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June 1, 2022

**VIA E-FILING**

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

**Re:** In the Matter of the Commission Consideration and Determination  
of Compliance with Renewable Energy Standards for Year 2021  
**Docket No. E-999/PR-22-12**

In the Matter of the Green Pricing Verification Process  
**Docket No. E-999/PR-02-1240**

Dear Mr. Seuffert:

The Minnesota Public Utilities Commission ("Commission") issued a Notice of Renewable Energy Certificate Retirement ("REC") Process for Renewable Energy Standards and Green Pricing Program ("Notice") on April 14, 2021, in the above-referenced dockets. This year, the Notice and associated template address the reporting requirements of utilities subject to the Solar Energy Standard ("SES") reporting obligations under Minn. Stat. § 216B.1691, subd. 2f and the Commission's January 29, 2021 Order in Docket No. E-999/M-20-464 (*In the Matter of Utilities' Annual Reports on Progress in Achieving the Solar Energy Standard*). Minnesota Power respectfully submits its Compliance Report response to this Notice that includes the required SES data.

Please contact me at (218) 355-3297 or [juklenski@mnpower.com](mailto:juklenski@mnpower.com) if you have any questions on this filing.

Respectfully,

Jennifer Kuklenski  
Public Policy Advisor

JMK:th  
Attach.  
c: Service List

Filing for <b>SOLAR ENERGY STANDARD</b> on behalf of:			
Utility Name	Utility Name	Utility Name	Utility Name
Minnesota Power Co.			

Attachment 2

Retail Sales Total	9,454,795
RES Percentage Obligation	20%
RECs Required to be Retired	1,890,959
Actual RECs Retired	1,890,960

Utility ID #	Utility	Retail Sales Amount (MWh)	Notes
68	Minnesota Power Co.	9,454,795	MN Retail Sales by reporting utility

### Attachment 3

Reporting Period: **January 1, 2021 - December 31, 2021**

TOTAL <b>GREEN PRICING</b> Sales (MWh)	2,593
RECS retired for <b>GREEN PRICING</b> programs	2,593

Utility ID # (on Worksheet 1)	Utility Name	Program Name	No. of Program Customers	Program Sales (MWh)	Retail Rate (\$/kWh)	Notes
68	Minnesota Power Co	Renewable Source	120	2,593		MN Retail Sales by reporting utility

Minnesota Public Utilities Commission: Docket No. E999/PR-22-12 and Docket No. E999/M-22-85  
Minnesota Department of Commerce: Docket No. E999/PR-02-1240

Attachment 2

Reporting Period: January 1, 2021 - December 31, 2021

**SES Retail Sales and  
Solar Renewable Energy Certificates Required to be Retired for SOLAR ENERGY STANDARD Compliance**

Retail Sales Total	8,896,839
SES Excluded Retail Sales	5,960,138
SES Retail Sales Obligation	2,936,701
SES Total Percentage Obligation	1.50%
SES Small Scale obligation	0.15%
Non-Small Scale obligation	1.35%
Total SRECs Required to be Retired	44,051
Small SRECs to be retired	4,406
Non-Small Scale to be retired	39,646
Total Actual RECs Retired	44,052
Total actual small SRECs retired	4,406
Total actual non-Small Scale retired	39,646

**Additional SES Reporting**

Projected SES compliance for the current plus three (3) upcoming years. Include banked RECs.

Year	Actual/Projected MN retail sales (MWh) minus SES exempt sales	SES Total Req (MWh)	SES Small Scale Req (MWh)	SES Non-Small Scale Req (MWh)	Projected Total SRECs (MWh)	Projected SRECs less than 40kW (MWh)	Projected SRECs greater than 40kW (MWh)	Projected Total Surplus/ (Deficit) (MWh)	Projected SREC Surplus/(Deficit) less than 40 kW (MWh)	Projected SREC Surplus/(Deficit) greater than 40 kW (MWh)
2019	2,936,701	44,051	4,405	39,645	57,646	13,481	44,165	13,595	9,076	4,520
2020	2,899,527	43,493	4,349	39,144	41,770	14,976	26,794	-1,723	10,627	-12,350
2021	2,894,712	43,421	4,342	39,079	67,687	16,798	50,889	24,266	12,456	11,810
2022	2,894,321	43,415	4,341	39,073	93,955	18,897	75,059	50,541	14,555	35,985

