AGENDA
PUBLIC UTILITIES COMMISSION
August 6, 2025
3:00 P.M.

A. Call to Order

B. Roll Call

C. Approve Agenda & Minutes

D. PFAS Grant Agreement

E. Solar Interconnection Process and Policy

F. ZEF Fast Charger Proposal

G. Other Items

H. Adjourn

Public Utilities Commission Meeting
Minutes
May 7, 2025

The meeting was called to order by Commissioner Schulte at 3:00 p.m.

Members present: Craig Schulte and Charles Hathaway
Absent:
Staff Present: Mike Roth, Scott Warner, and Patrick Knight

Motion By Hathaway to approve the Quality Flow proposal of $17,680 for one week of programming and travel/hotel to update and optimize the Water Treatment Plant PLC and control systems. Updates include correcting pump sequencing, addressing alarm issues, integrating new equipment, and enabling remote programming support. Approved Unanimously

Water/Wastewater Superintendent Scott Warner updated the commission on recent MPCA concerns about permit limit exceedances at the wastewater plant, which came to light during the permitting process for the Heights development extension. Warner explained that exceedances in the past year were traced to excess sludge accumulation in the clarifiers, caused by manual pump timing settings. He has implemented an updated operational table for staff to prevent future issues and noted that recent exceedances have been minimal and unrelated to new system connections.

The meeting adjourned at 3:42 p.m.

City of Grand Marais

MEMO

TO: Chair Schulte
Public Utilities Commissioners

FROM: Scott Warner, Water/Wastewater Superintendent

DATE: July 31, 2025

SUBJECT: PFAS Grant Agreement

The MPCA has awarded the city of Grand Marais a grant to conduct testing for PFAS, also known as “forever chemicals”. The grant amount is $6,000, which will allow us to collect and analyze 12-14 samples.

We plan to sample the following:

- Leachate from Minnesota Power & Light as hauled by G & G
- Leachate from Cliffs as hauled by G & G.
- Septage as hauled by G & G
- Gray water as hauled by G & G.
- Grand Marais wastewater not influenced by any of the above

I recommend we accept the MPCA grant of $6,000.

MINNESOTA POLLUTION CONTROL AGENCY

Grant Agreement
State of Minnesota

SWIFT Number: 270503
Agency Interest ID: 100710
Activity ID: PRO20250001

This Grant Agreement is between the state of Minnesota, acting through its Commissioner of the **Minnesota Pollution Control Agency**, 520 Lafayette Road North, St. Paul, MN 55155-4194 (“MPCA” or “State”), and **City of Grand Marais**, 15 N Broadway, PO Box 600, Grand Marais, MN 55604 ("Grantee" or “City”).

Recitals

1. Under Minn. Stat. § 116.03, subd. 2, the State is empowered to enter into this grant.
2. The City is authorized to enter into this grant under Minn. Stat. § 412.211.
3. The State and City are in need of the **Perfluoroalkyl Substances (PFAS) Source Identification and Reduction** (project).
4. Grantee will comply with required grants management policies and procedures set forth through Minn. Stat. § 16B.97, subd. 4(a)(1).
5. The Grantee represents that it is duly qualified and agrees to perform all services described in this grant agreement to the satisfaction of the State. Pursuant to Minn. Stat. § 16B.98, subd. 1, the Grantee agrees to minimize administrative costs as a condition of this grant.

Grant Agreement

1. Term of Grant Agreement

1.1 **Effective date: June 24, 2025**, Per Minn. Stat.§16B.98, Subd. 5, the Grantee must not begin work until this grant contract is fully executed and the State's Authorized Representative has notified the Grantee that work may commence. Per Minn.Stat.§16B.98 Subd. 7, no payments will be made to the Grantee until this grant contract is fully executed.

1.2 **Expiration date: December 18, 2026**, or until all obligations have been satisfactorily fulfilled, whichever occurs first.

1.3 **Survival of terms.** The following clauses survive the expiration or cancellation of this grant agreement: Indemnification; State Audits; Government Data Practices and Intellectual Property; Publicity and Endorsement; Governing Law, Jurisdiction, and Venue; and Data Disclosure.

2. Grantee’s Duties

The City will take the following steps to identify and mitigate potential PFAS polluters:

- Collect and ship up to four wastewater samples of the Significant Industry User (SIU), G&G Septic.
- Collect and ship up to five wastewater samples in the sewershed not affected by G&G Septic discharge.
- Collect and ship four biosolids samples.

The City will meet the reporting requirements as outlined in Clause 4.5 below.

3. Time

The Grantee must comply with all the time requirements described in this grant agreement. In the performance of this grant agreement, time is of the essence.

