

Staff Briefing Papers

Meeting Date	February 23, 2023	Agenda Item 1*
Company	All Electric Utilities Subject to Minnesota Statute §216B.1691	
Docket No.	E-999/PR-22-12 E-999/M-22-85 E-999/PR-02-1240	
	In the Matter of Commission Consideration and Determination of Compliance with Renewable Energy Standards for Year 2021	
	In the Matter of Commission Consideration and Determination of Compliance with Renewable Energy Standards Biennial Reporting	
	In the Matter of Green Pricing Verification Filing Process	
Issues	<ol style="list-style-type: none"> 1. What action should the Commission take on the Renewable Energy Standards (RES) compliance filings filed by electric utilities for compliance year 2021? 2. What action should the Commission take regarding Otter Tail Power's proposal? 	
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Relevant Documents	Date
Department of Commerce – Corrected RES Report	2/1/2023
PUC - Notice of Comment Period	2/1/2023
Department of Commerce – MN RES Report	1/17/23
Department of Commerce – Reply Comments	12/12/22
Otter Tail Power Company – Reply Comments	8/8/22
Minnesota Power – Amended Report	6/29/22
Department of Commerce – Comments	6/22/22
Utility Compliance Filings:	
• Southern Minnesota Energy Cooperative	4/11/22 to 6/2/22
• Heartland Consumers Power District	



- Dairyland Power Cooperative
- Basin Electric Power Cooperative
- Missouri River Energy Services
- East River Electric Power Cooperatives
- Great River Energy
- Southern Minnesota Municipal Power Agency
- Minnkota Power Cooperative & Northern Municipal Power Agency
- L and O Power Cooperative
- Minnesota Municipal Power Agency
- Xcel Energy
- Otter Tail Power Company
- Minnesota Power
- Northwestern Wisconsin Electric
- Central MN Municipal Power Agency

PUC – Notice of REC Retirement for RES and Green Pricing Programs

3/22/2022

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The attached materials are work papers of the Commission Staff. They are intended for use by the Public Utilities Commission and are based upon information already in the record unless noted otherwise.

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I. Statement of Issues

What action should the Commission take on the RES plans filed by electric utilities for compliance year 2021?

What action should the Commission take regarding Otter Tail Power's proposal?

II. Introduction

In accordance with the Commission's March 19, 2010 Order (Docket No. E-999/CI-03-869), all entities covered under Minn. Stat. §216B.1691, except Xcel Energy, must retire renewable energy credits (RECs)¹ representing 20 percent of annual retail sales for calendar year 2021. Xcel Energy is required to retire RECs representing 30 percent of annual retail sales for calendar year 2021.

Additionally, public utilities are required by Minnesota's Solar Energy Standard (SES), Minn. Stat. §216B.1691, subd. 2f, to generate or procure enough solar energy to supply at least 1.5 percent of their retail electric sales in Minnesota with solar energy by 2020. Of the required 1.5%, at least 10% must come from solar photovoltaic devices (PV) with 40-kilowatt (kW) capacity or less. This requirement is commonly referred to as the "small-scale carveout." Public utilities with 50,000 to 200,000 retail electric customers may count individual customers' community-solar garden subscriptions of 40kW or less toward the 10% small-scale carveout. Compliance with the small-scale carveout is accomplished through the retirement of small solar RECs (small SRECs). Through the SES, the State of Minnesota has stated that it is an energy goal of the state that, by 2030, 10% of the retail electric sales in Minnesota be generated by solar energy.² The utilities subject to the SES are:

- Minnesota Power (MP);
- Otter Tail Power (OTP); and
- Xcel Energy (Xcel)

This year's compliance filings include biennial reports. Beginning in 2008, the Commission established its process for receiving the biennial reports to fulfill its statutory duty to investigate compliance with Minn. Stat. §216B.1691. The biennial reporting effort collects details related to renewable energy projects, obstacles to future compliance, renewable energy mix to meet the Standard, and efforts taken to protect ratepayers from undesirable economic impacts, among other details. The Commission has made findings of compliance in biennial compliance dockets since 2008. This docket represents the Commission's eighth biennial renewable energy compliance docket.

The following Utilities filed their 2021 compliance reports:

- Basin Electric Cooperative (Basin);

¹ RECs represent 1 MWh of electricity.

² Minnesota Statute §216B.1691 Subd. 2f(e)

- Central Minnesota Municipal Power Agency (CMMPA);
- Dairyland Power Dairyland Power Cooperative;
- East River Electric Power Cooperative (East River);
- Great River Energy (GRE);
- Heartland Consumers Power District;
- L&O Power Cooperative;
- Minnesota Municipal Power Agency (MMPA);
- Minnesota Power (MP)
- Minnkota Power Cooperative;
- Missouri River Energy Services (MRES);
- Northwestern Wisconsin Electric Company;
- Otter Tail Power (OTP).
- Southern Minnesota Energy Cooperative (SMEC);
- Southern Minnesota Municipal Power Agency (SMMPA); and
- Xcel Energy (Xcel)

III. Background on Minnesota Statute §216B.1691

In 2001, Minnesota Statute §216B.1691, then called the Renewable Energy Objective (REO) statute, was passed, and stated an objective for electric utilities to make “good faith efforts” to generate or procure sufficient electricity generated by an eligible energy technology³ to provide to its retail customers or the retail members of a distribution utility to which the electric utility provides wholesale electric services so that:

- (1) Commencing in 2005, at least 1% of the electric energy provided to those retail customers is generated by eligible energy technologies;
- (2) The amount provided under clause (1) is increased by one percent each year until 2015;
- (3) 10% of the electric energy provided to retail customers is generated by eligible energy technologies; and
- (4) Of the eligible energy technology generation required under clauses (1) and (2), at least 0.5% of the energy must be generated by biomass energy technologies by 2010 and one percent by 2015.