Annual solar generation on the utilities' system for the previous calendar year

	Number of Facilities on Utility System	Capacity	Number registered in M-RETS	Capacity registered in M-RETS	SRECs Generated
Less than 40kW	354	3.62	2	3.62	22,995
Generation from eligible CSG subscriptions	2	1.04	2	1.04	1,912
Greater than 40kW	1	10	1	10	17,201

Renewable Energy Certificate Retirement Report for  
RENEWABLE ENERGY STANDARDS and GREEN PRICING PROGRAMS

Minnesota Public Utilities Commission: Docket No. E999/PR-22-12 and Docket No. E999/M-22-85

Attachment 4

Minnesota Department of Commerce: Docket No. E999/PR-02-1240

Reporting Period:

January 1, 2021 - December 31, 2021

**Renewable Energy Certificate Retirements for Renewable Energy Standards and Green Pricing Programs**

Renewable Energy Standard REC Retirement Account Name:	2021 Minnesota Power MN RES/SES Compliance; 2021 Minnesota Power MN SES Small Solar Compliance
Green Pricing REC Retirement Account Name:	2021 Minnesota Power Green Pricing

Total RECs or SRECs			1,890,960	2,593	4,406	39,646	1 REC = 1 MWh
MRETS ID	MRETS Generator Facility Name	Generator Fuel Type	RECs retired for	RECs retired for	SRECs retired for	SRECs retired for	NOTES
			RENEWABLE ENERGY STANDARD compliance	GREEN PRICING programs	Small Scale ENERGY STANDARD compliance	SOLAR Non-small scale SOLAR ENERGY STANDARD compliance	
M653	Crystal Lake - Crystal Lake Wind III, LLC	Wind		2,593			
M1474	MP Solar Garden-Subscriber <40kW	Solar			3,885		
M1471	Made in MN DG Solar <40 kW - MiM DG	Solar			266		
M1473	MP DG Solar <40 kW	Solar			255		
M2885	Nobles 2 Wind	Wind	520,013				
M302	Laurie River 1 - Laurie River 1	Hydroelectric Water	605				
M303	Laurie River 2 - Laurie River 2	Hydroelectric Water	715				
M304	Pine Falls - Pine Falls	Hydroelectric Water	1,747				
M305	McArthur Falls - McArthur Falls	Hydroelectric Water	891				
M306	Slave Falls - Slave Falls	Hydroelectric Water	3,379				
M307	Pointe du Bois - Pointe du Bois	Hydroelectric Water	2,221				
M310	Wing River - Wing River	Wind	1,985				
M378	Fond Du Lac Hydro - Fond Du Lac Hydro	Hydroelectric Water	22,504				
M407	Knife Falls Hydro - Knife Falls Hydro	Hydroelectric Water	6,253				
M4078	Bison Wind - Bison Wind	Wind	215,912				
M409	Little Falls Hydro Station - Little Falls Hyd	Hydroelectric Water	17,534				
M410	Pillager Hydro Station - Pillager Hydro	Hydroelectric Water	3,572				
M412	Prairie River Hydro Station - Prairie River	Hydroelectric Water	906				
M414	Rapids Energy Center - Rapids Energy Ce	Hydroelectric Water	5,667				
M418	Scanlon Hydro Station - Scanlon Hydro	Hydroelectric Water	3,567				
M419	Sylvan Hydro Station - Sylvan Hydro	Hydroelectric Water	5,683				
M420	Winton Hydro Station - Winton Hydro	Hydroelectric Water	8,385				
M428	Hibbard Energy Center - Hibbard 3	Biomass	20,126				
M480	Tac Ridge Wind - Taconite Ridge Wind	Wind	29,068				
M518	Hibbard Energy Center - Hibbard 4	Biomass	39,476				
M541	Oliver Wind 12 - Oliver County Wind 12	Wind	196,008				
M641	Bison Wind - Bison Wind	Wind	587,750				
M648	Blanchard Hydro - Blanchard Hydro 123	Hydroelectric Water	47,973				
M924	Thomson Hydro - Thomson Hydro	Hydroelectric Water	149,020				
M1063	Camp Ripley Solar - Camp Ripley Solar	Solar				39,646	