4. Consideration and Payment

4.1 Consideration. The State will pay for all services performed by the Grantee under this grant agreement as follows:

(a) Compensation. The MPCA will reimburse the Grantee according to approved invoices relating to the duties listed in Clause 2. The MPCA will review the expense documentation submitted by the Grantee for the costs and will reimburse the Grantee for reasonable and necessary expenditures, as determined by the MPCA. Grantee certifies they will provide no less than 10% (ten percent) of the total grant amount as cash match or in-kind services

(b) Travel expenses. Reimbursement for travel and subsistence expenses actually and necessarily incurred by the Grantee as a result of this grant agreement will be provided to meet the duties listed in Clause 2; provided that the Grantee will be reimbursed for travel and subsistence expenses in the same manner and in no greater amount than provided in the current "Commissioner's Plan" promulgated by the Commissioner of Minnesota Management and Budget (MMB). The Grantee will not be reimbursed for travel and subsistence expenses incurred outside Minnesota unless it has received the State's prior written approval for out of state travel. Minnesota will be considered the home state for determining whether travel is out of state.

(c) Total obligation. The total obligation of the State for all compensation and reimbursements to the Grantee under this grant agreement will not exceed **$6,000.00 (Six Thousand Dollars and Zero Cents).**

4.2 Payment

(a) Invoices. The State will promptly pay the Grantee after the Grantee presents an itemized invoice for the services actually performed and the State's Authorized Representative accepts the invoiced services. Invoices must be submitted timely and according to the following schedule:

Invoices for expenses incurred to date may be submitted as frequently as monthly. The first invoice is required no later than 6 (six) months or midway through the project, whichever comes first. Email updates about the status of the project are required to be provided to the State's Authorized Representative whenever an invoice is submitted to MPCA Accounts Payable. The State's Authorized Representative will not approve an invoice through the state system without this project update. A final invoice for payment of remaining grant funds expended by the project is required to be submitted at the completion of the project after a final report has been submitted to the State's Authorized Representative. Payment of the final 10% (ten percent) of grant funds will be held back until the project is completed satisfactorily and all deliverables have been submitted and approved.

Invoices must be emailed to mpca.ap@state.mn.us, and contain the following information:

- Name of Grantee
- Grantee project manager
- Invoice number
- Invoice date
- Paid in full receipts
- MPCA project manager
- SWIFT Number
- Invoicing period (actual working period)
- Prevailing Wage documentation

If there is a problem with submitting an invoice electronically, please contact the Accounts Payable Unit at 651-757-2491.

The Grantee shall submit an invoice for the final payment upon submittal of the final progress and financial report within 15 (fifteen) days of the original or amended end date of this grant agreement. The State reserves the right to review submitted invoices after 15 (fifteen) days and make a determination as to payment.

(b) Unexpended Funds. The Grantee must promptly return to the State any unexpended funds that have not been accounted for annually in a financial report to the State due at grant closeout.

4.3 Contracting and Bidding Requirements

Per Minn. Stat. §471.345, grantees that are municipalities as defined in Subd. 1 must follow the law.

(a) For projects that include construction work and have a total project cost of $25,000 or more, prevailing wage rules apply per Minn. Stat. §§177.41 through 177.44. These rules require that the wages of laborers and workers should be comparable to wages paid for similar work in the community as a whole.

(b) The grantee must not contract with vendors who are suspended or debarred in MN: https://mn.gov/admin/osp/government/suspended-debarred/index2.jsp.

4.4 Reporting Requirements

If the project is not completed within one year from effective date, annual progress reports are due to the MPCA each year based on the effective date of this agreement. Grantee is required to submit a final report that includes, but is not limited to, a detailed summary of activities completed, estimated and actual concentrations of PFAS identified and/or removed, and overall results of the project once completed. The final report is due 90 days after completion of the activities, or by the expiration date of this agreement, whichever occurs first. Final 10% (ten percent) reimbursement of the grant funding will be held until the report is received by the MPCA.

5. Conditions of Payment

All services provided by the Grantee under this grant agreement must be performed to the State's satisfaction, as determined at the sole discretion of the State's Authorized Representative/MPCA's Project Manager and in accordance with all applicable federal, state, and local laws, ordinances, rules, and regulations. The Grantee will not receive payment for work found by the State to be unsatisfactory or performed in violation of federal, state, or local law.

6. Authorized Representative

The State's Authorized Representative/Project Manager is **Austin Dehn,** 15 N Broadway, PO Box 600, Grand Marais, MN 55604, 218-302-6683, austin.dehn@state.mn.us, or their successor, and has the authority to monitor the Grantee's performance and to accept the services provided under this agreement. If the services are satisfactory, the MPCA's Project Manager will certify acceptance of each invoice submitted for payment.

