414 Nicollet Mall, Minneapolis, Minnesota 55401 and the Regents of the University of Minnesota (“Contractor”), a Minnesota constitutional corporation and institution of higher education, with its principal place of business at 450 McNamara Alumni Center, 200 Oak Street S.E., Minneapolis, MN 55455 is made this 6th day of June, 2017, by and between NSP and Contractor. NSP and Contractor are sometimes individually referred to as a “Party” or collectively as the “Parties”. Capitalized terms used herein but not defined herein shall have the meanings set forth in the Grant Contract.

**WHEREAS**, the Parties have entered into a Grant Contract for NSP to reimburse Contractor in accordance with Exhibit C to the Grant Contract, from the RDF, for Contractor’s Project identified as RD4-11.

**WHEREAS**, Contractor and NSP desire to modify the Scheduled Completion Date indicated on Exhibit C of the Grant Contract.

**NOW, THEREFORE**, in consideration of the foregoing and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, and intending to be legally bound thereby, the Parties hereby agree as follows:

1. The language underneath the caption Milestone 2 – Fabrication in Exhibit C is deleted in its entirety and replaced with the following:

Complete all system designs and fabrication drawings. Request and receive quotes for materials and equipment needed to fabricate the bioconversion reactor and power generator. To be completed approximately 24 months after the Contract Start Date.

2. The language underneath the caption Milestone 3 – Fabrication/Site Preparation in Exhibit C is deleted in its entirety and replaced with the following:

Begin fabrication of system components. Design process and test process controls. Begin site preparation for installation of biomass conversion system. Identify all required permits for safe operation of system. To be completed approximately 28 months after the Contract Start Date.

3. The language underneath the caption Milestone 4 – Fabrication/Installation in Exhibit C is deleted in its entirety and replaced with the following:

Complete fabrication and deliver on-site bioconversion reactor components and steam electric generation equipment. Continue installation of facility. To be completed approximately 32 months after the Contract Start Date.

4. The language underneath the caption Milestone 5 – Fabrication/Start-up in Exhibit C is deleted in its entirety and replaced with the following:

Complete installation of bioconversion and steam electric generator system. Complete system start-up and optimization of the process. Provide operator training. Begin briquette production, testing unbriquetted products in the boiler generator system and emission testing. To be completed approximately 34 months after the Contract Start Date.

5. The language underneath the caption Milestone 6 – Operation in Exhibit C is deleted in its entirety and replaced with the following:

Steady state operation of bioconversion system with a variety of biomass raw materials to determine operating parameters and assess biocoal product quality. Operation of power generator and the continuation of emission testing. To be completed approximately 35 months after the Contract Start Date.

6. The language underneath the caption Milestone 7 – Operation/Testing in Exhibit C is deleted in its entirety and replaced with the following:

Complete steady state operation of bioconversion system, operation of steam electric generator, and emission testing. To be completed approximately 36 months after the Contract Start Date.

7. The language underneath the caption Milestone 8 – Final Analysis in Exhibit C is deleted in its entirety and replaced with the following:

Analyze and assess performance data from bioreactor and power generation. Test and assess composition of biocoal product. Preparation of final project report. To be completed approximately 37 months after the Contract Start Date

8. The terms and provisions contained in this Amendment No. 1 to the Grant Contract constitute the entire agreement between NSP and Contractor with respect to the amendment of the Grant Contract and shall supersede all previous communications, representations, or agreements, either oral or written, between NSP and Contractor regarding amendment of the Grant Contract. This Amendment No. 1 may be amended, changed, modified, or altered in accordance with the terms of the Grant Contract, *provided, however, that* such amendment, change, modification, or alteration shall be in writing.

9. This Amendment No. 1 is binding upon and shall inure to the benefit of the Parties hereto and their respective successors, legal representatives, and assigns.

10. Except and specifically provided in this Amendment No. 1, no other amendments, revisions, or changes are made or have been made to the Grant Contract.

11. Upon the effectiveness of this Amendment No. 1, each reference in the Grant Contract to "this Grant Contract", "herein", "hereto", or words of like import shall mean and be a reference to the Grant Contract, as amended hereby.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the Parties have executed this Amendment No. 1 as of the date first set forth above.