The Statute has been modified several times over the years, with significant changes in 2003, 2007, additional reporting requirements in 2011, and the introduction of the SES in 2013.

In 2003, legislation required utilities to file reports with the Commission and directed the Commission to provide detail on the standards and criteria it will use for judging a utility’s good

³ Today, the REO Statute defines eligible energy technology as energy generated from the following renewable resources: solar; wind; hydroelectric with a capacity of less than 100 MW; hydrogen, provided that after January 1, 2010, the hydrogen must be generated from eligible energy technologies; or biomass.

faith effort to meet the objective. Additionally, this legislation required utilities to submit a separate report to the Commission every two years (the biennial report). Using these biennial reports, utilities are to provide a description of (1) the status of the utility's renewable energy mix relative to the good faith objective; (2) efforts taken to meet the objective; (3) any obstacles encountered or anticipated in meeting the objective; and (4) potential solutions to obstacles.

Significant modifications were made to the statute in 2007 that included the addition of a Renewable Energy Standard (RES) which established renewable energy goals for years 2012 – 2025. Changes were also made to the definitions of eligible energy technologies, including the use of a higher capacity threshold for hydroelectric resources (100 MW or less), and the inclusion of landfill gas and anaerobic digester systems within the definition of biomass generation.

The following renewable energy goals were established for the end of the year indicated:⁴

- 2012: 12%
- 2016: 17%
- 2020: 20%
- 2025: 25%

Utilities that owned a nuclear generating facility as of January 1, 2007, have the following renewable energy goals:

- 2012: 18%
- 2016: 25%
- 2020: 30%

In 2011, additions were made that required each electric utility to submit to the Commission a policy report containing an estimation of the rate impact of activities of the electric utility necessary to comply with the RES statute. After an initial report, subsequent reports were to be included in utilities' Integrated Resource Plans (IRPs) until 2025 (or 2020 for utilities that owned a nuclear generating facility as of January 1, 2007).

The Solar Energy Standard (SES) was introduced in 2013 and requires utilities to generate or procure sufficient electricity generated by solar energy to serve its retail customers so that by the end of 2020, at least 1.5% of the utility's total retail electric sales to retail customers in Minnesota is generated by solar energy, and at least 10% of the required solar energy is met by solar generated or procured from solar photovoltaic devices (solar PV) with a nameplate capacity of 20 kW or less.

Over several years, the SES was amended to include the following changes:

- Only utilities with more than 20,000 retail customers were required to produce 10% of their required solar energy from small-scale PVs.

⁴ Minnesota Statute §216B.1691 Subd. 2a

- The nameplate capacity of small-scale PVs was increased from 20kW or less to 40kW or less.
- Public utilities with between 50,000 and 200,000 retail customers were permitted to meet the small-scale carveout requirement with individual customer subscriptions of 40kW or less to a community solar garden program operated by the public utility that has been approved by the Commission.⁵

IV. RES Compliance

A. *Department of Commerce Comments*

The Department notes that it has reviewed the compliance filings and determined that all Minnesota utilities subject to the RES have complied with the requirements in 2021. In total, utilities retired RECs representing 24.5% of Minnesota's retail sales.⁶ Staff includes Attachment A of the Department's comments below as Table 1 to summarize Minnesota utilities compliance with the RES in 2021. A renewable energy credit (REC) represents 1 megawatt hour (MWh) of qualifying renewable energy.

Table 1: 2021 RES Compliance

Utility	2021 MN Retail			
	Sales MwHs	RES Req. %	RES Req. MwHs	RECs Retired
<i>Basin</i>	945,011	20%	189,002	189,004
<i>CMMPA</i>	370,122	20%	74,025	74,025
<i>Dairyland Power</i>	861,191	20%	172,238	172,239
<i>East River Electric</i>	603,082	20%	120,616	120,669
<i>GRE</i>	10,746,506	20%	2,149,301	2,152,900
<i>Heartland</i>	241,926	20%	48,385	48,387
<i>L&O Power Coop</i>	288,306	20%	57,661	57,662
<i>Minnesota Power</i>	9,454,795	20%	1,890,959	1,890,960
<i>Minnkota</i>	1,491,225	20%	298,245	298,245
<i>MMPA</i>	1,865,862	20%	373,172	373,173
<i>Missouri River Energy Services</i>	1,691,803	20%	338,361	338,361
<i>NW Wisconsin**</i>		20%	-	
<i>Otter Tail Power</i>	2,593,158	20%	518,632	518,632
<i>SMEC</i>	732,511	20%	146,502	146,503
<i>SMMPA</i>	2,882,669	20%	576,534	576,534
<i>Xcel</i>	28,810,844	30%	8,643,253	8,643,254
<i>Total</i>	63,579,011		15,596,887	15,600,548

⁵ Both OTP and MP may meet the small-scale carveout requirement with individual customer subscriptions of 40kW or less to a community solar garden program.