Minnesota Public Utilities Commission: Docket No. E999/PR-22-12 and Docket No. E999/M-22-85		Attachment 5	
Minnesota Department of Commerce: Docket No. E999/PR-02-1240		January 1, 2021 - December 31, 2021	
Reporting Period:			
Biennial Compliance reporting			
Please report the following items in compliance with the PUC May 28, 2013 Order in Docket No. E999/M-12-958			

RES Ordering  
Point

In 2021 Minnesota Power transitioned to retire current year RECs to meet the Minnesota RES. Minnesota Power generated more RECs in 2021 than was needed for RES compliance. These excess RECs were retired in a voluntary account on M-RETS. Prior to 2021, Minnesota Power retired the oldest RECs first to comply with the RES. Excess RECs were banked.

Minnesota Power anticipates in can maintain compliance with the Minnesota RES based on its current renewable portfolio for the foreseeable future. Minnesota Power anticipates to have sufficient MN eligible RECs to be 36% renewable. There are Power Purchases Agreements (PPAs) that will expire between now and 2050. Minnesota Power anticipates that the renewable energy from the expiring PPA(s) will be replaced with other renewable projects or the PPAs could be extended or MP could purchase the renewable facility at the end of the term. MN also has 200 MW of additional wind proposed in the 2021 IRP that is not included in the 2023 renewable percentage noted above.

4.A. & 5.H. The year through which the utility can maintain compliance with its current renewable portfolio\*  
\*Include banked Renewable Energy Credits (RECs)

4.B. & 5.I. Projected RES compliance for the current plus three (3) upcoming years. Include banked RECs.

Year	Actual/Project ed MN retail sales (MWh)	RES Req.(%)	RES Req. (MWh)	Projected Resources (MWh)	Projected Surplus/ (Deficit) (MWh)
2022	8,667,703	20%	1,621,800	3,837,982	2,216,182
2023	8,738,547	20%	1,635,495	3,837,982	2,202,487
2024	8,765,175	20%	1,640,268	3,837,982	2,197,714
2025	8,725,358	25%	2,040,749	4,647,982	2,607,233

5.E.2 & 5.F.

State	RES Req. (MWh)	RES Req. (%)	Percent of utility's total system renewable generation apportioned to this state (%)*
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\*apportionment of renewable energy should reflect each state's percentage of the utility's total system sales.