Northern States Power Company,  
a Minnesota corporation

By: 

Date: 6/14/17

Its: RVP, Rates & Regulatory Affairs

Regents of the University of Minnesota

By: 

Date: June 6, 2017

Its: Director, Sponsored Projects Administration

## CERTIFICATE OF SERVICE

I, Lynnette Sweet, hereby certify that I have this day served copies of the foregoing document on the attached list of persons.

xx by depositing a true and correct copy thereof, properly enveloped with postage paid in the United States mail at Minneapolis, Minnesota

xx electronic filing

**DOCKET NOS. E002/M-00-1583  
E002/M-07-675  
E002/M-12-1278 (OFFICIAL SERVICE LIST)**

Dated this 27<sup>th</sup> Day of July, 2017

/s/

---

Lynnette Sweet  
Regulatory Administrator

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Steven J.	Almos	salmos.wn@bsm.com	Bay State Milling Company	55 Franklin Street  Winona, MN 55987	Electronic Service	No	OFF_SL_0-1583_1
Karen	Anderson		American Sustainable Energy Council	80 South 8th Street, #900  Minneapolis, MN 55402	Paper Service	No	OFF_SL_0-1583_1
Julia	Anderson	Julia.Anderson@ag.state.mn.us	Office of the Attorney General-DOC	1800 BRM Tower 445 Minnesota St St. Paul, MN 551012134	Electronic Service	Yes	OFF_SL_0-1583_1
Janet	Anderson	jainstp@q.com	-	1799 Sargent  St. Paul, MN 55105	Electronic Service	No	OFF_SL_0-1583_1
John	Bailey	bailey@ilsr.org	Institute For Local Self-Reliance	1313 5th St SE Ste 303  Minneapolis, MN 55414	Electronic Service	No	OFF_SL_0-1583_1
Edna C.	Brazaitis		Friends of the Riverfront	PO Box 580545  Minneapolis, MN 554580545	Paper Service	No	OFF_SL_0-1583_1
Michael J.	Bull	mbull@mncee.org	Center for Energy and Environment	212 Third Ave N Ste 560  Minneapolis, MN 55401	Electronic Service	No	OFF_SL_0-1583_1
George	Crocker	gwillc@nawo.org	North American Water Office	PO Box 174  Lake Elmo, MN 55042	Electronic Service	No	OFF_SL_0-1583_1
Carl	Cronin	Regulatory.records@xcelenergy.com	Xcel Energy	414 Nicollet Mall FL 7  Minneapolis, MN 554011993	Electronic Service	No	OFF_SL_0-1583_1
Lisa	Daniels	lisadaniels@windustry.org	Windustry	201 Ridgewood Ave  Minneapolis, MN 55403	Electronic Service	No	OFF_SL_0-1583_1

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Executive	Director	N/A	Onanegozie RC&D	42290 Ginger Ave.  Harris, MN 55032-3361	Paper Service	No	OFF_SL_0-1583_1
Ian	Dobson	Residential.Utilities@ag.state.mn.us	Office of the Attorney General-RUD	1400 BRM Tower 445 Minnesota St St. Paul, MN 551012130	Electronic Service	Yes	OFF_SL_0-1583_1
Ian	Dobson	ian.dobson@ag.state.mn.us	Office of the Attorney General-RUD	Antitrust and Utilities Division 445 Minnesota Street, BRM Tower St. Paul, MN 55101	Electronic Service 1400	No	OFF_SL_0-1583_1
John R.	Dunlop, P.E.	JDunlop@RESMinn.com	Renewable Energy Services	Suite 300 448 Morgan Ave. S. Minneapolis, MN 554052030	Electronic Service	No	OFF_SL_0-1583_1
Sharon	Ferguson	sharon.ferguson@state.mn.us	Department of Commerce	85 7th Place E Ste 280  Saint Paul, MN 551012198	Electronic Service	Yes	OFF_SL_0-1583_1
Doug	Fredrickson			400 County Road 50  Avon, MN 56310	Paper Service	No	OFF_SL_0-1583_1
Gary	Gillet		University Of Minnesota	Suite 450 200 Oak Street SE Minneapolis, MN 554552070	Paper Service	No	OFF_SL_0-1583_1
Andy	Herring		Colorado School Of Mines	1500 Illinois Street  Golden, CO 80401	Paper Service	No	OFF_SL_0-1583_1
KDV c/o Mary	Hoffman	mhoffman@kdv.com	Crown Hydro LLC	3800 American Blvd W Suite 1000  Bloomington, MN 55431-4420	Electronic Service	No	OFF_SL_0-1583_1