⁶ Department Initial Comments, p.2

*** NW Wisconsin serves approximately 114 Minnesota customers with 2020 sales of 593 MWhs. The Minnesota Commission permits NWECA to comply with its MN RES requirements with the submission of its Wisconsin RPS compliance report. The Company retired 25,638 RECs or 14.48% of its 3-year average Wisconsin retail sales of 181,796 MWhs. NWECA generated 23,432 MWh of renewable energy in 2020.*

i. Department Recommendations

1. Find that all utilities complied with the RES requirement.

V. SES Compliance

A. Department of Commerce Comments

Upon reviewing the compliance filings from the three utilities subject to the SES, the Department concluded that MP and Xcel have complied with SES requirements.

Table 2: Summary of SES Compliance

	Xcel	Minnesota Power	Otter Tail Power
<i>Total MN Retail Sales</i>	28810844	8896839	2,593,158
<i>SES Excl. Retail Sales</i>	130872	5960138	65,520
<i>SES Retail Sales Oblig.</i>	28679972	2936701	2,527,638
SES Requirement:			
<i>Total SRECs Req. 1.5%</i>	430200	44051	37,915
<i>Small SREC Req 0.15%</i>	43020	4405	3,791
SRECs Retired toward SES			
<i>Total SRECs retired</i>	430200	44052	34,124
<i>Small SRECs retired</i>	43020	4406	2,192
			<i>Small REC shortfall (1,599)</i>

The Department explains that OTP fell short of meeting its SES requirements as a result of a shortfall of 1,599 small SRECs (MWh). In its compliance filing, OTP explains that the Company has relied on SREC purchases to meet much of its small SREC requirement. The Department summarizes OTP's efforts to obtain small SRECs:

OTP detailed its efforts to obtain small SRECs noting it has obtained small SRECs through projects installed with Made in Minnesota incentives, and its Publicly Owned Property (POP) solar incentive program. In November 2021, OTP proposed to fund solar on newly

constructed Habitat for Humanity homes in its territory through its CIP Program; however the proposal was denied by the Department's CIP unit for lack of cost-effectiveness. OTP further stated its attempts to purchase SRECs from small solar projects were unsuccessful due to lack of an active marketplace. Finally, OTP states that the COVID-19 pandemic has resulted in supply chain issues and pricing increases which has limited new installations.⁷

OTP has approximately 1.1 MW of small solar projects currently under contract, which provides an estimated 1,389 SRECs annually. The capacity shortfall in small solar projects is estimated at 1.8 MW.⁸ OTP expects half of that capacity shortfall (0.9 MW) to be installed in the next 6 to 18 months as a part of the Minnesota Solar for Schools program, projected Tribal Government solar projects, and customer-sited solar projects.

To ensure future SES compliance, OTP requests Commission approval to begin activities to develop 30 company-owned 40 kW solar projects with a total capacity of 1.2 MW. OTP states that implementing this strategy is a multi-step process⁹ that the Company cannot commence without first gaining the Commission's authority to do so. The Company proposes that costs be recovered through the Renewable Rider Cost Recovery (RRCR) filing. If approved, OTP would file cost and program details including timing and proposed recovery. OTP's objective with this request is to supplement customer projects and timely fill the compliance shortfall.¹⁰

In response to OTP's request, the Department requested that OTP provide detailed cost information for its proposal, along with a comparison to the costs of existing 40 kW projects before the Commission grants its approval to pursue additional small scale solar capacity. Further, the Department notes that Minn. Stat. §216B.1691, Subd. 2(b) sets forth criteria under which the Commission may modify or delay the RES requirement. However, similar criteria are not provided for the SES requirement.

The Department also recommended that the Commission direct OTP to retire SRECs from utility-scale projects to cover the shortfall in small SRECs until the Company has sufficient capacity to meet its small solar carve-out. Should the Commission agree, the Department recommends that OTP submit a compliance filing in the current docket showing the additional SREC retirements.

B. OTP Reply

OTP states that it appreciates the Department's recommendation and openness to solutions to meet the small-scale carveout requirement. The Company looks forward to the opportunity to

⁷ Department Initial Comments, p.3

⁸ OTP Retirement Report, p.4

⁹ Securing land and/or land leases, permitting, and interconnections

¹⁰ OTP Retirement Report, p.5

submit a detailed cost comparison of small company-owned projects versus existing 40kW projects should the Commission direct it to do so.

OTP agreed with the Department's recommendation to retire additional utility-scale SRECs to demonstrate its good faith effort to meet the Standard. The Company states that it recently retired 1,599 utility-scale SRECs in response to this recommendation. With the retirement of additional SRECs, OTP requests the Commission find the Company in compliance for the small-scale carveout requirement for 2021.

i. OTP Recommendation

1. With the retirement of additional SRECs as per the Department's recommendation, find that OTP is in compliance for the SES small-scale carveout requirement for 2021

C. Department of Commerce Reply to OTP

The Department confirmed OTP retired the requisite number of utility-scale SRECs per the Department's recommendation, and thus recommends that the Commission find that the Company has made a good faith effort to meet the 2021 small solar requirement.¹¹

i. Final Department Recommendations

1. Find that MP and Xcel complied with the SES requirement.
2. Direct OTP to submit detailed cost information along with a comparison to the costs of existing 40kW projects.
3. Find that OTP has made a good faith effort to meet the 2021 small solar requirement.