5.E.3 (i)	<div><div>The status of the utility's renewable energy mix relative to the objective &amp; standards.</div><div><div>Renewable Project Development Status</div><div>Completed Projects:</div><div>Oliver 1 Wind</div><div>A 50.6 MW wind facility comprised of twenty-two 2.3 MW Siemens SWT-2.3-93 turbines located near Center, North Dakota. This facility was built by NextEra Energy Resources and began commercial operation in December 2006. Minnesota Power has a 25-year PPA with NextEra Energy Resources for all energy, capacity and renewable attributes from Oliver 1 (Docket No. E015/M-05-975).</div><div>Oliver 2 Wind</div><div>A 48 MW expansion of the original Oliver 1 Wind facility comprised of thirty-two 1.5 MW GE SLE turbines with 77 meter rotors. The facility achieved commercial operation in December of 2007. Minnesota Power has a 25-year PPA with NextEra Energy Resources for all energy, capacity and renewable attributes from Oliver 2 (Docket No. E015/M-07-216).</div><div>Oliver 1 &amp; 2 Wind Repower</div><div>Oliver 1 and 2 energy is purchased through an amended purchase power agreement with NextEra that was approved by the Commission in November 2018. This repowering project increased Oliver 1 and 2 energy production and reduced the PPA pricing starting in 2021. Additionally, the Oliver 1 and 2 PPAs were extended to 2040 (Docket No. E015/M-18-600).</div><div>Wing River C-BED Wind</div><div>A 2.5 MW wind project comprised of one 2.5 MW Nordex N90 turbine located near Hewitt, Minn. This project began operation in July 2007 achieving two firsts: 1) the first C-BED project in Minnesota to begin operation; and 2) the first 2.5 MW Nordex turbine installation in the United States. Minnesota Power has a 20-year PPA with Wing River LLC for all energy, capacity and renewable attributes from the Wing River C-BED Wind Project (Docket No. E015/M-07-537).</div><div>Taconite Ridge Wind</div><div>A 25 MW wind facility comprised of ten 2.5 MW Clipper C96 Liberty turbines located on the Laurentian Divide in Mountain Iron, Minn., on US Steel property. This wind facility was built by Minnesota Power as its first wind project to own, operate and maintain for long-term use as a rate-based renewable wind generation resource. Taconite Ridge Energy Center achieved commercial operation in June 2008 (Docket No. E015/M-07-1064).</div><div>Bison 1</div><div>An 81.8 MW wind development near Center, N.D., comprised of 16 Siemens SWT-2.3-101 turbines and 15 SWT-3.0-101 turbines. This wind facility was built by Minnesota Power and Minnesota Power owns, operates, and maintains the facility for long-term use as a rate-based renewable wind generation resource. The Bison 1 wind project achieved commercial operation in two phases, the first phase in December 2010, and the second in January 2012 (Docket No. E015/M-09-285).</div><div>Manitoba Hydro</div><div>A non-firm energy supply PPA with Manitoba Hydro. The PPA assumed approximately [TRADE SECRET DATA BEGINS ██████████ TRADE SECRET DATA ENDS] to be counted as MN eligible renewable energy credits (“RECs”) and covers a period from May 1, 2011 through April 30, 2022. (Docket No. E015/M-10-961).</div><div>A non-firm energy supply PPA with Manitoba Hydro. The PPA assumed approximately [TRADE SECRET DATA BEGINS ██████████ TRADE SECRET DATA ENDS] to be counted as MN eligible renewable energy credits (“RECs”) and covers a period from June 1, 2020 through May 31, 2040. (Docket No. E015/M-14-960).</div><div>A firm energy supply PPA with Manitoba Hydro. The PPA assumed approximately [TRADE SECRET DATA BEGINS ██████████ TRADE SECRET DATA ENDS] to be counted as MN eligible renewable energy credits (“RECs”) and covers a period from June 1, 2020 through May 31, 2035. (Docket No. E015/M-11-93).</div><div>Bison 2</div><div>A 105 MW wind project near Center, N.D., is comprised of 35 Siemens SWT-3.0-101 turbines and interconnects to the electric grid at the Square Butte Substation, which allows the wind energy to flow via Minnesota Power’s existing high-voltage direct current transmission line (“DC Line”) or the Alternating Current (“AC”) system. The Bison 2 wind project achieved commercial operation in December 2012. Minnesota Power owns, operates, and maintains the facility for long-term use as a rate-based renewable wind generation resource (Docket No. E015/M-11-234).