



February 15, 2023

#### -VIA ELECTRONIC FILING-

Will Seuffert Executive Secretary Minnesota Public Utilities Commission 121 7th Place East, Suite 350 St. Paul, Minnesota 55101

RE: 2021-2022 BIENNIUM AND 2022 LEGISLATIVE REPORT DOCKET NOS. E002/M-00-1583, E002/M-03-1883, E002/M-07-675 AND E002/M-12-1278

Dear Mr. Seuffert:

Northern States Power Company, doing business as Xcel Energy, submits the enclosed 2021-2022 Biennial Report pursuant to the Minnesota Public Utilities Commission's April 20, 2001 Order and the 2022 Annual Report to the Minnesota State Legislature pursuant to Minn Stat. § 116C.779.

Consistent with the approach used for last year's report, the Company provides a streamlined and more organized report due to the lower number of active RDF grant projects currently in progress (Cycle 4 projects remain). The reformatted report provides historical and trending data for the RDF account. For this reason and because the Company provides significant information about the status of the RDF in its annual rate rider and the quarterly reports about the ongoing grant funded projects, the Company believes that providing one concise document rather than individual Biennial and Legislative reports provides useful information for both the Commission and the Legislature.

We have electronically filed this document with the Minnesota Public Utilities Commission and a copy provided to the Chairs and Ranking Minority Members of the legislative committees with jurisdiction over energy policy on projects funded by the RDA and copies have been served on the parties on the attached service list.

If you have any questions regarding this filing, please contact me at <a href="mailto:christopher.j.shaw@xcelenergy.com">christopher.j.shaw@xcelenergy.com</a> or (612) 330-7974.

Sincerely,

/s/

CHRISTOPHER J. SHAW
MANAGER, REGULATORY POLICY

c: Official Service List

# Xcel Energy Renewable Development Fund (RDF)

# Annual Report to the Minnesota State Legislature and Minnesota Public Utilities Commission

February 15, 2023

## **Background**

The Renewable Development Fund (RDF) program was first authorized by the Minnesota Legislature in 1994 in conjunction with legislation regarding the Prairie Island nuclear generating plant in Red Wing, Minnesota. As a condition of storing spent nuclear fuel in dry casks at Prairie Island, the RDF statute required Xcel Energy to transfer \$500,000 per year for each dry cask containing spent fuel to a renewable energy fund, which amounted to \$9 million annually. In 2003, this statute was amended to extend the life of the nuclear-waste storage at the Prairie Island plant; at that time the amount to be transferred into the RDF was increased to a fixed sum of \$16 million annually. In 2007, the statute was further amended to add an additional assessment for dry casks stored at our Monticello nuclear generating plant in Monticello, Minnesota. As described in more detail below, the annual amount set aside for RDF funding has increased throughout the years as the Company has placed in service more dry cask storage at its Prairie Island and Monticello nuclear generating plants.

While the Renewable Development Fund Statute, Minn. Stat. § 116C.779, has been amended several times since its creation, 2017 Minnesota Session Laws Chapter 94, Article 10, Section 3 (the 2017 Legislation) made significant changes to the RDF program including, among other things:

- the creation of a new Renewable Development Account (RDA) in the special revenue fund in the state treasury, which is administered by the commissioner of management and budget (MMB) whereas the monies collected under previous versions of the statute were known as the RDF, and administered by Xcel Energy;
- changes to the purposes for which RDA funds can be expended in future funding cycles;
- the contemplation of a new RDA advisory group (though the existing RDF advisory group remains for the purposes of oversight over the RDF's prior funding cycles);
- changes to the process for soliciting, selecting, and awarding RDA funds in future funding cycles; and
- changes in reporting requirements:
  - o an RDA advisory group must submit this annual report on the projects funded by the RDA for the prior year and all previous years (whereas previous versions of the annual report were submitted by Xcel Energy).

o the commissioner of management and budget will report to the legislature on the availability of funds in and obligations of the RDA.

Essentially, the 2017 Legislation created two types of programs under the statute—the new RDA, which is funded by the annual transfer to the MMB (less the current legislative mandates) and the legacy RDF grants (which continue to be referred to as the RDF).

Under Minn. Stat. § 116C.779 subdiv. 1(p), the RDA advisory group is to provide a report to the chairs and ranking minority members of the legislative committees with jurisdiction over energy policy on projects funded by the RDA. The 2017 Legislation did not indicate the entity (or entities) that have responsibility to create the RDA advisory group. Due to Xcel Energy's familiarity with the projects funded previously under the legacy RDF, its continuing obligation for annual reporting with the Minnesota Public Utilities Commission, and that RDA advisory group process has not yet been established, Xcel Energy is submitting this report on behalf of the RDA advisory group.

## Financial Impact of the RDF and RDA

According to Minn. Stat. § 116C.779 subdiv (1)(c), (d) and (e), Xcel Energy must annually transfer to the RDA \$500,000 for every cask at Prairie Island nuclear generating plant and \$350,000 for every cast at Monticello nuclear plant, but the Company can withhold from that transfer RDF payments for ongoing legislative programs previously enacted and the two additional expenditures approved by the legislature in the 2017 Legislation. Because of the number of casks at Prairie Island and Monticello, in 2022, payments for RDA or RDF purposes amounted to \$35.5 million annually and a cumulative total of \$495.45 million has been set-aside for RDA or RDF purposes since inception.

The costs of the RDA and RDF are recovered from Xcel Energy's customers through an adjustable surcharge on customer bills as part of their monthly charges for electricity. This surcharge mechanism is known as a rate rider. Each year, on October 1, Xcel Energy submits to the Public Utilities Commission an RDF summary report containing a proposed RDF rate rider charge for the upcoming year and an annual financial report which summarizes the RDF program's past expenses and a two-year expense forecast. In 2022, the RDF charge was \$0.000902 per kWh, or \$0.61 per month for the average residential customer using 675 kWh.

Despite Minn. Stat. §116C.779 subdiv. (1)(j), which lays out specific purposes for which these monies may be spent, a decreasing amount has been spent on grants furthering those purposes. As can be seen in the chart below and detailed in **Attachment A**, the majority of the monies set aside under this program have gone to various legislative mandates, with the Company's transfer to the MMB for purposes of funding the RDA making up an increasing share of the annual payment. A very small amount of money is spent on administration of the RDA and RDF.

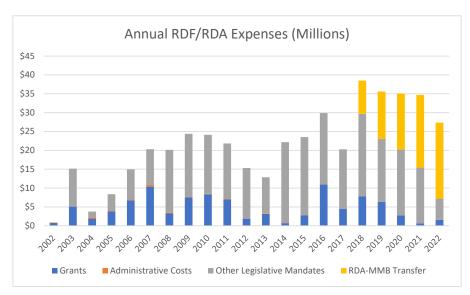


Figure 1: Annual RDF/RDA Costs for Recovery

## Legislative Mandates

# A. Solar Rebates (Minnesota Bonus)

In 2010, the Minnesota Legislature approved a measure to utilize \$21 million from the RDF program for solar rebates called Minnesota Bonus. This program was available to customers for incentives awarded from 2011 to 2013. Minn. Stat. § 116C.7791 specifies that Xcel Energy would administer the RDF rebates for solar photovoltaic (PV) systems less than 40 kW installed by customers in the Company's Minnesota service territory. The RDF solar rebates were only available for systems that use solar modules manufactured or assembled in Minnesota. Minnesota Bonus rebates were

first disbursed in 2011. No additional capacity was awarded since the program closed in 2014. The Minnesota Bonus provided roughly 6.4 MW of installed capacity from 280 projects for approximately \$20 million dollars.