D. Minnesota Power Amendment

Unrelated to Department Comments, MP filed an amended report. MP's amended report fixes an error under Tab 4, "SES Retail Sales", where the table titled "Additional SES Reporting" displayed incorrect years. Additionally, this amended report resolved an error in which the "Projected Non-Small Scale Resources" was overstated. With this correction, the Company notes that the projected total SRECs (MWh) are now accurate.

VI. Biennial Reports

The biennial reports provide details regarding a utility's renewable mix, efforts taken to meet the state's RES, new renewable energy projects, and potential barriers to meeting the RES. Additionally, this year the Biennial report provides information regarding SES compliance, including details on utilities' ongoing efforts to meet the SES objective and the SES 2030 goal of

¹¹ Department Reply, p.1

having 10% of Minnesota’s retail sales be generated by solar energy, as well as a summary of progress toward compliance with the small SREC carveout requirement.

Many of the sixteen utilities reported to have RES compliance several years out. Staff compiled each utility’s reported RES compliance projections from their individual compliance filings and summarized the information in Table 3.

Table 3: RES Compliance Projections

UTILITY	RES COMPLIANCE TO YEAR
BASIN ELECTRIC POWER COOPERATIVE	2030+
CENTRAL MN MUNICIPAL POWER AGENCY	2033
DAIRYLAND POWER COOPERATIVE	Indefinitely
EAST RIVER ELECTRIC POWER COOP, INC.	2025
GREAT RIVER ENERGY	2040
HEARTLAND CONSUMERS POWER DISTRICT	2044
L&O POWER COOPERATIVE	2030+
MINNESOTA MUNICIPAL POWER AGENCY	2025
MINNESOTA POWER	Indefinitely
MINNKOTA POWER COOPERATIVE, INC.	2045
MISSOURI RIVER ENERGY SERVICES	2023
OTTER TAIL POWER COMPANY	2035
SOUTHERN MINNESOTA ENERGY COOPERATIVE	2025
SOUTHERN MN MUNICIPAL POWER AGENCY	2040
XCEL ENERGY	2040 +

Staff Note: Table 3 refers to the previous RES and does not address compliance with the changes to the RES signed by the Governor on February 7, 2023.

A. Efforts Taken to Meet the RES

Several utilities reported contractual arrangements and extensions to meet the RES. For instance, Heartland acquires its renewable energy through a power purchase agreement (PPA) with Wessington Wind, LLC which it recently extended until 2039.¹² The PPA entitles Heartland to purchase the entire 51 MW of nameplate wind capacity and own all of the environmental attributes associated with generation.

Between 2006 and 2019 MP executed PPAs and constructed over 870 MW of wind facilities to increase its Minnesota-eligible renewable energy supply. In 2021, the renewable portion of Minnesota Power’s retail energy supply is greater than 50% of its projected 2025 retail and

¹² Heartland’s PPA with Wessington Wind, LLC would have expired in 2029.

wholesale electric sales. Minnesota Power exceeded current compliance with the RES and is positioned to comply with the standard for 2025 and beyond.

MMPA developed the 1.92 MW Hometown Wind Power Project which came into service in March 2010, the 44 MW Oak Glen Wind Farm Project which came into service in October 2011, and the 8 MW Hometown BioEnergy which came into service in December 2013. MMPA has one confirmed, and two active PPAs that total 195.25 MW. MMPA has entered another PPA delivering 110 MW. This is set to be commissioned in Q4 of 2022. With its current inventory, resources, and contracted market purchases, MMPA projects that it can maintain compliance beyond 2025.

Great River Energy (GRE) purchases the output of 661 MW of wind resources and various small-head hydro facilities in Manitoba. GRE met the 25% RES in 2017, eight years early, and is committed to the corporate goal for its all-requirements members of 50% renewables in 2030. GRE has 1,172 MW of additional wind purchases under development.

Basin and MRES acquire their renewable energy resources through a combination of direct ownership and contractual agreements. MRES notes that wind, solar and battery storage will continue to be obtained as needed to enhance the renewable energy portion of the MRES resource mix.

Xcel notes that it added 650 MW of renewable generation capacity to their system and that they have continued to exceed their RES mandate for Minnesota. Xcel continues to increase its renewable energy mix, primarily wind and solar, to take advantage of cost-effective resource additions and to decrease carbon emissions.

East River, Dairyland, L&O, and OTP note that they continue to pursue opportunities to add renewable resources, including wind, solar, and waste heat recovery to diversify their generation portfolios and meet RES requirements.

B. Obstacles to Meet the RES

Due to sufficient owned or contracted renewable resources, many utilities reported no obstacles to meet Minnesota's RES. However, transmission issues including transmission deliverability, congestion, and increasing interconnection costs were noted by several utilities as obstacles to meeting Minnesota's RES.