The Grantee's Authorized Representative is **Scott Warner,** PO Box 600, Grand Marais, MN 55604, 218-387-1160, water@grandmarais.city, or their successor. If the Grantee's Authorized Representative changes at any time during this grant agreement, the Grantee must immediately notify the State.

7. Assignment, Amendments, Change Orders, Waiver, and Grant Agreement Complete

7.1 Assignment. The Grantee shall neither assign nor transfer any rights or obligations under this grant agreement without the prior written consent of the State, approved by the same parties who executed and approved this grant agreement, or their successors in office.

7.2 Amendments. Any amendments to this grant agreement must be in writing and will not be effective until it has been executed and approved by the same parties who executed and approved the original grant agreement, or their successors in office.

7.3 Change orders. If the State's Project Manager or the Grantee's Authorized Representative identifies a change needed in the workplan and/or budget, either party may initiate a Change Order using the Change Order Form provided by the MPCA. Change Orders may not delay or jeopardize the success of the Project, alter the overall scope of the Project, increase or decrease the overall amount of the Contract/Agreement, or cause an extension of the term of this Agreement. Major changes require an Amendment rather than a Change Order.

The Change Order Form must be approved and signed by the State's Project Manager and the Grantee's Authorized Representative **in advance of doing the work**. Documented changes will then become an integral and enforceable part of the Agreement. The MPCA has the sole discretion on the determination of whether a requested change is a Change Order or an Amendment. The state reserves the right to refuse any Change Order requests.

7.4 Waiver. If the State fails to enforce any provision of this grant agreement, that failure does not waive the provision or the State's right to enforce it.

7.5 Grant agreement complete. This grant agreement contains all negotiations and agreements between the State and the Grantee. No other understanding regarding this grant agreement, whether written or oral, may be used to bind either party.

8. Indemnification

The Grantee must indemnify, save, and hold the State, its agents, and employees harmless from any claims or causes of action, including attorney's fees incurred by the State, arising from the performance of this grant agreement by the Grantee or the Grantee's agents or employees. This clause will not be construed to bar any legal remedies the Grantee may have for the State's failure to fulfill its obligations under this grant agreement.

9. State Audits

Under Minn. Stat. § 16B.98, subd.8, the Grantee's books, records, documents, and accounting procedures and practices of the Grantee or other party relevant to this grant agreement or transaction are subject to examination by the State and/or the State Auditor or Legislative Auditor, as appropriate, for a minimum of six years from the end of this grant agreement, receipt and approval of all final reports, or the required period of time to satisfy all state and program retention requirements, whichever is later.

10. Government Data Practices and Intellectual Property

10.1 Government data practices. The Grantee and State must comply with the Minnesota Government Data Practices Act, Minn. Stat. Ch. 13, as it applies to all data provided by the State under this grant agreement, and as it applies to all data created, collected, received, stored, used, maintained, or disseminated by the Grantee under this grant agreement. The civil remedies of Minn. Stat. § 13.08 apply to the release of the data referred to in this clause by either the Grantee or the State. If the Grantee receives a request to release the data referred to in this Clause, the Grantee must immediately notify the State. The State will give the Grantee instructions concerning the release of the data to the requesting party before the data is released. The Grantee's response to the request shall comply with applicable law.

10.2 Intellectual property rights

(a) Intellectual property rights. The State owns all rights, title and interest in all of the intellectual property rights, including copyrights, patents, trade secrets, trademarks, and service marks in the Works and Documents created and paid for under this grant agreement. Works means all inventions, improvements, discoveries (whether or not patentable), databases, computer programs, reports, notes, studies, photographs, negatives, designs, drawings specifications, materials, tapes, and disks conceived, reduced to practice, created or originated by the Grantee, its employees, agents, and subcontractors, either individually or jointly with others in the performance of this grant agreement. Works includes "Documents." Documents are the originals of any databases, computer programs, reports, notes studies, photographs, negatives, designs, drawings, specifications, materials, tapes, disks, or other materials, whether in tangible or electronic forms, prepared by the Grantee, its employees, agents, or subcontractors, in the performance of this grant agreement. The Documents shall be the exclusive property of the State and all such Documents must be immediately returned to the State by the Grantee, at the Grantee's expense, upon the written request of the State, or upon completion, termination, or cancellation of this grant agreement. To the extent possible, those Works eligible for copyright protection under the United States' Copyright Act will be deemed to be "works made for hire." The Grantee assigns all right, title, and interest it may have in the Works and the Documents to the State. The Grantee must, at

the request of the State, execute all papers and perform all other acts necessary to transfer or record the State's ownership interest in the Works and Documents.