#### B. Solar\*Rewards

Minnesota's Solar Energy Standards established by Minn. Stat. § 116C.7792 directed the Company to establish a performance based solar energy incentive program to be funded in full by RDA funds. In 2013, Xcel Energy filed a program proposal with the Department of Commerce seeking approval of the Company's Solar\*Rewards program to provide solar energy production incentives for qualifying solar energy systems. The Solar\*Rewards program launched on August 4, 2014. Since this time, several extensions of Minn. Stat. § 116C.7792 have occurred, extending the program through 2024.

The Solar\*Rewards program provides solar energy production incentives for PV systems of no more than a total nameplate capacity of 40 kW alternating current. While appropriations were established, incentives are paid out over a 10-year period. Since this program's inception using RDF/RDA funding in 2014, 80.6 MW of solar have been installed (roughly 7,300 systems).

#### C. Solar\*Rewards For Schools

With the adoption of Minn. Stat. § 216C.376, the Company was directed to establish a solar for schools program offering for school districts and/or state college or universities. In October of 2021, Xcel Energy filed a program proposal with the Department of Commerce seeking approval of the Company's Solar\*Rewards for Schools program to encourage schools to install and operate new solar energy systems by paying a financial incentive to schools for new on-site systems with a total aggregate nameplate capacity not to exceed the lesser of one (1) megawatt alternating current or 120 percent of the average annual electric energy consumption of the school building. The program was launched on May 2, 2022. To-date, the program has allocated approximately \$2 million in incentives and anticipates the completion of the first project in 2023.

\_

<sup>&</sup>lt;sup>1</sup> Docket No. E,G002/CIP-13-1015.

## Company Transfer to the MMB for the RDA

Under the 2017 Legislation, Minn. Stat. § 116C.779, subdiv. 1(b)-(d) requires the Company to transfer, to the RDA managed by MMB, the Company's annual funding obligation for the storage of dry casks at the Prairie Island and Monticello nuclear power plants, less the amount necessary to pay its legislative obligations described above. In 2022, the Company's obligation for the storage of dry casks located at Prairie Island and Monticello was \$35.5 million. The payment to the MMB is statutorily required to be made in January each year.

Under Minn. Stat. § 116C.779, the MMB is obligated to administer the RDA account and provide a written report each year by February 15 to the chairs and ranking minority members of the senate and house committees with jurisdiction over energy policy and financial regarding the availability of RDA funds and obligations of the RDA. The Company therefore defers to the MMB's report on those issues.

Under the 2017 Legislation, there is no entity that "manages" the RDA, but the MMB does "administer" the RDA. The 2017 Legislation also seems to contemplate a new RDA advisory group, potentially with different composition than the legacy RDF advisory group (described below), with more responsibility for preparing the requests for proposals and making funding recommendations to the Company. The 2017 Legislation purported to create a process for a RDA advisory group to design requests for proposals, evaluate them and provide funding recommendations to the Company. The process created by the 2017 Legislation, however, omits certain critical details and has internal inconsistencies. To date, an RDA advisory group has not been created and therefore there have been no projects funded yet by the RDA.

# Legacy RDF Grant Program

The 2017 Legislation struck a provision that referenced the Company's management of the RDF, but Xcel Energy maintains responsibility for the day-to-day administration of the legacy RDF pursuant to Minnesota Public Utilities Commission precedent. A seven-member advisory group, representing the interests of various stakeholder groups, assist Xcel Energy in the administration of the remaining legacy RDF grants. Further details on the members of the RDF advisory group can be found in **Attachment B**.

For informational purposes, **Attachment C** includes a complete list of projects for all years that have been awarded RDF grant awards, prior to the enactment of the 2017 Legislation. As Table 1 below shows, 80 legacy RDF projects have been completed and one is active.

Table 1: Summary of Project Status

| Туре                            | Completed | Active as of 12/31/2022 | Total |
|---------------------------------|-----------|-------------------------|-------|
| Energy Production               | 25        | 1                       | 26    |
| Research                        | 52        | 0                       | 52    |
| Higher Education Block<br>Grant | 3         | 0                       | 3     |
| Total                           | 80        | 1                       | 81    |

### Conclusion

Xcel Energy appreciates this opportunity to provide this report summarizing the projects funded by the RDA, and also providing information about the projects funded by the RDF for informational purposes, through 2022.

|                                    | 1999      | 2000      | 2001      | 2002      | 2003       | 2004       | 2005       | 2006       | 2007       | 2008       | 2009        | 2010       | 2011       | 2012       | 2013       | 2014       | 2015       | 2016       | 2017       | 2018       | 2019       | 2020       | 2021       | 202       |
|------------------------------------|-----------|-----------|-----------|-----------|------------|------------|------------|------------|------------|------------|-------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|-----------|
| Cask Fee Revenue                   | 4,500,000 | 6,000,000 | 7,000,000 | 8,500,000 | 16,000,000 | 16,000,000 | 16,000,000 | 16,000,000 | 16,000,000 | 19,500,000 | 195,000,000 | 19,500,000 | 19,500,000 | 19,500,000 | 22,750,000 | 24,250,000 |            | 25,600,000 | 25,600,000 | 32,500,000 | 32,500,000 | 34,000,000 |            |           |
| solar rebates                      |           |           |           |           |            |            |            |            |            |            |             |            | 382,541    | 1,808,050  |            | 3,686,335  | 3,950,536  |            | 2,149,212  | 1,650,546  | 447,620    | 43,157     | 0          |           |
| solar rewards                      |           |           |           |           |            |            |            |            |            |            |             |            |            |            |            | 55,503     | 66,743     | 523,430    | 594,055    | 725,654    | 2,409,068  | 3,419,232  | 4,381,683  | 5,625,96  |
| DOC Solar Incentive Program        |           |           |           |           |            |            |            |            |            |            |             |            |            |            | :          | 12,021,295 | 12,014,671 | 12,073,296 | 11,868,026 | ·          |            |            |            |           |
| Fibrominn/Benson Power             |           |           |           |           |            |            |            |            |            |            |             |            |            |            |            |            |            |            |            | 4,000,000  | 6,500,000  | 6,500,000  | 3,000,000  |           |
| Laurentian Energy                  |           |           |           |           |            |            |            |            |            |            |             |            |            |            |            |            |            |            |            | 13,600,000 | 6,800,000  | 6,800,000  | 6,800,000  |           |
| DEED 21st Century Fund             |           |           |           |           |            |            |            |            |            |            |             |            |            |            |            |            |            |            |            | 1,000,000  |            |            |            |           |
| OES Program Support                |           |           |           |           |            |            |            |            |            |            | 675,000     | 987,500    | 312,500    |            |            |            |            |            |            |            |            |            |            |           |
| IREE Program Support               |           |           |           |           |            |            |            |            |            |            | 2,500,000   | 5,000,000  | 5,000,000  | 2,500,000  |            |            |            |            |            |            |            |            |            |           |
| Solar Energy Standar Exemption     |           |           |           |           |            |            |            |            |            |            |             |            |            |            |            |            |            |            |            | 77,123     | 39,210     | 55,651     | 35,752     | 19,69     |
| Excelsior                          |           |           |           |           |            |            | 2,000,000  | 2,000,000  | 1707182    | 390,776    | 3,171,035   | 731,007    |            |            |            |            |            |            |            |            |            |            |            |           |
| Next Gen Incent                    |           |           |           |           |            |            |            |            | 3812511    | 7,625,000  | 3,812,500   |            |            |            |            |            |            |            |            |            |            |            |            |           |
| PCA REPI Pay                       |           |           |           |           |            |            |            |            | -4,000,000 |            |             |            |            |            |            |            |            |            |            |            |            |            |            |           |
| AURI                               |           |           |           |           |            |            | 150,000    |            |            |            |             |            |            |            |            |            |            |            |            |            |            |            |            |           |
| U of M                             |           |           |           |           | 10,000,000 |            |            |            |            |            |             |            |            |            |            |            |            |            |            |            |            |            |            |           |
| Admininstrative Costs              |           |           |           | 154,574   | 53,350     | 342,320    | 135,366    | 188,682    | 431,952    | 225,705    | 118,052     | 147,234    | 139,629    | 101,533    | 178,458    | 24,781     | 15,741     | 25,343     | 17,051     | 956        |            |            |            |           |
| Transfer to RDA                    |           |           |           |           |            |            |            |            |            |            |             |            |            |            |            |            |            |            |            | 8,817,885  | 12,556,510 | 14,852,115 | 19,259,667 | 20,159,75 |
| DOC State Incentive Support (REPI) |           |           |           |           |            |            |            |            |            |            |             |            |            |            |            |            |            |            |            |            |            |            |            |           |
| Wind                               |           |           |           |           | 37,785     | 1,478,867  | 2,561,136  | 3,541,356  | 5,364,843  | 4,876,695  | 5,509,788   | 5,461,793  | 5,578,659  | 6,027,256  | 5,648,214  | 4,780,993  | 3,496,069  | 1,719,730  | 400,116    | 82,508     |            |            |            |           |
| Biogas & Hydro                     |           |           |           |           | ,          | 34,144     | 42,298     | 62,426     | 36,085     | 36,823     | 292,335     | 392,045    | 522,260    | 523,737    | 462,556    | 380,557    | 1,156,891  | 1,111,489  | 769,190    | 757,897    | 516,297    | 614,139    | 565,593    |           |
| 1st Wind                           |           |           |           |           |            | 0          | 1,706,992  | 4,411,999  | 4,268,408  | 4,135,176  | 3,955,365   | 3,778,190  | 2,933,087  | 2,466,897  | 1,302,132  | 535,384    |            |            | ·          | ·          | ,          |            |            |           |
| REPI (15+16+17 = )                 |           |           |           |           |            | 1,513,011  | 4,310,426  | 8,015,781  | 9,669,336  | 9,048,693  | 9,757,488   | 9,632,028  | 9,034,006  | 9,017,890  | 7,412,902  | 5,696,934  | 4,652,960  | 2,831,219  | 1,169,306  | 840,405    | 516,297    | 614,139    | 565,593    |           |
| Cycle 1 - 4 Payments               |           |           |           | 715,901   | 5,104,353  | 1,917,256  | 1,761,907  | 4,753,411  | 8,677,031  | 2,847,851  | 4,362,038   | 7,595,376  | 6,943,768  | 1,902,837  | 3,142,992  | 680,843    | 2,809,764  | 10 917 325 | 4,464,752  | 7,793,971  | 6,330,850  | 2,774,641  | 650,575    | 1,550,95  |
| Cycle 1 41 dyllicitis              | <u> </u>  |           |           | 2002      | 2003       | 2004       | 2005       | 2006       | 2007       | 2008       | 2009        | 2010       |            | 2012       | 2013       | 2014       |            | 2016       |            | 2018       | 2019       | 2020       |            | 202       |