</div><div>Bison 3</div><div>A 105 MW wind project near Center, N.D., is comprised of 35 Siemens SWT-3.0-101 turbines and interconnects to the electric grid at the Square Butte Substation, which allows the wind energy to flow via Minnesota Power’s existing DC Line or the AC system. The Bison 3 wind project achieved commercial operation in December 2012. Minnesota Power owns, operates, and maintains the facility for long-term use as a rate-based renewable wind generation resource (Docket No. E015/M-11-626).</div><div>Bison 4</div><div>A 204.8 MW wind energy facility in Oliver County in central North Dakota. The Bison 4 Wind Project (“Bison 4 Project”) consist of 64 Siemens 3.2 MW SWT-3.2-113 turbines and interconnects to the electric grid at the Square Butte Substation, which allows the wind energy to flow via Minnesota Power’s existing DC Line or the AC system. The project went commercially operational in December 2014. Bison 4 positioned Minnesota Power to meet its projected 2020 renewable requirement by the end of 2014 (Docket No. E015/M-13-907).</div><div>Nobles 2 Wind Project</div><div>Minnesota Power received Commission approval for the PPA with Tenaska, Inc. to purchase 250 MW of wind-generated energy and capacity from the Nobles 2 wind-generation facility in Nobles and Murray counties in southwestern Minnesota. Minnesota Power started to receive energy from the project in December 2020. (Docket No. E015/M-18-545)</div></div></div>
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Fond du Lac Hydro	
An approximate 3,000 MWh annual upgrade at the Fond du Lac hydro facility. The project utilized \$815,000 in American Recovery and Reinvestment Act grant funding to re-runner the facility along with other updates. Fond du Lac was returned to service in June 2013 upon completion of the overhaul and installation of a new runner and penstock relining/recoating.	
Thomson Hydro	
Thomson is a hydro facility constructed in 1905 and is located on Minnesota Power’s St. Louis River hydro system near Thomson, Minn. At 71 MW Thomson is the largest hydro facility in Minnesota Power’s power supply. On June 19 and 20, 2012, record rainfall and flooding occurred in Duluth, Minn. and surrounding areas. The flooding severely damaged Minnesota Power’s St. Louis River Hydroelectric System and particularly the Thomson facility, which was forced offline due to damage to the forebay canal and flooding at the facility. As a result, Minnesota Power has invested \$90.4 million in the facility to resume operations and provide approximately 280,000 MWh of low-cost renewable energy for customers annually. This project was approved for rate recovery by the Commission on January 29, 2015 (Docket Number E-015/M-14-577 ). Thomson returned to service in November 2014, and remains a key part of Minnesota Power’s strategy to meet its RES requirements under Minn. Stat. § 216B.1691.	
Hibbard	
Hibbard Renewable Energy Center Units 3 and 4 operate as energy resources for Minnesota Power’s system and are located in Duluth, Minnesota. HREC is capable of burning wood and wood wastes, coal and natural gas. Use of wood and wood waste fuels make much of the energy generated by HREC a qualified renewable energy product. At 47 MW Hibbard is the largest biomass facility and one of the few dispatchable renewable generators in Minnesota Power’s power supply. The renewable generation does fluctuate based on market conditions. In 2021, Hibbard generated 113,000 MWh of renewable energy.	
Planned Projects:	
While the Company is currently positioned to exceed the 2025 RES requirement, Minnesota Power continuously assesses a wide range of power supply resources to augment its portfolio. Renewable projects including wind, biomass, hydro and solar were part of the 2021 Integrated Resource Plan analysis. Minnesota Power’s 2021 Integrated Resource Plan proposes 200 MW of new wind resources by 2025 and 200 MW of new solar resources that leverages the Boswell site or other Minnesota Power facilities by 2030. Minnesota Power will continue the evaluation and consideration of renewable power supply alternatives as it works towards a sustainable path to a carbon-free energy future by 2050.	