(b) Obligations.

(1) **Notification**. Whenever any invention, improvement, or discovery (whether or not patentable) is made or conceived for the first time or actually or constructively reduced to practice by the Grantee, including its employees and subcontractors, in the performance of this grant agreement, the Grantee shall immediately give the State's Authorized Representative written notice thereof, and must promptly furnish the Authorized Representative with complete information and/or disclosure therein.

(2) **Representation**. The Grantee must perform all acts, and take all steps necessary to ensure that all intellectual property rights in the Works and Documents are the sole property of the State, and that neither Grantee nor its employees, agents, or subcontractors retain any interest in and to the Works and Documents. The Grantee represents and warrants that the Works and Documents do not and will not infringe upon any intellectual property rights of other persons or entities. Notwithstanding Clause Liability, the Grantee shall indemnify, defend, to the extent permitted by the Attorney General, and hold harmless the State, at the Grantee's expense, from any action or claim brought against the State to the extent that it is based on a claim that all or part of the Works or Documents infringe upon the intellectual property rights of others. The Grantee will be responsible for payment of any and all such claims, demands, obligations, liabilities, costs, and damages, including, but not limited to, attorney fees. If such a claim or action arises or in Grantee's or the State's opinion is likely to arise, the Grantee must, at the State's discretion, either procure for the State the right or license to use the intellectual property rights at issue or replace or modify the allegedly infringing Works or Documents as necessary and appropriate to obviate the infringement claim. This remedy of the State will be in addition to and not exclusive of other remedies provided by law.

(3) **License.** The State hereby grants a limited, no-fee, noncommercial license to the Grantee to enable the Grantee's employees engaged in research and scholarly pursuits to make, have made, reproduce, modify, distribute, perform, and otherwise use the Works, including Documents, for research activities or to publish in scholarly or professional journals, provided that any existing or future intellectual property rights in the Works or Documents (including patents, licenses, trade or service marks, trade secrets, or copyrights) are not prejudiced or infringed upon, that the Minnesota Data Practices Act is complied with, and that individual rights to privacy are not violated. The Grantee shall indemnify and hold harmless the State for any claim or action based on the Grantee's use of the Works or Documents under the provisions of Clause 10.2(b)(2). Said license is subject to the State's publicity and acknowledgement requirements set forth in this grant agreement. The Grantee may reproduce and retain a copy of the Documents for research and academic use. The Grantee is responsible for security of the Grantee's copy of the Documents. A copy of any articles, materials or documents produced by the Grantee's employees, in any form, using or derived from the subject matter of this license, shall be promptly delivered without cost to the State.

11. Workers' Compensation

The Grantee certifies that it is in compliance with Minn. Stat. § 176.181, subd. 2, pertaining to workers' compensation insurance coverage. The Grantee's employees and agents will not be considered State employees. Any claims that may arise under the Minnesota Workers' Compensation Act on behalf of these employees and any claims made by any third party as a consequence of any act or omission on the part of these employees are in no way the State's obligation or responsibility.

12. Governing Law, Jurisdiction, and Venue

Minnesota law, without regard to its choice-of-law provisions, governs this grant agreement. Venue for all legal proceedings out of this grant agreement, or its breach, must be in the appropriate state or federal court with competent jurisdiction in Ramsey County, Minnesota.

13. Termination

13.1 Termination by the State.

(a) Without Cause. The State may immediately terminate this grant agreement without cause, upon 30-days' written notice to the Grantee. Upon termination, the Grantee will be entitled to payment, determined on a pro rata basis, for services satisfactorily performed.

(b) With Cause. The State may immediately terminate this grant agreement if the State finds that there has been a failure to comply with the provisions of this grant agreement, that reasonable progress has not been made or that the purposes for which the funds were granted have not been or will not be fulfilled. The State may take action to protect the interests of the state of Minnesota, including the refusal to disburse additional funds and requiring the return of all or part of the funds already disbursed.

13.2 Termination by The Commissioner of Administration. The Commissioner of Administration may immediately and unilaterally cancel this grant contract agreement if further performance under the agreement would not serve agency purposes or is not in the best interest of the State.

13.3 Termination for insufficient funding. The State may immediately terminate this grant agreement if:

(a) It does not obtain funding from the Minnesota Legislature.

(b) Or, if funding cannot be continued at a level sufficient to allow for the payment of the services covered here. Termination must be by written or fax notice to the Grantee. The State is not obligated to pay for any services that are provided after notice and effective date of termination. However, the Grantee will be entitled to payment, determined on a pro rata basis, for services satisfactorily performed to the extent that funds are available. The State will not be assessed any penalty if the agreement is terminated because of the decision of the Minnesota Legislature, or other funding source, not to appropriate funds. The State must provide the Grantee notice of the lack of funding within a reasonable time of the State's receiving that notice.