# RDF advisory group as of December 31, 2022

- Vacancy
   Minnesota Division of Energy Resources

   Representing Residential Customers
- Dana Slade
   Health Partners
   Representing Commercial and Industrial Customers
- Heather Westra Representing Prairie Island Indian Community
- Bridget Dockter
   NSP-Minnesota
   Representing NSP-Minnesota
- Tami Gunderzik, Senior Manager Product Portfolio NSP-Minnesota Representing NSP-Minnesota
- Lester Shen, Senior Research Engineer
   MN Center for Energy and Environment
- Ben Gerber MRETS Representing environmental community

### **RDF** Administration

- Chris Shaw, Program Manager
- Pamela Gibbs, Grant Administrator

| Project Name<br>CENTRAL REGION            | Contract | Project End<br>Date | Status   | Type | Cycle | Resource   | Project Description   | A<br>RDF Award | ttachment C. Page 1 Grant Funds Disbursed |
|---|----------|---------------------|----------|------|-------|------------|---|----------------|---|
| University of Minnesota (Dairy)           | RD4-2    | 2/28/20             | complete | RD   | 4     | Solar/Wind | Model a "net-zero" energy dairy parlor at the West Central Research and Outreach Center by integratingrol 20 kW wind and 54 kW solar with storage.                                      | \$982,408      | \$656,396                                 |
| City of Hutchinson                        | EP4-41   | 6/1/16              | complete | EP   | 4     | Solar      | Installed 400 kW photovoltaic fixed-tilt array on a capped municipal landfill and use the power at the adjecent wastewater treatment facility.  | \$958,369      | \$958,369                                 |
| Best Power Int'l (St. John's Expansion)   | EP4-6    | 3/16/15             | complete | EP   | 4     | Solar      | Installed a 182 kW photovoltaic fixed-tilt array at St. John's solar farm for a side-by-side comparison with the existing 400 kW single-axis tracking array.                            | \$172,213      | \$172,213                                 |
| Best Power Int'l (St. John's)             | EP3-3    | 5/8/10              | complete | EP   | 3     | Solar      | Installed a 400 kW photovoltaic facility at St. John's University to demonstrate commercial viability of solar power in Minnesota.  | \$1,994,480    | \$1,994,480                               |
| University of Minnesota (Biomass)         | RD3-23   | 8/1/11              | complete | RD   | 3     | Biomass    | Evaluated economic and technical issues related to biomass fuel and integrated gasification combined cycle technology.  | \$819,159      | \$729,717                                 |
| University of North Dakota (Digester)     | RD3-68   | 4/30/12             | complete | RD   | 3     | Biomass    | Field demonstration of a hydrogen sulfide reduction process at the anaerobic digester on the 1,000-acre Haubenschild Dairy Farm.  | \$970,558      | \$970,480                                 |
| Minnesota Valley Alfalfa Producers        | RD3-69   | 7/15/15             | complete | RD   | 3     | Biomass    | Researching application of kinetic disintegration technology to produce biomass pellets from feedstocks with varying levels of moisture.  | \$1,000,000    | \$825,489                                 |
| Energy Performance Systems                | RD-50    | 2/19/13             | complete | RD   | 2     | Biomass    | Built and demonstrated equipment for an integrated system to supply farm grown trees as a biomass feedstock to a power plant.   | \$957,929      | \$957,929                                 |
| Blattner and Sons                         | BW-06    | 12/15/02            | complete | RD   | 1     | Wind       | Developed a platform that would climb the tower to eliminate that need for crane to construct very tall wind turbines.  | \$68,470       | \$62,346                                  |
|   |          |                     |          |      |       |            | Economic Benefits for West Central Region   | \$7,923,586    | \$7,327,419                               |
| University of Minnesota (Torrefaction)    | RD4-11   | 9/30/2021           | complete | RD   | 4     | Biomass    | Demonstrate a prototypic torrefaction bioconversion process and distributed electric generation.  | \$1,899,449    | \$1,765,541                               |
| West Central Telephone Assoc.             | RD3-58   | 5/12/10             | complete | RD   | 3     | Wind/Solar | Designed and tested configurations and specifications of a hybrid wind/solar power system for distributed generation in remote locations.   | \$137,000      | \$137,000                                 |
| University of North Dakota (Liguifaction) | RD3-66   | 4/10/12             | complete | RD   | 3     | Biomass    | Designed and demonstrated a mobile biomass liquefaction system that can utilize high moisture wood waste.   | \$999,065      | \$998,697                                 |
| Mesaba/Excelsior Energy                   | EP-43    | 6/24/10             | complete | EP   | 2     | Innovative | To design the basis of a base load Integrated Gasification Combined-Cycle (IGCC) power generation facility.   | \$10,000,000   | \$10,000,000                              |
| CMEC                                      | EP-44    | 3/12/11             | complete | EP   | 2     | Biomass    | Designed 959-kW gasification plant to utilized distillers grains and local biomass. Refractory issues prevented completion of the facility.   | \$2,000,000    | \$400,000                                 |
| University of Florida                     | RD-34    | 5/16/09             | complete | RD   | 2     | Biomass    | Demonstrated two-stage anaerobic digester at American Crystal Sugar in Moorhead, MN to generate methane for conversion to electricity.  | \$999,995      | \$996,875                                 |
| Gas Technology Institute                  | RD-38    | 10/12/07            | complete | RD   | 2     | Biomass    | Developed a method to extract hydrogen from biomass gasification using membrane separation technologies.  | \$861,860      | \$861,860                                 |
| Region 5 Development Commissin            | EP4-44   | 7/9/19              | complete | EP   | 4     | Solar      | campuses in Crow Wing and Todd Counties. It will include roof and ground mount photovoltaic (PV) arrays. Electric   | \$1,993,659    | \$1,993,659                               |
| Bergey Windpower Company                  | EP4-24   | 6/30/21             | complete | EP   | 4     | Solar      | Install 500 kW small wind capacity in the jurisdictions of Benton, Lincoln, Meeker, Murray, Nobles, Pipestone, and Stearns counties by constructing 50 distributed 10 kW microturbines. | \$1,106,600    | \$155,000                                 |
| Minnesota State Colleges & Universities   | HE4-1    | 5/31/20             | complete | HE   | 4     | All        | Created a research program to stimulate the development of renewable electric energy technologies within Minnesota.   | \$5,500,000    | \$5,500,000                               |
| MN DNR                                    | EP3 - 13 | 3/12/13             | complete | EP   | 3     | Solar      | Installed 114 kW of solar photovoltaic generation at various state parks and developed a renewable energy strategy for future DNR facilities.   | \$894,000      | \$878,966                                 |
| Coaltec Energy USA                        | RD3 - 77 | 4/22/18             | complete | RD   | 3     | Biomass    | Demonstrated the feasibility of biomass gasification on a commercial turkey farm to generate electricity and heat.  | \$1,000,000    | \$850,000                                 |
| Dragonfly Solar                           | EP4-29   | 5/8/18              | complete | EP   | 4     | Solar      | Install a fixed-tilt 997.5 kW solar array within the footprint of several existing wind farms.  | \$1,650,000    | \$1,650,000                               |
| City of Red Wing                          | RD4-8    | 8/6/22              | complete | RD   | 4     | Biomass    | Research will provide operational and performance data to improve the cost effectiveness and reduce potential environmental contaminants in the processing of refuse derived fuels.     | \$1,999,500    | \$1,999,500                               |
| Diamond K                                 | EP-51    | 5/18/14             | complete | EP   | 2     | Biomass    | Installed a 300 kW of biomass generated and anaerobic digester at the Diamond K Dairy in Winona County, Minnesota.  | \$936,530      | \$936,530                                 |
| AnAerobics, Inc                           | AB-07    | 6/3/03              | complete | EP   | 1     | Biomass    | Was to install a 1.7 MW genset and study removal of hydrogen sulfide created during anaerobic digestion but had site control issues.  | \$1,300,000    | \$1,100,000                               |
| Best Power Int'l (School Sisters)         | EP4-5    | 10/28/15            | complete | EP   | 4     | Solar      | Installed a 849 kW solar facility at the Mankato campus of the Central Pacific Province of the School Sisters of Notre Dame.  | \$900,000      | \$900,000                                 |