First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Jerry	Horgan		Pipestone-Jasper Public Sch Dist #2689	1401 Seventh Street SW  Pipestone, MN 561641877	Paper Service	No	OFF_SL_0-1583_1
Cindy	Jepsen	ccjepsen@capitolresource mn.com	Capitol Resources	Box 254  Marine On St. Croix, MN 55047	Electronic Service	No	OFF_SL_0-1583_1
John	Johnson		Stewart Energy Products	22739 Highway 212 E. P.O. Box 219 Stewart, MN 55385	Paper Service	No	OFF_SL_0-1583_1
Michael	Krikava	mkrikava@briggs.com	Briggs And Morgan, P.A.	2200 IDS Center 80 S 8th St Minneapolis, MN 55402	Electronic Service	No	OFF_SL_0-1583_1
Sheryl	Landis		Energy & Environmental Research Center	PO Box 9018 15 North 23RD Street Grand Forks, ND 582029018	Paper Service	No	OFF_SL_0-1583_1
Michael	Loeffler	mike.loeffler@nngco.com	Northern Natural Gas Co.	CORP HQ, 714 1111 So. 103rd Street Omaha, NE 681241000	Electronic Service	No	OFF_SL_0-1583_1
Pam	Marshall	pam@energycents.org	Energy CENTS Coalition	823 7th St E  St. Paul, MN 55106	Electronic Service	No	OFF_SL_0-1583_1
Richard	Mattocks		Environomics	2517 Rte. 44, 11-221  Salt Point, NY 12578	Paper Service	No	OFF_SL_0-1583_1
Clark	McDonald			504 - 20Th Street North  Benson, MN 56215	Paper Service	No	OFF_SL_0-1583_1
Diana	McKeown	N/A	Clean Water Action Alliance Of MN	308 E Hennepin Avenue  Minneapolis, MN 55414	Paper Service	No	OFF_SL_0-1583_1

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
David	Ostlie		Energy Performance Systems, Inc.	Suite K 12510 Fletcher Lane Rogers, MN 55374	Paper Service	No	OFF_SL_0-1583_1
David	Planting		Archer Daniels Midland	400 West Erie Rd.  Marshall, MN 56258	Paper Service	No	OFF_SL_0-1583_1
Kellye	Rose	kellye@roseconserve.com	Rose Consulting Service, Inc.	10915 Pioneer Drive  Burnsville, MN 55337	Electronic Service	No	OFF_SL_0-1583_1
Richard	Savelkoul	rsavelkoul@martinsquires.com	Martin & Squires, P.A.	332 Minnesota Street Ste W2750  St. Paul, MN 55101	Electronic Service	No	OFF_SL_0-1583_1
Dean	Sedgwick	N/A	Itasca Power Company	PO Box 457  Bigfork, MN 56628-0457	Paper Service	No	OFF_SL_0-1583_1
Don	Selmarten			1617 Cole Blvd.  Golden, CO 80401	Paper Service	No	OFF_SL_0-1583_1
Scott	Vreeland		Seward Neighborhood Group	2437 - 33Rd Avenue South  Minneapolis, MN 55406	Paper Service	No	OFF_SL_0-1583_1
Heather	Westra		Prairie Island Indian Community	5636 Sturgeon Lake Road  Welch, MN 55089	Paper Service	No	OFF_SL_0-1583_1
Paul	White	paul.white@prcwind.com	Project Resources Corp./Tamarac Line LLC/Ridgewind	618 2nd Ave SE  Minneapolis, MN 55414	Electronic Service	No	OFF_SL_0-1583_1

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Robyn	Woeste	robynwoeste@alliantenergy.com	Interstate Power and Light Company	200 First St SE Cedar Rapids, IA 52401	Electronic Service	No	OFF_SL_0-1583_1
Daniel P	Wolf	dan.wolf@state.mn.us	Public Utilities Commission	121 7th Place East Suite 350 St. Paul, MN 551012147	Electronic Service	Yes	OFF_SL_0-1583_1

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Steven J.	Almos	salmos.wn@bsm.com	Bay State Milling Company	55 Franklin Street  Winona, MN 55987	Electronic Service	No	OFF_SL_7-675_1
Julia	Anderson	Julia.Anderson@ag.state.mn.us	Office of the Attorney General-DOC	1800 BRM Tower 445 Minnesota St St. Paul, MN 551012134	Electronic Service	Yes	OFF_SL_7-675_1
Karen	Anderson		American Sustainable Energy Council	80 South 8th Street, #900  Minneapolis, MN 55402	Paper Service	No	OFF_SL_7-675_1
Christopher	Anderson	canderson@allete.com	Minnesota Power	30 W Superior St  Duluth, MN 558022191	Electronic Service	No	OFF_SL_7-675_1
James J.	Bertrand	james.bertrand@stinson.com	Stinson Leonard Street LLP	150 South Fifth Street, Suite 2300  Minneapolis, MN 55402	Electronic Service	No	OFF_SL_7-675_1
Carl	Cronin	Regulatory.records@xcelenergy.com	Xcel Energy	414 Nicollet Mall FL 7  Minneapolis, MN 554011993	Electronic Service	No	OFF_SL_7-675_1
Ian	Dobson	ian.dobson@ag.state.mn.us	Office of the Attorney General-RUD	Antitrust and Utilities Division 445 Minnesota Street, BRM Tower St. Paul, MN 55101	Electronic Service	No	OFF_SL_7-675_1
Ian	Dobson	Residential.Utilities@ag.state.mn.us	Office of the Attorney General-RUD	1400 BRM Tower 445 Minnesota St St. Paul, MN 551012130	Electronic Service	Yes	OFF_SL_7-675_1
John R.	Dunlop, P.E.	JDunlop@RESMinn.com	Renewable Energy Services	Suite 300 448 Morgan Ave. S. Minneapolis, MN 554052030	Electronic Service	No	OFF_SL_7-675_1
Larry	Espel	lespel@greeneespel.com	Greene Espel, P.L.L.P.	222 S 9th St Ste 2200  Minneapolis, MN 55402-3362	Electronic Service	No	OFF_SL_7-675_1