Both SMMPA and L&O state that transmission deliverability continues to be a concern and believe that transmission improvement projects will help to mitigate the impact of this obstacle.

GRE states that increasing costs of transmission network upgrades required by MISO and affected systems have reduced GRE's portfolio by 100 MWs to-date. Long delays in MISO generation interconnection queue studies, especially by affected systems, has created more economic viability concerns and project uncertainty, impacting eligibility for Production Tax Credits and project permitting timelines. Transmission congestion continues to be challenging to both future project economics and operational project production. Significant and persistent

negative congestion¹³ in southern and western MN and ND create additional costs for purchasers. Increasing generator curtailments are beginning to negatively impact GRE's REC banking expectations.

GRE has been addressing these obstacles through robust resource planning processes including risk analysis, in advance of investment decisions. GRE has mitigated future price risk by taking advantage of federal tax incentives and has explored mitigation measures for negative congestion. However, such solutions have been found to result in unintended reliability issues. GRE encourages FERC, MISO, and the MISO IMM to develop (i) proactive measures for reducing congestion through mitigation and transmission planning efforts, and (ii) timelier implementation of project specific generator interconnection network upgrades which will aid in the reduction of negative congestion.

Minnesota Power explains that an emerging issue with wind generation is increasing congestion and lost cost in MISO energy prices between energy and load. New patterns of transmission and generation are creating changes in congestion as the power supply evolves to more renewable and less baseload power supply. Further, it is increasing the cost of adding renewables to the system, especially new renewables in wind rich areas where renewable buildout has been occurring for several years and transmission expansion has not kept pace.

Minnesota Power notes that significant improvements in wind turbine technology¹⁴ and wind resource assessment has enabled Minnesota Power's expansion of wind and Minnesota Power continues to evaluate it as a resource in the future. However, concerns regarding adequate transmission and reasonable interconnection costs continue to be a challenge for additional wind development in the region. Additionally, Minnesota Power notes that the phasing out of the Federal Production Tax Credit (PTC)¹⁵ for wind generation will increase the cost of adding new wind generation.

Staff notes that since Minnesota Power's report, the federal inflation reduction act (IRA) has extended the PTC for wind generation through 2024 and includes a new section that allows 10 years of PTCs for any electric generation facility with a zero or less greenhouse gas emissions rate.¹⁶

Aside from transmission issues, MP notes that it is not aware of any new large hydro projects in Minnesota, and states that even if new projects existed, hydro development is limited to expansion at existing impoundments due to anticipated resistance to the construction of new dams. While there is obtainable and expandable hydro in the Province of Manitoba, current

¹³ Staff notes that it is not clear if GRE is actually discussing negative congestion, or if the Cooperative is intending to discuss positive congestion. Negative congestion occurs when the locational marginal price (LMP) of the load is lower than the LMP of generation. Positive congestion, which is more common, occurs when load LMP is higher than the LMP of generation.

¹⁴ Minnesota Power notes larger rotors and improved controls as "significant improvements" to wind turbine technology.

¹⁵ Minnesota Power notes that wind projects that begin construction after 2021 or are placed in service after 2025 will not qualify for PTCs.

¹⁶ The new section, section 45Y, will be phased out after 2033.

Minnesota Law does not allow renewable generation from hydro units of 100 MW or larger to apply towards the RES.

For OTP, the primary obstacle has been a “non-existent”¹⁷ small SREC market, which resulted in the company not meeting the small SREC carveout for 2021.

While CMMPA has not experienced any complications to meeting Minnesota’s RES to-date, they believe that the demand for renewable resources and supply chain constraints could impair and/or increase the cost of future acquisitions.

C. New Facilities

The biennial report has utilities list projects that will become operational in the next year. Please see Table 4 below for a summary of new facilities that are expected in the near future.

Table 4: New Facilities

UTILITY	FACILITY NAME	TYPE	CAPACITY (MW)	MISO CAPACITY ACCREDITATION (MW)	EXPECTED COMM'L OPERATION DATE
BASIN	Aurora Wind	Wind	142	TBD	Jan-23
GRE	Buffalo Ridge	Wind	106	15	Dec-22
MP	Laskin Energy Park	Solar	9.6	4.8	December 2022
MP	Sylvan Solar Project	Solar	10	5	End of 2022
MP	Jean Duluth Solar Project	Solar	1.6	0.8	December 2022
MMPA	Walley Wind	Wind	112	TBD	Q4 2022
OTP	Hoot Lake Solar	Solar	49.9	24.95	Mid-2023
XCEL	Heartland Divided Wind II, LLC	Wind	200	32	Apr-22
XCEL	Dakota Range 1&2	Wind	300	49	Jan-22
XCEL	Ewington (repower)	Wind	20	3	June-22
XCEL	Northern Wind (repower)	Wind	120	19	Dec-22

D. Efforts Taken to Protect Ratepayers

The most common effort reported to protect ratepayers against undesirable economic impacts was signing long term contracts to control the costs of renewable energy and to minimize undesirable economic impacts.¹⁸ Minnkota’s long term contracts has resulted in a near-term surplus of generation, which has allowed Minnkota to negotiate long-term firm sales contracts with several regional utilities to sell a portion of its surplus power at higher than short-term

¹⁷ Please see OTP compliance report.