14. Data Disclosure

Under Minn. Stat. § 270C.65, subd. 3, and other applicable law, the Grantee consents to disclosure of its social security number, federal employer tax identification number, and/or Minnesota tax identification number, already provided to the State, to federal and state tax agencies and state personnel involved in the payment of state obligations. These identification numbers may be used in the enforcement of federal and state tax laws which could result in action requiring the Grantee to file state tax returns and pay delinquent state tax liabilities, if any.

15. Payment to subcontractors (if applicable)

As required by Minn. Stat. § 16A.1245, the prime contractor must pay all subcontractors, less any retainage, within 10 calendar days of the prime contractor's receipt of payment from the State for undisputed services provided by the subcontractor(s) and must pay interest at the rate of one and one-half percent per month or any part of a month to the subcontractor(s) on any undisputed amount not paid on time to the subcontractor(s).

16. Publicity and Endorsement

16.1 Publicity. Any publicity regarding the subject matter of this grant contract must identify the State as the sponsoring agency and must not be released without prior written approval from the State's Authorized Representative. For purposes of this provision, publicity includes notices, informational pamphlets, press releases, research, reports, signs, and similar public notices prepared by or for the Grantee individually or jointly with others, or any subcontractors, with respect to the program, publications, or services provided resulting from this grant contract. All projects primarily funded by state grant appropriations must publicly credit the State of Minnesota, including on the grantee's website when practicable.

16.2 Endorsement. The Grantee must not claim that the State endorses its products or services.

Signatures

Title	Name	Signature	Date
Encumbrance Verification	Kohn,Amelia Marie	Signed by: Kohn,Amelia Marie EC1E6F24152A4EF...	June 24, 2025
	Scott Warner		

City of Grand Marais

MEMO

TO: Chair Schulte
Public Utility Commission Members
FROM: Shane Steele, Sustainability Coordinator
DATE: May 29th, 2025
SUBJECT: Solar Interconnection Process and Policy

The purpose of this memo is to inform Public Utility Commission members about the utility's current policy for managing customer-owned distributed energy resources (such as solar and battery storage), and to present scenarios that may warrant future policy consideration.

Solar Interconnection Overview
As solar adoption in Grand Marais has grown, the Utility has established a formal application process to assess customer-owned solar installations before they are interconnected to the city's electric distribution system. The city contracts with Star Energy Services for policy guidance and engineering screenings. The utility uses Star's NOVA Power Portal, an online application management tool, to streamline communication between the solar customer, the installer, the utility, and Star's engineers. This process ensures that all solar systems meet state and utility technical, safety, and operational standards. It also protects the integrity of the local grid and provides a consistent framework for integrating distributed generation in a way that is fair to all customers.

Cogeneration Rate Structure
Most solar facilities connected to the utility's grid are rooftop residential or commercial systems under 40 kW. Per Minnesota law, solar facilities under 40 kW are compensated through net metering. Electricity generated by the solar system and used on the customer's property offsets their retail energy consumption at the full retail rate. Any electricity exported to the grid (i.e., when generation exceeds on-site usage) is credited to the customer at the full retail rate. The 2025 retail rate is $0.114/kWh.

Systems over 40 kW are not eligible for net metering and do not receive the retail rate for exported electricity. Instead, energy consumed on-site offsets retail consumption but any energy exported to the grid is purchased at the avoided cost rate, which is determined by the utility's wholesale power provider, SMMPA. The 2025 avoided cost rate is $0.033/kWh.

The Interconnection Process

1. **Pre-Application**
   Interested customers begin by consulting with a solar installer and reviewing GMPUC's interconnection resources, which are hosted on the NOVA Power Portal. Additionally, the applicant files for a land use permit with the city.

2. **Application Submission**
   Applicants submit a complete interconnection application through the portal. Typically the installer submits the application on behalf of the customer. Required materials include: detailed system specifications (location, inverter type and spec, system size, capacity, cost), one-line electrical diagram, site layout, proof of insurance, and $100 application fee.

3. **Infrastructure Site Review**
   The utility conducts a survey of the electric infrastructure at the site where the solar system will be installed and records the information on NOVA for Star to use in their engineering review.

4. **Engineering Review**
   Star Energy Services conducts a technical screening and engineering review which includes: evaluation of anti-islanding protection, transformer sizing and voltage regulation impacts, total circuit hosting capacity, and suggests needed system upgrades or mitigation measures.