5.E.3(ii)	<b>Efforts taken to meet the objective and standards</b>
Between 2006 and 2019, Minnesota Power 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 percent of its projected 2025 retail and wholesale electric sales. With the proposed 200 MW of new wind and 200 MW of new solar in the 2021 IRP, the renewable portion of Minnesota Power’s retail energy supply increases to 70% percent by the end of 2030. The Company has exceeded current compliance with the RES and is well positioned to comply with the standard for 2025 and beyond.	

5.E.3(iii)	<b>Obstacles encountered or anticipated in meeting the objective or standards</b>
Minnesota Power is committed to meeting Minnesota’s RES and SES requirements. There are obstacles encountered with most plans, and the key is to search for potential solutions to these obstacles. Obstacles and potential solutions encountered in the planning process include:	
Hydro	
Minnesota Power knows of no new large hydro project sites in Minnesota. Even if sites existed, hydro development is realistically limited to expansions at existing impoundments due to anticipated resistance to the construction of new dams. There is obtainable and expandable hydro in the Province of Manitoba, but current Minnesota law does not allow renewable generation from hydro units of 100 MW or larger to apply towards Minnesota’s RES. Minnesota Power continues to evaluate innovative hydro generation development options and determine feasibility for these projects.	
Biomass	
The key driver to developing new competitively priced biomass generation is having a sufficient supply of reasonably priced fuel to support the expenditure of the large scale capital that is required to build facilities. The following considerations are important in determining accessibility to reasonably priced fuel now and in the future:	
<ul style="list-style-type: none"><li>• balanced forestry practices that maximize the production of biomass on a sustainable basis while maintaining the appropriate levels of diversity in the region’s forests,<ul style="list-style-type: none"><li>• a healthy fiber industry that creates the demand for round wood,</li><li>• a low cost supply of mill and forest residues for energy production,<ul style="list-style-type: none"><li>• a healthy logging industry, and</li></ul></li><li>• the potential expansion of the bioenergy industry.</li></ul></li></ul>	
Minnesota Power’s biomass generation efforts are focused on existing Minnesota Power-owned sites and customer sites in order to leverage existing infrastructure to minimize capital expenditures and assure projects that are competitively priced with other renewable generation alternatives.	

Wind				
<p>Wind development continues to occur primarily in areas with the best regional wind resources: southwestern Minnesota as well as North and South Dakota. Due to transmission issues related to getting wind out of these wind rich areas, there are also wind projects being developed in lower wind regimes because they are located closer to load. Over the past few years, significant improvements in wind turbine technology (larger rotors and improved controls) and wind resource assessment (better siting and turbine layout) have enabled Minnesota Power’s expansion of wind and Minnesota Power continues to evaluate it as a resource in the future.</p> <p>Minnesota Power’s commitment to identifying potential sites in or near its service territory has resulted in several locations indicating good wind resources and acceptable site constructability. Concerns regarding adequate transmission and reasonable interconnection costs continue to be a challenge for additional wind development in the region. Minnesota Power has a history of executing unique solutions for minimizing interconnection costs for new wind projects. For example, customer’s benefit from transmission access to North Dakota wind resources through the purchase of the existing DC Line that runs between the Square Butte substation near Center, N.D. and Minnesota Power’s Arrowhead substation near Duluth, Minn. Minnesota Power continually explores unique opportunities for wind projects that minimize the cost impact from obstacles such as high interconnection costs.</p> <p>An emerging issue with wind generation is the increase in congestion and loss cost in MISO energy prices between generation 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. This change in congestion is symptomatic of the power supply transition and demonstrates the need for upgrades to the transmission system to support further power supply decarbonization. Furthermore, it is increasing the cost of adding renewables to the system, especially new renewables in the wind rich areas where renewable buildout has been occurring for several years and transmission expansion has not kept pace. Minnesota Power continues to monitor the situation and is considering changes to its renewable procurement process given these changes in congestion and loss process.</p> <p>Under current rules, the federal Production Tax Credit (PTC) for wind generation is phasing out. Wind projects that begin construction after 2021 or are placed in service after 2025 do not qualify for PTCs. Without PTCs, the cost to customers for adding new wind generation will be higher.</p>				

5.E.3(iv)	Potential solutions to the obstacles
	See above section Obstacles encountered or anticipated in meeting the objective or standards

5.G.	List any renewable generation facilities expected to become operational during the upcoming year				
	Facility Name	Type	Capacity (MW)	MISO Capacity Accreditation	Expected Comm'l Operation Date
	Laskin Energy Park	Solar	9.6 MW	4.8 MW	End of 2022
	Sylvan Solar Project	Solar	10 MW	5 MW	End of 2022
	Jean Duluth Solar Project	Solar	1.6 MW	0.8 MW	End of 2022

5.K.	Identify efforts taken to adequately protect against undesirable economic impacts on ratepayers, including, but not limited to keeping customer's bills and the utility's rates as low as practicable, given regulatory and other constraints.
	Minnesota Power has taken significant steps since 2005 to develop and implement a renewable plan that incorporates substantial cost effective wind energy into its supply mix and maximizes other existing renewable resources. Current and planned projects, in addition to a sufficient bank of RECs, will enable Minnesota Power to meet the RES incremental percentage requirements, while being afforded the necessary time to evaluate market conditions and advancements in renewable energy technology. With a significant amount of wind energy in its energy mix, Minnesota Power is continually evaluating other renewable energy resources such as biomass, solar, and energy storage.