Docket No. E002/M-12-1278 Legislative Report, February 15, 2023 Attachment C, Page 2 of 3

| Outland Renewable Energy                | EP3-10  | 4/1/13   | complete   | EP | 3 | Solar      | Installed 2 MW photovoltaic facility near Slayton, MN to demonstrate the benefits of utility scale use of photovoltaics in Minnesota.   | Atta<br>\$2,000,000 | achment C, Page 2<br>\$2,000,000 |
|---|---------|----------|------------|----|---|------------|---|---------------------|----------------------------------|
| Xcel Energy                             | RD3-12  | 12/19/11 | complete   | RD | 3 | Wind       | Installed a 1.0 MW sodium sulfur battery adjacent a wind farm to validate the value of energy storage for greater wind energy penetration.                                    | \$1,000,000         | \$1,000,000                      |
| Hilltop                                 | EP-26   | 3/2/09   | complete   | EP | 2 | Wind       | Installed a 1.5 MW General Electric wind turbine in Lyon County with 100 percent of the electricity sold to Xcel Energy.  | \$1,200,000         | \$1,200,000                      |
| St. Olaf                                | EP-39   | 4/30/07  | complete   | EP | 2 | Wind       | Installed a 1.65 MW Micon wind turbine on campus.   | \$1,500,000         | \$1,500,000                      |
| Rural Advantage                         | RD-27   | 4/12/09  | complete   | RD | 2 | Biomass    | Demonstrated the commercial production of Miscanthus as a biomass fuel for electric generation.   | \$318,800           | \$318,800                        |
| Ag. Utilization Research Institute      | RD-69   | 9/8/08   | complete   | RD | 2 | Biomass    | Conducted a feasibility study to couple bio-diesel and wind generation systems to "firm" wind power.  | \$760,000           | \$760,000                        |
| Project Resource Corp                   | AW-03   | 5/31/06  | complete   | EP | 1 | Wind       | Installed 5.4 MW of wind energy with a new landowner investment model that limits development risk of community shareholders.   | \$900,000           | \$900,000                        |
| Pipestone Jasper School                 | AW-10   | 12/31/04 | complete   | EP | 1 | Wind       | Installed a 900 kW wind turbine adjacent to the Pipestone-Jasper Public High School.  | \$752,835           | \$752,835                        |
| Crown Hydro                             | AH-01   | 9/1/18   | Terminated | EP | 1 | Hydro      | Install 3.2 MW of hydroelectric capacity on the Mississippi River in downtown Minneapolis.  | \$5,100,000         | \$1,538,591                      |
| Innovative Power Systems                | EP4-11  | 4/12/18  | complete   | EP | 4 | Solar      | Install 967 kW of solar capacity at four sites within the Innovative Energy Corridor.   | \$1,850,000         | \$1,850,000                      |
| Metropolitan Airports Commission        | EP4-13  | 6/10/16  | complete   | EP | 4 | Solar      | Installed a 1.471 MW fixed-tilt solar facility on the Blue parking ramp at Terminal One of MPS airport.   | \$2,022,507         | \$2,022,507                      |
| Minnesota Renewable Energy Society      | EP4-15  | 11/30/22 | current    | EP | 4 | Solar      | Install both a rural and urban solar garden totaling 1.0 MW of photovoltaic capacity to observe differences in subsciber interest.  | \$2,454,125         | \$511,219                        |
| Target Corporation                      | EP4-20  | 10/1/17  | complete   | EP | 4 | Solar      | Install a 350 kW roof-mounted, fixed-tilt photovoltaic facility on the Target Superstore.   | \$583,513           | \$583,513                        |
| Minneapolis Park & Rec. Board           | EP4-22  | 7/15/18  | complete   | EP | 4 | Solar      | Install 200 kW of PV capacity at seven locations within the Minneapolis park system to demonstrate the effectiveness of alternative solar designs.                            | \$969,741           | \$969,741                        |
| City of St. Paul                        | EP4-34  | 10/27/17 | complete   | EP | 4 | Solar      | Install a 105 kW fixed-tilt photovoltaic facility at CHS Field.   | \$555,750           | \$555,750                        |
| Universisty of Minnesota (Gasification) | RD4-1   | 12/31/21 | complete   | RD | 4 | Biomass    | Development and fabrication of a gasification method based on microwave heating for distributed generation of electricity from biomass and at the site of biomass generation. | \$999,999           | \$758,690                        |
| Universisty of Minnesota (Noise)        | RD4-12  | 11/5/19  | complete   | RD | 4 | Wind       | Research the sources and quality of wind turbine sound and the thresholds of potential health impacts on humans.  | \$625,102           | \$625,102                        |
| University of Minnesota (VWS)           | RD4-13  | 6/2/20   | complete   | RD | 4 | Wind       | Augment the predictive capabilities of the Virtual Wind Simulator by adding an aeroelastic model and integrating advanced turbine control algorithms.                         | \$1,391,684         | \$1,201,889                      |
| Barr Engineering                        | RD4-14  | 3/4/19   | complete   | RD | 4 | Wind       | Develop portable sensors to assess the health and life expectancy of wind turbine towers and foundations.   | \$161,081           | \$147,309                        |
| University of St. Thomas                | HE4-2   | 12/12/19 | complete   | RD | 4 | Solar/Wind | Install a 0.25 MW peak, multi-purpose microgrid in Chisago City to establish an Engineering Senior Design Clinic for microgrid research and testing.                          | \$2,157,215         | \$2,157,215                      |
| University of Minnesota (REMF)          | HE4-3   | 2/20/20  | complete   | RD | 4 | All        | Create Renewable Electricity for Minnesota's Future ("REMF") which will fund and support research in renewable electric energy generation.                                    | \$3,000,000         | \$3,000,000                      |
| Oak Leaf Energy                         | EP4-48  | 10/26/16 | complete   | EP | 4 | Solar      | Installed a 1,000 kW fixed-tilt photovoltaic facility at the Blue Lake Wastewater Treatment Plant.  | \$2,000,000         | \$2,000,000                      |
| Merrick                                 | EP3-2   | 12/22/08 | complete   | EP | 3 | Solar      | Installed a roof-mounted 100 kW solar photovoltaic facility on a non-profit adult day training and habilitation center.   | \$735,000           | \$735,000                        |
| City of Minneapolis                     | EP3-11  | 1/15/13  | complete   | EP | 3 | Solar      | Installed a 600 kW photovoltaic facility on the Minneapolis Convention Center.  | \$2,000,000         | \$2,000,000                      |
| freEner-g                               | EP3-12  | 2/17/11  | complete   | EP | 3 | Solar      | Installed 280 kW photovoltaic capacity through a leasing and service package for residential and small businesses.  | \$1,488,922         | \$1,488,922                      |
| Aurora St. Anthony Limited , LLC        | EP4-42  | 8/30/19  | complete   | EP | 4 | Solar      | primary project partner (St. Paul Housing Group) are proposing to construct and operate a roof-mounted solar energy project   | \$239,994           |                                  |
| University of Minnesota (Koda)          | RD3-1   | 1/22/15  | complete   | RD | 3 | Biomass    | Development of a production, pre-processing and delivery system for biomass feedstock's from prairie and grasslands.  | \$992,989           | \$976,743                        |
| SarTec Corporation                      | RD3-2   | 7/11/11  | complete   | RD | 3 | Biofuel    | Researched the growth of algae fed on CO2 from flue gas and extracted the algae oils for conversion into a marketable biodiesel product.                                      | \$350,000           | \$350,000                        |
| Bepex International                     | RD3-4   | 7/28/11  | complete   | RD | 3 | Biomass    | Demonstrated torrefaction and densification as processes to reduce transportation and storage costs associated with biomass feedstock.  | \$924,671           | \$924,671                        |
| University of Minnesota (Nanocrystals)  | RD3- 25 | 12/26/11 | complete   | RD | 3 | Solar      | Developed techniques for controlling microstructures of hydrogenated silicon and improving the grain size of microcrystalline silicon PV films.                               | \$732,032           | \$732,032                        |