¹⁸ Dairyland, Basin, GRE, Minnkota, and MMPA.

market rates. Doing so has mitigated some of the undesirable economic impacts on Minnesota ratepayers.

In addition to long term PPAs, MMPA has financed its own generation using tax-free municipal bonds to lock in low interest rates for a period of 20 years or more. MMPA notes that its long-term approach controls costs and minimizes volatility.

Several other utilities state that they protect ratepayers by continuing to pursue economically feasible renewable resource acquisition.¹⁹

SMMPA strategically offers output from their renewable projects into the MISO market in an effort to maximize profits/minimize losses. SMMPA has slightly accelerated resources additions to benefit from the federal production tax credit. SMMPA has also made significant investment in CapX and other transmission projects to improve transmission congestion.

East River and its members support business practices as well as state and federal policies that protect against undesirable impacts on ratepayers. Cost shifts created if renewable energy projects do not pay their fair share of utility infrastructure costs is East River's primary concern. East River and its members invest substantial resources to encourage positive, political, regulatory, and business outcomes, including Public Utilities Regulatory Policy Act (PURPA) reform.²⁰

Finally, CMMPA states that it utilizes a competitive bid process to find lowest cost options.

E. Ongoing efforts to meet SES objective

Xcel has developed a large portfolio of resources and programs to provide renewable options to residential and commercial customers. Xcel expects to accumulate and exceed the amount of SRECs required to satisfy the SES compliance requirements beginning in 2020 and well beyond 2034. SRECs accumulated in the REC bank beyond what is needed for compliance requirements will be applied toward the MN state RES obligation to avoid any REC expirations.

Otter Tail notes that its solar projects, including its Hoot Lake Solar project, continue to move them toward SES compliance.

Minnesota Power currently has three new solar projects underway that will result in approximately 20 MW of new solar energy. When completed, Minnesota Power's solar energy portfolio will grow to about 30 MW, including the 10 MW installation built at Camp Ripley, the Minnesota National Guard base near Little Falls. The projects will help Minnesota Power meet the SES more quickly.

F. Efforts to reach SES 2030 goal

Xcel notes that it already exceeds the current 1.5% requirement, and the Company expects their banked SRECs to carry them through several more years of demonstrated solar

¹⁹ Basin, MRES, Xcel, and OTP.

²⁰ Staff notes that East River does not provide any information on the type of PURPA reform the Company is interested in.

compliance and provide partial fulfillment of the 10% goal. To increase solar generation in their portfolio for the purpose of meeting the goal on an ongoing basis, Xcel plans to add substantial amounts of solar generation to its portfolio in the coming years, as approved in their recent 2020-2034 IRP. By 2030, Xcel expects over 10% of its generation to come from solar resources.

Otter Tail notes that its Hoot Lake Solar project as well as their five-year action plan in their open IRP, Docket No. E017/RP-21-339, include solar projects that continue to move them toward the 2030 goal.

Staff notes that since OTP filed its compliance report, the Company has committed to provide an updated IRP on March 31, 2023. Because of this, Staff is unsure what changes will be made to the solar projects referenced by OTP in its updated IRP filing.

Minnesota Power conducted a thorough Capacity Expansion Analysis to determine the energy supply mix, energy needed, carbon reduction, and annual customer cost impacts of different solar mix futures. The analysis indicated that the most optimal option for incorporating additional solar to meet the 2030 goal is to add approximately 200 MW of solar interconnected at the Boswell site or another existing Minnesota Power facility by 2030. Staff notes that since MP filed its compliance filing, the Commission approved MP's IRP, which included a plan for an additional 300 MW of additional solar generation.

G. Progress toward compliance with SES small SREC carveout

Xcel provided a projection of its compliance with the 10% small SREC carveout requirement, as well as a table summarizing programs that can be used toward the small SREC carveout requirement. Staff has included Xcel's figures below as Table 5 and Figure 1. Xcel notes that the Company will be in compliance with the small scale carveout through 2034 but notes that their projections use program assumptions and thus has embedded risk that the actual result may be different than the forecast.²¹