5. **Contract and Utility Approval**
   Upon passing the engineering review, the applicant enters into a standard interconnection agreement- Uniform Contract for Cogeneration and Small Power Production. An interconnection fee of $500 is paid via NOVA and GMPUC provides approval for installation.

6. **System Installation and Electrical Inspection**
   The customer's installer constructs the solar system in accordance with the approved design. The new system must pass inspection by the state electrical inspector before moving on to the next step.

7. **Commissioning and Testing**
   Utility staff perform an on-site inspection to verify correct installation, code compliance, and functioning of disconnect and safety systems. A production meter is installed by the utility to monitor the net generation of the facility.

8. **Authorization to Operate**
   After successful testing, GMPUC issues formal approval for the system to generate in parallel with the grid.

Solar Adoption in Grand Marais
As of May 2025, there are 42 solar facilities interconnected with the utility. These range in size from 1.7kW to 39.7kW with most being between 5-10kW. The total rating for all interconnected solar facilities adds up to 402.65kW, with another 55.2kW currently in queue. In 2020, the year the utility began using the process outlined above, there was only 1 application for interconnection. In 2024 alone 12 applications completed the process. There is one customer who has linked battery storage to their solar installation. The city itself owns and operates 81kW of solar in two locations, at the public works garage and at the Gunflint Hills near the municipal golf course.

Distributed Generation and the Grand Marais Climate Action Plan
The Grand Marais Climate Action Plan sets an ambitious goal for the city to drastically reduce its carbon emissions. This is to be accomplished by transitioning away from fossil fuels and increasing the use of renewable energy. The city has relied on actions taken by SMMPA to decarbonize the electric grid mix. Through their SMMPA 2.0 initiative the agency has committed to reducing its carbon emissions by 90% by 2030 compared to 2005 levels. This commitment involves diversifying its energy generation portfolio by incorporating significant amounts of wind and solar energy, expanding natural gas generation, and shutting down its primary source of generating unit, the Sherco 3 Coal Plant.

The alignment of SMMPA's power sourcing with the utility's decarbonization goals directly supports the city's broader climate objectives. While utility-scale renewable energy remains the most cost-effective path to reducing emissions, distributed generation still plays an important complementary role. Customer-owned solar systems serve as a highly visible symbol of the community's commitment to sustainability and offer residents a meaningful, hands-on way to participate in the city's clean energy transition.

However, a strategic balancing must be struck between investments in local distributed generation projects and larger-scale renewable energy initiatives through SMMPA. The growth of solar adoption in Grand Marais presents policy challenges, particularly for a small utility with limited resources. While GMPUC supports its customers' initiative to produce their own power, the utility also must address the concerns that affect the entire public utility. Solar customers offset a significant portion of their retail energy costs and yet still rely heavily on the utility to provide infrastructure, grid maintenance and power when the sun is not shining. This leads to cost shifting that is borne by non-solar customers. Over time, this creates a subsidy for solar customers paid by non-solar customers that will eventually reduce the utility's revenue stability, lead to higher utility rates, and strain efforts to equitably fund grid investments that benefit all customers.

As GMPUC continues to support SMMPA's utility-scale renewable transition, local policy decisions concerning distributed generation must:

- Balance the desire to accommodate customer-owned solar with the need to protect rate equity.
- Reliably maintain operational integrity of the distribution system.
- Affordably advance decarbonization through the most cost-effective means.

Policy Scenarios

With the growth of solar in Grand Marais, the utility is encountering an increasing number of complex scenarios that require clear policy direction to ensure consistent and sustainable integration of distributed energy resources into the local grid.

- **Aggregate Cap Per Customer**: The current cogeneration rules define a customer as "the person named on the utility bill for the premises". If a customer owns multiple properties, the total amount of solar they can interconnect to the utility and export power at the net metering rate is 40kW.

- **Cross-Metering**: A customer who owns multiple properties, including one with an interconnected solar facility, can apply the generation only to the local load. The solar energy is not transferable to other loads even if they are owned by the same customer. Some utilities make exceptions in the case of exceptionally large customers who operate campuses with many large buildings and large loads.

City of Grand Marais

MEMO

TO: Chair Schulte
Public Utility Commission Members
FROM: Shane Steele, Sustainability Coordinator
DATE: July 30th, 2025
SUBJECT: ZEF Fast Charger Proposal- Zero Cost

Background
The city's Tritium DC fast charger has been unreliable since June 2024 due to a faulty internal clock, causing charging sessions to prematurely time out or fail to initiate. Despite over a year of troubleshooting with ZEF, including component replacements, the issue remains unresolved. The charger has been marked as out of order since May.