| University of Minnesota (Cropping) | RD3-28 | 9/22/13  | complete | RD | 3 | Biomass | Developed guidelines for accurate management of biomass removal and maintenance of soil quality.  | \$979,082     | \$979,048    |
|------------------------------------|--------|----------|----------|----|---|---------|---|---------------|--------------|
| University of Minnesota (Wind)     | RD3-42 | 8/7/13   | complete | RD | 3 | Wind    | Developed and tested a Virtual Wind Simulator to provide accurate wind turbulence predictions.  | \$999,999     | \$999,598    |
| Lower St. Anthony Falls            | EP-34  | 1/31/12  | complete | EP | 2 | Hydro   | Restored 9.176 MW hydroelectric generating capacity at the Lower St. Anthony Falls by using run-of-river technology.  | \$2,000,000   | \$2,000,000  |
| University of Minnesota            | RD-29  | 9/24/08  | complete | RD | 2 | Biomass | Researched operation of turbo-generators using biomass-derived oils.  | \$299,284     | \$299,284    |
| University of Minnesota            | RD-56  | 4/16/08  | complete | RD | 2 | Biomass | Developed model to evaluate options to optimize combustion and electricity generation in ethanol plants.  | \$858,363     | \$803,246    |
| Windlogics                         | RD-57  | 11/11/08 | complete | RD | 2 | Wind    | Defined, designed, built and demonstrated a complete wind power forecasting system.   | \$997,000     | \$997,000    |
| Center for Energy Environment      | RD-94  | 10/12/07 | complete | RD | 2 | Biomass | Developed two web-based programs for planning and development of biomass resources in Minnesota.  | \$397,500     | \$397,500    |
| MN Dept. of Commerce               | AS-05  | 9/1/08   | complete | EP | 1 | Solar   | Provided rebates of up to \$8,000 for small photovoltaic installations that are wired into the electrical grid.   | \$1,150,000   | \$1,150,000  |
| Science Museum                     | AS-06  | 12/31/03 | complete | EP | 1 | Solar   | Installed a 9 kW solar roof to demonstrate a Zero Energy Building for the Minnesota Science Museum.   | \$100,000     | \$100,000    |
| Sebesta Blomberg                   | BB-03  | 9/30/03  | complete | RD | 1 | Biomass | Examined the feasibility of a gasification system using the byproducts of an ethanol facility to provide heat and power.  | \$738,654     | \$738,654    |
| Energy Performance Systems         | BB-06  | 12/15/02 | complete | RD | 1 | Biomass | Conversion design of the NSP Granite Falls coal-fired facility to a biomass system capable of utilizing whole trees.  | \$266,508     | \$257,247    |
| University of Minnesota            | CW-06  | 12/31/06 | complete | RD | 1 | Wind    | Designed a flywheel battery system to enhance the ability to dispatch wind energy with inertial storage.  | \$654,309     | \$654,309    |
| InterPhases Solar                  | RD4-7  | 2/28/21  | complete | RD | 4 | Solar   | Development commerical production process of a thin-film technology by combining all the electrodeposition processes into a single manufacturing process.   | \$1,000,000   | \$1,000,000  |
| Northern Plains Power Tech.        | RD3-21 | 11/11/12 | complete | RD | 3 | Solar   | Developed a loss-of-mains detection based on harmonic signature and synchrophasor data.   | \$493,608     | \$493,608    |
| InterPhases Solar                  | RD3-53 | 7/20/12  | complete | RD | 3 | Solar   | Demonstrated a manufacturing process to produce lightweight, thin-film solar cells.   | \$1,000,000   | \$1,000,000  |
| University of North Dakota         | RD3-71 | 3/23/12  | complete | RD | 3 | Biomass | Demonstrated a thermally integrated biomass gasification systems with a 30 kW low-Btu gas turbine.  | \$999,728     | \$999,438    |
| Energy Conversion Devices          | RD-22  | 10/12/07 | complete | RD | 2 | Biomass | Researched processes to reform bio-ethanol and bio-methanol into hydrogen for use in a fuel cell or gas turbine to generate electricity.  | \$900,000     | \$900,000    |
| Coaltec                            | RD-26  | 1/12/07  | complete | RD | 2 | Biomass | Studied handling, performance and emissions to assess feasibility of poultry waste as a sustainable feedstock for a fixed-bed gasifier.   | \$450,000     | \$450,000    |
| Production Specialties             | RD-72  | 11/16/09 | complete | RD | 2 | Biomass | Investigated a technology to selectively remove hydrogen sulfide (H2S) from biogas without generating a waste stream.   | \$228,735     | \$228,735    |
| Interphases Solar                  | RD-78  | 10/14/08 | complete | RD | 2 | Solar   | Developed a concept to manufacture flexible photovoltaic modules in a continuous roll-to-roll electro-deposition process.   | \$1,000,000   | \$1,000,000  |
| Global Energy Concepts             | RD-87  | 5/7/09   | complete | RD | 2 | Wind    | Analyzed and developed advanced methods for reducing uncertainty in wind power estimates.   | \$370,000     | \$370,000    |
| NREL - Inkjet Solar Cells          | RD-93  | 11/11/08 | complete | RD | 2 | Solar   | Designed and developed a thin-film solar cell that will use a direct-write inkjet printing process.   | \$1,000,000   | \$949,005    |
| NREL-Low Band Gap-Solar            | RD-107 | 12/9/08  | complete | RD | 2 | Solar   | Overcome limitations in organic-based solar cells by developing low band gap (red light absorbing) materials.   | \$1,000,000   | \$944,452    |
| Iowa State University              | RD-110 | 7/12/07  | complete | RD | 2 | Biomass | Performance testing of a particulate filtration clean-up system for the producer gas from a biomass gasifier.   | \$405,000     | \$98,343     |
| University of ND - Cofiring        | BB-09  | 3/31/05  | complete | RD | 1 | Biomass | Measured operational and component impacts of co-firing biomass with coal in an indirect fired combined-cycle pulverized-coal furnace.  | \$444,478     | \$444,443    |
| Community Power Corp.              | BB-10  | 3/24/05  | complete | RD | 1 | Biomass | Designed, developed, and tested a centrifugal filter capable of removing sub micron particles and aerosols from a hot producer bio-gas stream.  | \$638,635     | \$548,692    |
| University of ND - SCR Performance | BB-12  | 6/30/06  | complete | RD | 1 | Biomass | Examined the rates and mechanisms of catalyst deactivation within the emissions from a biomass co-fired utility boiler.   | \$60,000      | \$59,973     |
| Colorado School of Mines           | CB-07  | 12/31/07 | complete | RD | 1 | Biomass | Developed a fuel cell prototype for use in ambient or high temperatures.  | \$1,116,742   | \$1,116,742  |
| University of ND - SOFC            | CB-08  | 10/31/07 | complete | RD | 1 | Biomass | Incorporated solid oxide fuel cells (SOFCs) and gasification into one integrated system to produce electricity.   | \$1,250,142   | \$1,250,142  |
| NREL                               | CS-05  | 7/9/07   | complete | RD | 1 | Solar   | Design and develop of solutions and techniques to use an inkjet printing process for the manufacturing of thin-film solar cells.  | \$934,628     | \$924,757    |
| Global Energy Concepts             | CW-02  | 10/1/03  | complete | RD | 1 | Wind    | Translated the effects of a turbine's rotating flexible blades into a linear model for use in wind turbine design software.   | \$75,000      | \$73,239     |
| University of Florida              | RD4-5  | 12/31/21 | complete | RD | 4 | Biomass | 3 year research project to demonstrate biogasification of organic wastes. Mobile, self contained flexible design, pilot scale digester will be constructed and operated at two sites in western MN. | \$1,109,538   | \$978,552    |
|                                    |        |          |          |    |   |         | TOTAL ALL PROJECTS  | \$105,784,137 | \$92,245,372 |