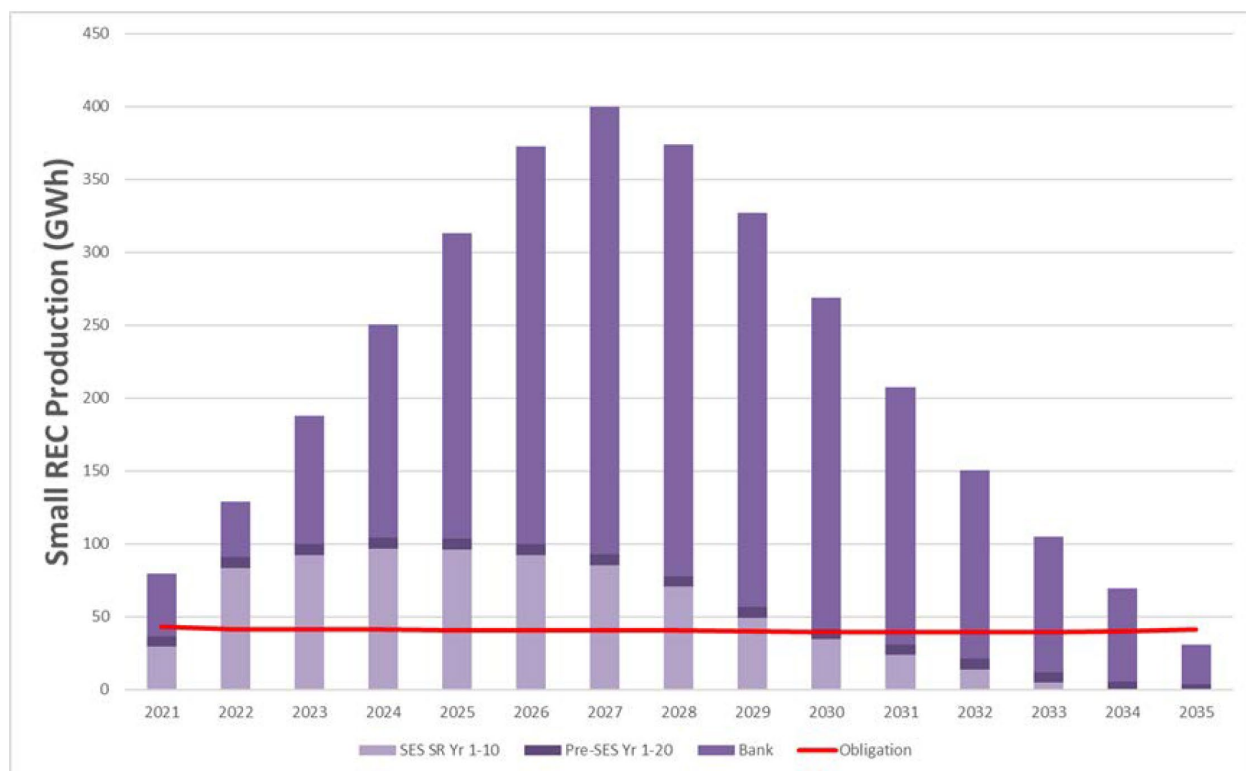
Table 5: Xcel Small Solar Carveout Programs

Program Name	Size	Years Available
Solar*Rewards (First Generation)	≤40 kW (DC)*	2010 – August 2014
Solar*Rewards (Second Generation)	≤20 kW (DC)* ≤40 kW (DC)*	August 2014 – May 2018 June 2018 – May 2019

²¹ The company notes that their projection assumes that 100% of the Solar*Rewards funds are allocated based on estimated solar system performance and that of these projects. If actual solar installations are lower than forecasted levels, the Company may not be able to meet the small SREC carveout requirement through 2034 as projected. Additionally, their analysis is based on the understanding that the nameplate capacity for purposes of this statute is measured in alternating current (AC). The company notes that this is consistent with the definition of Minn. Stat. § 216B.164, Subd. 2a.(c), as well as how capacity is used or interpreted under the following statutes: Minn. Stat. §§ 216B.1611, Subd.2(a), and Subd.3a(a)(1); 216B.1613; 216B.164, and Subd. 4c; 216B.1641 (b).capacity in

Solar*Rewards (Third Generation)	40 kW (AC)	June 2019 - 2024
Solar*Rewards for Schools	≤40 kW (AC) >40 kW – 1 MW	May 2022 – June 2027
Made in Minnesota	≤40 kW	2014 - 2017

Figure 1: Xcel Small SREC Production with Solar*Rewards Program Extension through 2024



Otter Tail has relied on many strategies to meet the small SREC carveout requirement which include projects in the following areas: Made in Minnesota solar, two solar projects owned by OTP, Publicly Owned Property (POP) solar, purchasing qualifying small SRECs, and standard customer solar installations (non-rebated). Otter Tail Power is not currently meeting the small SREC requirements as discussed above.

Minnesota Power notes that it continues to meet the small SREC carveout of the SES through its Community Solar Garden and SolarSense Customer Solar Program. There were 290,928 kWh produced by SolarSense systems installed in 2021. The Community Solar Garden is fully subscribed, with 1,037 one kW blocks that customers are subscribed to. This balanced approach of customer and community offerings allows MP customers to participate in solar programs regardless of whether they have the ability to install solar at their own site.

VII. Staff Analysis

All utilities were able to meet the requirements of the RES, and 11 of the 16 utilities have predicted that they will be able to continue to meet RES requirements for the next decade.

About 15.6 million RECs were retired for 2021 RES compliance, representing an increase of 513,742 RECs from 2020. This breaks a multi-year trend in which retail sales have decreased, which had reduced the number of RECs that are obligated to be retired. Additionally, 508,000 SRECs were retired in compliance with the SES. Altogether, just over 16 million total RECs retired in 2021.

Both Xcel and MP met the requirements of the SES. However, OTP was unable to meet SES requirements. The Commission must decide whether OTP's retirement of additional utility-scale SRECs demonstrates a good faith effort to meet the small SREC carve out in the SES as proposed by the Department and OTP. Staff notes MRETS has confirmed that OTP retired additional utility-scale SRECs in place of small SRECs as requested by the Department in their initial comments.

Additionally, the Commission must decide how to respond to OTP's request for approval to begin activities to develop 30 company-owned 40 kW solar projects with a total capacity of 1.2 MW, with costs recovered through the Company's RRCR filing. Should the Commission approve the request as presented by OTP, the Company has stated it would file cost and program details including timing and proposed recovery.