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Sharon	Ferguson	sharon.ferguson@state.mn.us	Department of Commerce	85 7th Place E Ste 280  Saint Paul, MN 551012198	Electronic Service	Yes	OFF_SL_7-675_1
Gary	Gillet		University Of Minnesota	Suite 450 200 Oak Street SE Minneapolis, MN 554552070	Paper Service	No	OFF_SL_7-675_1
Cindy	Jepsen	ccjepsen@capitolresource.mn.com	Capitol Resources	Box 254  Marine On St. Croix, MN 55047	Electronic Service	No	OFF_SL_7-675_1
John	Johnson		Stewart Energy Products	22739 Highway 212 E. P.O. Box 219 Stewart, MN 55385	Paper Service	No	OFF_SL_7-675_1
Timothy M.	Kelley	timothy.kelley@stinson.com	Stinson Leonard Street LLP	Suite 2300 150 South Fifth Street Minneapolis, MN 55402	Electronic Service	No	OFF_SL_7-675_1
Paul	Kramer		Rahr Malting Co.	800 1st Ave. W.  Shakopee, MN 55379	Paper Service	No	OFF_SL_7-675_1
Sheryl	Landis		Energy & Environmental Research Center	PO Box 9018 15 North 23RD Street Grand Forks, ND 582029018	Paper Service	No	OFF_SL_7-675_1
Renee	Landwehr	N/A	Clean Power Markets, Inc.	303 Monroe St  Little Chute, WI 54140-1722	Paper Service	No	OFF_SL_7-675_1
Patrick	Mulloy		Mulloy Environmental Services, Inc.	3636 Garfield Ave. S.  Minneapolis, MN 55409	Paper Service	No	OFF_SL_7-675_1
Rolf	Nordstrom	rnordstrom@gpisd.net	Great Plains Institute	2801 21ST AVE S STE 220  Minneapolis, MN 55407-1229	Electronic Service	No	OFF_SL_7-675_1

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
David	Ostlie		Energy Performance Systems, Inc.	Suite K 12510 Fletcher Lane Rogers, MN 55374	Paper Service	No	OFF_SL_7-675_1
Kellye	Rose	kellye@roseconserve.com	Rose Consulting Service, Inc.	10915 Pioneer Drive  Burnsville, MN 55337	Electronic Service	No	OFF_SL_7-675_1
Richard	Savelkoul	rsavelkoul@martinsquires.com	Martin & Squires, P.A.	332 Minnesota Street Ste W2750  St. Paul, MN 55101	Electronic Service	No	OFF_SL_7-675_1
Keith A.	Schimmel	cengr@bci.net	Technology Matrix Corporation	P.O. Box 11236  Syracuse, NY 13218	Paper Service	No	OFF_SL_7-675_1
Dean	Sedgwick	N/A	Itasca Power Company	PO Box 457  Bigfork, MN 56628-0457	Paper Service	No	OFF_SL_7-675_1
Zeviel	Simpser	zsimpser@briggs.com	Briggs and Morgan PA	2200 IDS Center80 South Eighth Street  Minneapolis, MN 554022157	Electronic Service	No	OFF_SL_7-675_1
Byron E.	Starns	byron.starns@stinson.com	Stinson Leonard Street LLP	150 South 5th Street Suite 2300 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_7-675_1
Heather	Westra		Prairie Island Indian Community	5636 Sturgeon Lake Road  Welch, MN 55089	Paper Service	No	OFF_SL_7-675_1
Daniel P	Wolf	dan.wolf@state.mn.us	Public Utilities Commission	121 7th Place East Suite 350 St. Paul, MN 551012147	Electronic Service	Yes	OFF_SL_7-675_1

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Julia	Anderson	Julia.Anderson@ag.state.mn.us	Office of the Attorney General-DOC	1800 BRM Tower 445 Minnesota St St. Paul, MN 551012134	Electronic Service	Yes	OFF_SL_12-1278_Official
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