#### **CERTIFICATE OF SERVICE**

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

- <u>xx</u> 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 (Official Service List)

E002/M-03-1883 (Official Service List) E002/M-07-675 (Official Service List) E002/M-12-1278 (Official Service List)

Dated this 15th day of February 2023

/s/

Joshua DePauw

Regulatory Administrator

| First Name     | Last Name          | Email                                 | Company Name                          | Address  | Delivery Method    | View Trade Secret | Service List Name       |
|----------------|--------------------|---------------------------------------|---------------------------------------|--|--------------------|-------------------|-------------------------|
| Mara           | Ascheman           | mara.k.ascheman@xcelen<br>ergy.com    | Xcel Energy                           | 414 Nicollet Mall FI 5  Minneapolis, MN 55401                            | Electronic Service | No                | OFF_SL_12-1278_Officia  |
| Generic Notice | Commerce Attorneys | commerce.attorneys@ag.st<br>ate.mn.us | Office of the Attorney<br>General-DOC | 445 Minnesota Street Suite<br>1400<br>St. Paul,<br>MN<br>55101           | Electronic Service | Yes               | OFF_SL_12-1278_Official |
| Sharon         | Ferguson           | sharon.ferguson@state.mn .us          | Department of Commerce                | 85 7th Place E Ste 280 Saint Paul, MN 551012198                          | Electronic Service | No                | OFF_SL_12-1278_Official |
| Cheryal Lee    | Hills              | chills@regionfive.org                 | Region Five Development<br>Commission | 200 First Street NE<br>Suite 2<br>Staples,<br>MN<br>56479                | Electronic Service | No                | OFF_SL_12-1278_Official |
| Lisa           | Hondros            | Ihondros@gmail.com                    | Friends of the Lock and Dam           | 171 East Island Ave  Minneapolis,  MN  55401                             | Electronic Service | No                | OFF_SL_12-1278_Official |
| Kevin          | McKoskey           | awards@umn.edu                        | Regents of the University of MN       | 450 McNamara<br>200 Oak Street SE<br>Minneapolis,<br>MN<br>55455         | Electronic Service | No                | OFF_SL_12-1278_Official |
| Thomas         | Melone             | Thomas.Melone@AllcoUS.com             | Minnesota Go Solar LLC                | 222 South 9th Street<br>Suite 1600<br>Minneapolis,<br>Minnesota<br>55120 | Electronic Service | No                | OFF_SL_12-1278_Official |
| Robert         | Messerich          | b.messerich@gmail.com                 | Dragonfly Solar, LLC                  | 10583 202nd St West  Lakeville,  MN  55044                               | Electronic Service | No                | OFF_SL_12-1278_Official |
| Brian          | Millberg           | brian.millberg@minneapoli<br>smn.gov  | City of Minneapolis                   | 661 5th Avenue North  Minneapolis, Minnesota 55405                       | Electronic Service | No                | OFF_SL_12-1278_Official |
| Alan           | Muller             | alan@greendel.org                     | Energy & Environmental<br>Consulting  | 1110 West Avenue<br>Red Wing,<br>MN<br>55066                             | Electronic Service | No                | OFF_SL_12-1278_Official |

| First Name     | Last Name                      | Email                                    | Company Name                          | Address  | Delivery Method    | View Trade Secret | Service List Name       |
|----------------|--------------------------------|--|---------------------------------------|--|--------------------|-------------------|-------------------------|
| Jeffrey C      | Paulson                        | jeff.jcplaw@comcast.net                  | Paulson Law Office, Ltd.              | 4445 W 77th Street<br>Suite 224<br>Edina,<br>MN<br>55435           | Electronic Service | No                | OFF_SL_12-1278_Official |
| Generic Notice | Residential Utilities Division | residential.utilities@ag.stat<br>e.mn.us | Office of the Attorney<br>General-RUD | 1400 BRM Tower<br>445 Minnesota St<br>St. Paul,<br>MN<br>551012131 | Electronic Service | Yes               | OFF_SL_12-1278_Official |
| Christine      | Schwartz                       | Regulatory.records@xcele nergy.com       | Xcel Energy                           | 414 Nicollet Mall FL 7  Minneapolis, MN 554011993                  | Electronic Service | No                | OFF_SL_12-1278_Official |
| Will           | Seuffert                       | Will.Seuffert@state.mn.us                | Public Utilities Commission           | 121 7th PI E Ste 350  Saint Paul,  MN  55101                       | Electronic Service | Yes               | OFF_SL_12-1278_Official |
| Bria           | Shea                           | bria.e.shea@xcelenergy.co<br>m           | Xcel Energy                           | 414 Nicollet Mall  Minneapolis,  MN  55401                         | Electronic Service | No                | OFF_SL_12-1278_Official |
| Dr. Don        | Weinkauf                       | dhweinkauf@stthomas.edu                  | University of St. Thomas              | Mail OSS 101<br>2115 Summit Ave<br>St. Paul,<br>MN<br>55105-1079   | Electronic Service | No                | OFF_SL_12-1278_Official |