In May, ZEF submitted a proposal to the SMMPA board to replace member cities' DC chargers with new 75 kW Tritium units at a local cost of $18,000 each. The SMMPA board took no action on the proposal.

New Proposal
ZEF has now offered to replace our charger at no cost with a 50 kW Kempower charger, using MPCA grant funding. This includes a 5-year service agreement. To qualify for funding, installation must be completed by December 31, 2025.

Kempower C501 DCFC

- 50 kW modular DC fast charger, expandable with up to 3 additional power modules (50kW for $18,107 each)
- Can charge two vehicles simultaneously
- Known for high reliability and easy serviceability

The unit would be installed at City Hall and the existing infrastructure is sufficient to support it.

Pros

- Zero cost to GMPUC
- More reliable equipment with dual fast charging capability
- Scalable for future growth

Cons

- ZEF remains the backend operator (billing & data)
- ZEF's customer service is slow and inconsistent
- Kempower card readers have known issues

KEMPOWER

Technical Datasheet

Kempower Station Charger C500

Kempower Station Charger is the all-in-one DC charging solution with dynamic power management.

Station Charger is a powerful all-in-one solution for electric vehicle fast charging sites. Utilizing Kempower's user-friendly cable system, Station Charger can have one or two DC charging outputs with CCS1, NACS and CHAdeMO as options.

By utilizing individual 25 kW power channels in the installed power modules, Station Charger's unique dynamic power management harnesses the full potential of on-demand power routing. This enables significant cost savings in the installed charging hardware and grid connection while optimizing the charging experience.

A double cabinet Station Charger can have up to eight 50 kW power modules, providing a maximum charging power of up to 400 kW.

With dynamic power management, the available charging power of all power modules is automatically distributed to all connected charging outputs according to the requests of the electric vehicles.

Power range

Up to 400 kW

Adaptive voltage range

150–920 V

1	Lifting lugs
2	WiFi/cellular/GPS antenna
3	Air outlet
4	Air inlet
5	Charging cable support system
6	Power module (1–4 pcs/cabinet)
7	Charging status indication LEDs
8	7” touch screen display
9	RFID reader
10	Vehicle connectors
11	Power distribution module
12	Control module
13	Main switch
14	AC supply cable entry

Advanced cable support system for premium user experience

Scalability with add-on Power Modules

Reduced installation cost with all-in-one charging solution

On-screen QR code for following the charging status on your mobile phone

Lockable door for safety and easy access

Advanced charging control and customization with Kempower ChargEye

Product code interpretation

C501•P160•UN•7•ED•P•D2•L•C0

Kempower Station Charger C500 single cabinet • 200 kW charging power • CCS1 & NACS vehicle connectors • charging cable length 23 ft./7 m • nominal charging cable current 300 A & 250 A • Payter P68 payment terminal • up to 2 adaptive dynamic outputs • North American version • unbranded

Item	Code	Description
Product type	C501	Kempower Station Charger C500 single cabinet
	C502	Kempower Station Charger C500 double cabinet
Charging power at nominal output voltage[1]	P160	200 kW (4 modules)
	P320	400 kW (8 modules)
	N	When in front of the vehicle connector type, indicates that there is only one connector
Vehicle connector type	U	CCS1
	UU	2 x CCS1
	UD	CCS1 & CHAdeMO
	UN	CCS1 & NACS
Charging cable length	5	16.4 ft./5 m
	7	23 ft./7 m
Nominal charging cable current	B	125 A (CHAdeMO)
	C	200 A (CCS1)
	D	250 A (NACS)[2]
	E	300 A (CCS1)
User interface and payment	S	Standard user interface
	O	Payter Apollo: Contactless payment with online PIN entry and verification[3]
	P	Payter P68 payment terminal with contactless, chip reader, and magnetic stripe (no PIN pad)[4]
Power distribution modules	D2	Up to 2 adaptive dynamic outputs 150–920 VDC
Certification	L	North American version (ETL-approved product meeting UL and CSA requirements)
Branding options	C0	Unbranded: roof and base in black color, no stickers
	Cn	Branded: number (n) indicates branding, e.g. C8

[1] Standard operation. See Power performance table for details.
[2] Available as CCS1 300 A & NACS 250 A.
[3] When a credit card reader is needed in Washington State, use Payter P68 due to local regulations.
[4] Available in the US only.