Staff notes that there is no obvious regulatory requirement for Otter Tail to get Commission approval before it proceeds with these projects, as a Certificate of Need does not apply to small projects such as these. For this reason, it is unclear why OTP is requesting Commission approval to proceed with the construction of these projects.

What Commission approval represents in this case is also unclear. Staff strongly recommends not making any final decisions regarding the reasonableness of a project until the Commission has all the cost data required to make an informed decision. Should the Commission approve OTP's request, it should clearly state what approval represents in this case. Additionally, it would be beneficial for OTP to elaborate on its request at the agenda meeting.

The Department does not suggest making a determination on OTP's request, but instead requested that OTP provide additional information. In response, OTP stated that it would provide detailed cost information for its proposal if ordered to by the Commission.

While Staff understands that moving forward with OTP's proposal would allow the Company to quickly comply with the SES, it is not clear from the information provided why this option is preferable to the development of an incentive program for additional customer-owned solar

generation. Staff notes that both Xcel²² and MP²³ rely on an incentive program to secure the small SRECs required by the SES.

OTP is an outlier in that the Company does not offer a comparable incentive program for residential and commercial customers, and instead relies on Company-owned solar resources and solar projects through its Publicly Owned Property Solar program which is only available to public entities such as local governments or schools. However, Staff notes that this may be a result of OTP's largely rural service territory, half of which is in the Dakotas.

Should the Commission request OTP to provide detailed cost information for its proposal, along with a comparison to the costs of existing 40 kW projects, Staff would recommend the Company also include a discussion on the feasibility of developing an incentive program similar to what has been utilized by Xcel and MP to secure the small SRECs needed to comply with the SES.

The Commission may also wish to consider moving this discussion to a separate docket dedicated to OTP's request. Staff does not believe that the current docket is the appropriate venue for such a discussion. The "-12" annual dockets are specific in scope and are intended to evaluate all, required utilities' compliance with the RES and SES. The specifics surrounding OTP's request to develop 30 company-owned 40 kW solar projects was not a part of the Commission's request for Comment in this docket, and so interested parties may not have had an appropriate amount of time respond or even been notified that such a discussion was taking place.

Staff notes that OTP's previous IRP did not include a plan to meet the small scale carveout requirement of the SES.²⁴ Should the Commission approve OTP's request, the forecasted incremental capacity should be included in OTP's next IRP model.

Looking Forward

On February 7, 2023, Governor Walz signed HF7 which modified and extended the RES, modified definitions of eligible energy technologies and electric utilities, and created a carbon-free standard among other changes. Annually in the YR-12 dockets, the Commission typically issues a Notice in April with RES compliance reporting information for the previous year (e.g. 22-12 is for 2021 compliance), electric utilities report by June, and the Commission acts via order on compliance. Every other year, like this year, these compliance filings are accompanied with biennial reports that include forward-looking plans and a report from the Department to the legislature. In April 2023, Commission staff will issue the Notice for Docket No. E999/PR-23-

²² Xcel's Solar*Rewards program pays customers each year in exchange for their RECs. Additionally, Xcel provides an up-front incentive that is based on the size of the proposed system for income-qualified customers or for school products.

²³ Minnesota Power's SolarSense program is an incentive-based program that provides customers with a rebate on their solar system based on the energy it is projected to produce in exchange for the project's RECs.

²⁴ See OTP's June 1, 2016 initial filing in Docket No. 16-386.

12 that will include the final full year of RES compliance (2022) prior to the new legislation being enacted.

The Commission issued orders in Docket No. E999/CI-03-869 addressing criteria for compliance, procedural guidance on delays and impact considerations, and the utilities responsible for reporting compliance to the Commission. This docket may serve as a useful model for the Commission in implementing the new legislation. The Commission does not need to take action today on this issue, rather staff offer it for informational purposes to the Commission and parties.

VIII. Decision Options

RES and SES Compliance

1. Find that all utilities complied with the RES requirement for 2021. (DOC)
[AND]
2. Find that Minnesota Power and Xcel Energy complied with the SES requirement for 2021. (DOC)
[AND]
3. Find that all utilities complied with the biennial reporting requirements for reporting year 2021.
[AND]
4. Find that Otter Tail Power made a good faith effort to comply with the SES small-scale carveout requirement for 2021 given the Company's retirement of additional utility-scale SRECs. (OTP, DOC)

OTP Small Solar Proposal

[The Commission may select one of the following options: 5, or 6 & 7]

5. Approve Otter Tail Power's request to develop 30 company-owned 40 kW solar projects. (OTP)
[OR]

6. Require Otter Tail Power to file the Company's request to develop 30 company-owned 40 kW solar projects with detailed cost information and a comparison to the costs of existing 40 kW projects in a new docket which will be noticed for comment. (DOC)

[AND, if 6 is selected, Commissioners may also select 7]

7. Require Otter Tail Power to include in its petition to develop 30 company-owned 40 kW solar projects an evaluation of the feasibility of developing an incentive program similar to those utilized by Xcel Energy and Minnesota Power to secure the small SRECs for SES compliance. (Staff)

Staff supports decision options 1-3 and 6-7. Staff takes no position on 4.