| 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                                | Paper Service      | No                | OFF_SL_0-1583_1   |
| Janet          | Anderson           | jcainstp@icloud.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          | ednab@mac.com                         | Friends of the Riverfront             | PO Box 580545  Minneapolis, Minnesota 55458-0545                   | Electronic Service | No                | OFF_SL_0-1583_1   |
| Generic Notice | Commerce Attorneys | commerce.attorneys@ag.st<br>ate.mn.us | Office of the Attorney<br>General-DOC | 445 Minnesota Street Suite<br>1400<br>St. Paul,<br>MN<br>55101     | Electronic Service | Yes               | OFF_SL_0-1583_1   |
| George         | Crocker            | gwillc@nawo.org                       | North American Water<br>Office        | PO Box 174  Lake Elmo, MN 55042                                    | 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   |
| Executive      | Director           | N/A                                   | Onanegozie RC&D                       | 42290 Ginger Ave.  Harris,  MN  55032-3361                         | Paper Service      | No                | OFF_SL_0-1583_1   |
| John R.        | Dunlop, P.E.       | JDunlop@RESMinn.com                   | Renewable Energy<br>Services          | Suite 300<br>448 Morgan Ave. S.<br>Minneapolis,<br>MN<br>554052030 | Electronic Service | No                | OFF_SL_0-1583_1   |
| Catherine      | Fair               | catherine@energycents.org             | Energy CENTS Coalition                | 823 E 7th St<br>St Paul,<br>MN<br>55106                            | Electronic Service | No                | OFF_SL_0-1583_1   |

| First Name   | Last Name   | Email                              | Company Name                              | Address  | Delivery Method    | View Trade Secret | Service List Name |
|--------------|-------------|------------------------------------|---|--|--------------------|-------------------|-------------------|
| Sharon       | Ferguson    | sharon.ferguson@state.mn<br>.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<br>200 Oak Street SE<br>Minneapolis,<br>MN<br>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<br>Suite 1000<br>Bloomington,<br>MN<br>55431-4420 | Electronic Service | No                | OFF_SL_0-1583_1   |
| Jerry        | Horgan      |                                    | Pipestone-Jasper Public<br>Sch Dist #2689 | 1401 Seventh Street SW Pipestone, MN 561641877                         | Paper Service      | No                | OFF_SL_0-1583_1   |
| Cindy        | Jepsen      | ccjepsen@capitolresource<br>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.<br>P.O. Box 219<br>Stewart,<br>MN<br>55385        | Paper Service      | No                | OFF_SL_0-1583_1   |
| Michael      | Loeffler    | mike.loeffler@nngco.com            | Northern Natural Gas Co.                  | CORP HQ, 714<br>1111 So. 103rd Street<br>Omaha,<br>NE<br>681241000     | 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   |

| First Name     | Last Name                      | Email                                    | Company Name                          | Address  | Delivery Method    | View Trade Secret | Service List Name |
|----------------|--------------------------------|--|---------------------------------------|--|--------------------|-------------------|-------------------|
| Clark          | McDonald                       |  |                                       | 504 - 20Th Street North  Benson, MN 56215                          | 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   |
| Generic Notice | Residential Utilities Division | residential.utilities@ag.stat<br>e.mn.us | Office of the Attorney<br>General-RUD | 1400 BRM Tower<br>445 Minnesota St<br>St. Paul,<br>MN<br>551012131 | Electronic Service | Yes               | OFF_SL_0-1583_1   |
| Richard        | Savelkoul                      | rsavelkoul@martinsquires.c<br>om         | Martin & Squires, P.A.                | 332 Minnesota Street Ste<br>W2750<br>St. Paul,<br>MN<br>55101      | Electronic Service | No                | OFF_SL_0-1583_1   |
| Christine      | Schwartz                       | Regulatory.records@xcele nergy.com       | Xcel Energy                           | 414 Nicollet Mall FL 7  Minneapolis, MN 554011993                  | Electronic Service | No                | OFF_SL_0-1583_1   |
| Dean           | Sedgwick                       | Sedgwick@ltascapower.co<br>m             | Itasca Power Company                  | PO Box 455<br>Spring Lake,<br>MN<br>56680                          | Electronic Service | No                | OFF_SL_0-1583_1   |
| Will           | Seuffert                       | Will.Seuffert@state.mn.us                | Public Utilities Commission           | 121 7th PI E Ste 350 Saint Paul, MN 55101                          | Electronic Service | Yes               | OFF_SL_0-1583_1   |
| Scott          | Vreeland                       |  | Seward Neighborhood<br>Group          | 2437 - 33Rd Avenue South  Minneapolis, MN 55406                    | Paper Service      | No                | OFF_SL_0-1583_1   |
| Heather        | Westra                         | heather.westra@piic.org                  | Prairie Island Indian<br>Community    | 5636 Sturgeon Lake Rd  Welch, MN 55089                             | Electronic Service | No                | OFF_SL_0-1583_1   |

| First Name | Last Name | Email                             | Company Name   | Address   | Delivery Method    | View Trade Secret | Service List Name |
|------------|-----------|-----------------------------------|--|---|--------------------|-------------------|-------------------|
| Paul       | White     | paul.white@prcwind.com            | Project Resources<br>Corp./Tamarac Line<br>LLC/Ridgewind | 618 2nd Ave SE  Minneapolis, MN 55414           | Electronic Service | No                | OFF_SL_0-1583_1   |
| Robyn      | Woeste    | robynwoeste@alliantenerg<br>y.com | Interstate Power and Light<br>Company                    | 200 First St SE<br>Cedar Rapids,<br>IA<br>52401 | Electronic Service | No                | 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                                | Paper Service      | No                | OFF_SL_03-1883_1  |
| James J.       | Bertrand           | james.bertrand@stinson.co<br>m        | STINSON LLP                           | 50 S 6th St Ste 2600<br>Minneapolis,<br>MN<br>55402                | Electronic Service | No                | OFF_SL_03-1883_1  |
| Generic Notice | Commerce Attorneys | commerce.attorneys@ag.st<br>ate.mn.us | Office of the Attorney<br>General-DOC | 445 Minnesota Street Suite<br>1400<br>St. Paul,<br>MN<br>55101     | Electronic Service | Yes               | OFF_SL_03-1883_1  |
| Brooke         | Cooper             | bcooper@allete.com                    | Minnesota Power                       | 30 W Superior St  Duluth, MN 558022191                             | Electronic Service | No                | OFF_SL_03-1883_1  |
| John R.        | Dunlop, P.E.       | JDunlop@RESMinn.com                   | Renewable Energy<br>Services          | Suite 300<br>448 Morgan Ave. S.<br>Minneapolis,<br>MN<br>554052030 | Electronic Service | No                | OFF_SL_03-1883_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_03-1883_1  |
| Sary           | Gillet             |                                       | University Of Minnesota               | Suite 450<br>200 Oak Street SE<br>Minneapolis,<br>MN<br>554552070  | Paper Service      | No                | OFF_SL_03-1883_1  |
| Dindy          | Jepsen             | ccjepsen@capitolresource<br>mn.com    | Capitol Resources                     | Box 254  Marine On St. Croix, MN 55047                             | Electronic Service | No                | OFF_SL_03-1883_1  |
| ohn            | Johnson            |                                       | Stewart Energy Products               | 22739 Highway 212 E.<br>P.O. Box 219<br>Stewart,<br>MN<br>55385    | Paper Service      | No                | OFF_SL_03-1883_1  |
| Renee          | Landwehr           | N/A                                   | Clean Power Markets, Inc.             | 303 Monroe St  Little Chute, WI 54140-1722                         | Paper Service      | No                | OFF_SL_03-1883_1  |