SES Utilites Only	
Ongoing efforts to meet SES objective and a brief summary of project mix for SES compliance.	
Minnesota Power currently has three new solar projects underway that will result in approximately 20 MW of new solar energy.	

- 1) The Laskin Energy Park near Hoyt Lakes, Minnesota, will generate 9.6 MW of solar energy. For this project, all equipment contracts have been executed, clearing and grubbing are currently taking place on the site, and construction of piles and racking will start in the summer of 2022.
- 2) The Sylvan Solar Project near Minnesota Power's Sylvan Hydro Station, west of Brainerd, Minnesota, will generate 10 MW of solar energy. For this project, all equipment contracts have been executed, the site has been cleared and grubbed, site grading is currently underway, and construction of piles and racking will start in the summer of 2022.
- 3) The Jean Duluth Solar project, located in the city of Duluth, will generate 1.6 MW of solar energy. For this project, all equipment contracts have been executed, the site has been cleared and graded, fencing installation is currently taking place, and construction of piles and racking will start in the summer of 2022.
- When completed, our solar energy portfolio will grow to about 30 megawatts, including the 10-megawatt installation we built at Camp Ripley, the Minnesota National Guard base near Little Falls. The projects will help Minnesota Power meet the state of Minnesota's Solar Energy Standard (SES) more quickly. Minnesota Power also operates a community solar garden with a 40-kilowatt array in Duluth and a 1-megawatt array in Wrenshall, Minnesota, and continues to explore community solar options.

**Discussion on efforts to reach the 2030 goal that 10% of MN retail sales be generated by solar energy (Atch A, 14)**

Minnesota Power conducted a thorough Capacity Expansion Analysis to determine energy supply mix, energy need, carbon reduction, and annual customer cost impacts of different solar mix futures. As explained in Minnesota Power's 2021 Integrated Resource Plan (IRP), 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. This option will leverage existing interconnections and reinvest in host communities impacted by the planned BEC Unit 3 retirement in 2029.

**SES - A summary of progress toward compliance with the ten percent carve out for systems under 40 kW.**

Minnesota Power continues to meet the Small Scale Carve-Out 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 Minnesota Power customers to participate in solar programs regardless of whether they have the ability to install solar at their own site.

Renewable Energy Certificate Retirement Report for  
RENEWABLE ENERGY STANDARDS and GREEN PRICING PROGRAMS

Minnesota Public Utilities Commission: Docket No. E999/PR-22-12 and Docket No. E999/M-22-85	<b>Attachment 6</b>
Minnesota Department of Commerce: Docket No. E999/PR-02-1240	Reporting Period: <b>January 1, 2021 - December 31, 2021</b>
<b>M-RETS RECs Bought and Sold</b>	
Ordering pt. 4C requires reporting REC sales & purchases for the 2 preceding calendar years	

REC Purchases Total	0
REC Sales Total	0

Enter REC data for the 2 preceding calendar years.				
Wholesale REC Purchases	Wholesale REC Sales	PRICE	Type of purchase	NOTES

STATE OF MINNESOTA     )  
                                      ) ss  
COUNTY OF ST. LOUIS    )

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AFFIDAVIT OF SERVICE VIA  
ELECTRONIC FILING

Tiana Heger of the City of Duluth, County of St. Louis, State of Minnesota, says that on the 1<sup>st</sup> day of June, 2022, she served Minnesota Power's Annual RES-SES Report in **Docket Nos. E-999/PR-22-12 and E-999/PR-02-1240** on the Minnesota Public Utilities Commission and the Energy Resources Division of the Minnesota Department of Commerce via electronic filing. The persons on E-Docket's Official Service List for this Docket were served as requested.



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Tiana Heger