| First Name     | Last Name                      | Email                                    | Company Name                           | Address  | Delivery Method    | View Trade Secret | Service List Name |
|----------------|--------------------------------|--|--|--|--------------------|-------------------|-------------------|
| Patrick        | Mulloy                         |  | Mulloy Environmental<br>Services, Inc. | 3636 Garfield Ave. S.  Minneapolis, MN 55409                       | Paper Service      | No                | OFF_SL_03-1883_1  |
| Rolf           | Nordstrom                      | rnordstrom@gpisd.net                     | Great Plains Institute                 | 2801 21ST AVE S STE 220  Minneapolis, MN 55407-1229                | Electronic Service | No                | OFF_SL_03-1883_1  |
| Generic Notice | Residential Utilities Division | residential.utilities@ag.stat<br>e.mn.us | Office of the Attorney<br>General-RUD  | 1400 BRM Tower<br>445 Minnesota St<br>St. Paul,<br>MN<br>551012131 | Electronic Service | Yes               | OFF_SL_03-1883_1  |
| Richard        | Savelkoul                      | rsavelkoul@martinsquires.c<br>om         | Martin & Squires, P.A.                 | 332 Minnesota Street Ste<br>W2750<br>St. Paul,<br>MN<br>55101      | Electronic Service | No                | OFF_SL_03-1883_1  |
| Keith A.       | Schimel                        | cengr@bci.net                            | Technology Matrix<br>Corporation       | P.O. Box 11236<br>Syracuse,<br>NY<br>13218                         | Paper Service      | No                | OFF_SL_03-1883_1  |
| Christine      | Schwartz                       | Regulatory.records@xcele nergy.com       | Xcel Energy                            | 414 Nicollet Mall FL 7  Minneapolis, MN 554011993                  | Electronic Service | No                | OFF_SL_03-1883_1  |
| Dean           | Sedgwick                       | Sedgwick@Itascapower.co m                | Itasca Power Company                   | PO Box 455<br>Spring Lake,<br>MN<br>56680                          | Electronic Service | No                | OFF_SL_03-1883_1  |
| Will           | Seuffert                       | Will.Seuffert@state.mn.us                | Public Utilities Commission            | 121 7th PI E Ste 350  Saint Paul,  MN  55101                       | Electronic Service | Yes               | OFF_SL_03-1883_1  |
| Byron E.       | Starns                         | byron.starns@stinson.com                 | STINSON LLP                            | 50 S 6th St Ste 2600<br>Minneapolis,<br>MN<br>55402                | Electronic Service | No                | OFF_SL_03-1883_1  |

| First Name | Last Name | Email | Company Name                       | Address  | Delivery Method    | View Trade Secret | Service List Name |
|------------|-----------|-------|------------------------------------|--|--------------------|-------------------|-------------------|
| Heather    | Westra    | 1 0   | Prairie Island Indian<br>Community | 5636 Sturgeon Lake Rd<br>Welch,<br>MN<br>55089 | Electronic Service | No                | OFF_SL_03-1883_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                                | Paper Service      | No                | OFF_SL_7-675_1    |
| James J.       | Bertrand           | james.bertrand@stinson.co<br>m        | STINSON LLP                           | 50 S 6th St Ste 2600<br>Minneapolis,<br>MN<br>55402                | Electronic Service | No                | OFF_SL_7-675_1    |
| Generic Notice | Commerce Attorneys | commerce.attorneys@ag.st<br>ate.mn.us | Office of the Attorney<br>General-DOC | 445 Minnesota Street Suite<br>1400<br>St. Paul,<br>MN<br>55101     | Electronic Service | Yes               | OFF_SL_7-675_1    |
| Brooke         | Cooper             | bcooper@allete.com                    | Minnesota Power                       | 30 W Superior St  Duluth, MN 558022191                             | Electronic Service | No                | OFF_SL_7-675_1    |
| John R.        | Dunlop, P.E.       | JDunlop@RESMinn.com                   | Renewable Energy<br>Services          | Suite 300<br>448 Morgan Ave. S.<br>Minneapolis,<br>MN<br>554052030 | Electronic Service | No                | OFF_SL_7-675_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_7-675_1    |
| Gary           | Gillet             |                                       | University Of Minnesota               | Suite 450<br>200 Oak Street SE<br>Minneapolis,<br>MN<br>554552070  | Paper Service      | No                | OFF_SL_7-675_1    |
| Cindy          | Jepsen             | ccjepsen@capitolresource<br>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.<br>P.O. Box 219<br>Stewart,<br>MN<br>55385    | Paper Service      | No                | OFF_SL_7-675_1    |
| Timothy M.     | Kelley             | timothy.kelley@stinson.co<br>m        | STINSON LLP                           | 50 S 6th St Ste 2600<br>Minneapolis,<br>MN<br>55402                | Electronic Service | No                | OFF_SL_7-675_1    |

| First Name     | Last Name                      | Email                                    | Company Name                           | Address  | Delivery Method    | View Trade Secret | Service List Name |
|----------------|--------------------------------|--|--|--|--------------------|-------------------|-------------------|
| Renee          | Landwehr                       | N/A                                      | Clean Power Markets, Inc.              | 303 Monroe St<br>Little Chute,<br>WI<br>54140-1722                 | Paper Service      | No                | OFF_SL_7-675_1    |
| Patrick        | Mulloy                         |  | Mulloy Environmental<br>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    |
| Generic Notice | Residential Utilities Division | residential.utilities@ag.stat<br>e.mn.us | Office of the Attorney<br>General-RUD  | 1400 BRM Tower<br>445 Minnesota St<br>St. Paul,<br>MN<br>551012131 | Electronic Service | Yes               | OFF_SL_7-675_1    |
| Richard        | Savelkoul                      | rsavelkoul@martinsquires.c<br>om         | Martin & Squires, P.A.                 | 332 Minnesota Street Ste<br>W2750<br>St. Paul,<br>MN<br>55101      | Electronic Service | No                | OFF_SL_7-675_1    |
| Keith A.       | Schimel                        | cengr@bci.net                            | Technology Matrix<br>Corporation       | P.O. Box 11236<br>Syracuse,<br>NY<br>13218                         | Paper Service      | No                | OFF_SL_7-675_1    |
| Christine      | Schwartz                       | Regulatory.records@xcele nergy.com       | Xcel Energy                            | 414 Nicollet Mall FL 7  Minneapolis,  MN  554011993                | Electronic Service | No                | OFF_SL_7-675_1    |
| Dean           | Sedgwick                       | Sedgwick@Itascapower.co<br>m             | Itasca Power Company                   | PO Box 455<br>Spring Lake,<br>MN<br>56680                          | Electronic Service | No                | OFF_SL_7-675_1    |
| Will           | Seuffert                       | Will.Seuffert@state.mn.us                | Public Utilities Commission            | 121 7th PI E Ste 350  Saint Paul,  MN  55101                       | Electronic Service | Yes               | OFF_SL_7-675_1    |

| First Name | Last Name | Email                    | Company Name                       | Address   | Delivery Method    | View Trade Secret | Service List Name |
|------------|-----------|--------------------------|------------------------------------|---|--------------------|-------------------|-------------------|
| Byron E.   | Starns    | byron.starns@stinson.com | STINSON LLP                        | 50 S 6th St Ste 2600<br>Minneapolis,<br>MN<br>55402 | Electronic Service | No                | OFF_SL_7-675_1    |
| Heather    | Westra    | heather.westra@piic.org  | Prairie Island Indian<br>Community | 5636 Sturgeon Lake Rd  Welch, MN 55089              | Electronic Service | No                | OFF_SL_7-675_1    |