Product codes

Product code	Vehicle connector	Max. charging current	Max. DC charging power at 400 VDC[1]	Max. DC charging power at 800 VDC[1]
C501•UU•x•C•L	2 x CCS1	2 x 200 A	2 x 80 kW	2 x 160 kW
C501•UU•x•E•L	2 x CCS1	2 x 300 A	2 x 120 kW	2 x 200 kW
C501•UD•x•CB•L	CCS1 & CHAdeMO	200 A & 125 A	80 kW & 50 kW	160 kW & 100 kW
C501•UD•x•EB•L	CCS1 & CHAdeMO	300 A & 125 A	120 kW & 50 kW	200 kW & 100 kW
C501•UN•x•ED•L	CCS1 & NACS	300 A & 250 A	120 kW & 100 kW	200 kW & 200 kW

Product code	Vehicle connector	Max. charging current	Max. DC charging power at 400 VDC[1]	Max. DC charging power at 800 VDC[1]
C502•UU•x•C•L	2 x CCS1	2 x 200 A	2 x 80 kW	2 x 160 kW
C502•UU•x•E•L	2 x CCS1	2 x 300 A	2 x 120 kW	2 x 240 kW
C502•UD•x•CB•L	CCS1 & CHAdeMO	200 A & 125 A	80 kW & 50 kW	160 kW & 100 kW
C502•UD•x•EB•L	CCS1 & CHAdeMO	300 A & 125 A	120 kW & 50 kW	240 kW & 100 kW
C502•UN•x•ED•L	CCS1 & NACS	300 A & 250 A	120 kW & 100 kW	240 kW & 200 kW

[1] Depends on the number of installed power modules.

***Note**: Depending on the required cable length, replace **x** in the product code with **5** or **7**, e.g. C502•UD•**5**•CB•L for a 16.4 ft./5 m cable.*

General electrical specifications

Input voltage	480 VAC ±6%
Network type	TN-S, TN-C, TN-C-S
Input frequency	50/60 Hz
Overvoltage category	III (IEC 60664-1)
Icc	35 kA
Power factor at full load	0.92
Output voltage	150...920 VDC
Efficiency at full load	94%
Idle power	20 VA
Standby power	C501: 50 W C502: 180 W

Environmental specifications

Operating temperature	-22…122 °F/-30…+50 °C
Current derating	Charging current decreases 1.5% for every 1.8 °F/1 °C rise in temperature above 104 °F/+40 °C
Maximum altitude without derating	6,562 ft./2000 m
Altitude derating	Charging current decreases 1.4% for every 328 ft./100 m rise above 6,562 ft./2000 m
Operational noise level	Wall side: < 57 dB at 3.3 ft./1 m distance Door side: < 62 dB at 3.3 ft./1 m distance
Storage temperature	-40…140 °F/-40…+60 °C
Ambient air humidity	< 95% relative humidity
Enclosure rating	Suitable for outdoor use

Connections and protocols

WiFi	2.4/5 GHz (802.11 b/g/n)
Cellular/GPS	LTE-FDD, LTE-TDD, WCDMA, GSM
Ethernet	RJ45, IEEE 802.3/802.3u
OCPP	1.6j/2.0.1
Connectivity	Kempower ChargEye solution
CCS1	SAE J1772/CCS, DIN 70121:2012, ISO 15118-1:2013, ISO 15118-2:2014
CHAdeMO	0.9/1.0
NACS	
Authentication methods	RFID: ISO 14443A, ISO 15693, ISO 14443B (STM SRI512) Customer backend via OCPP Payment terminal AutoCharge ISO 15118-2 Plug & Charge

Electrical protections

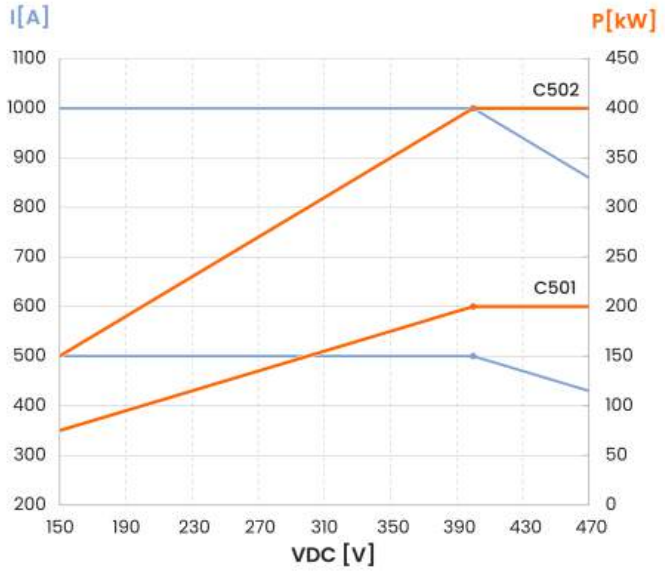
Over/undervoltage
Surge protection
Short circuit
Overload protection
Earth leakage current monitoring
Device overtemperature

Power performance

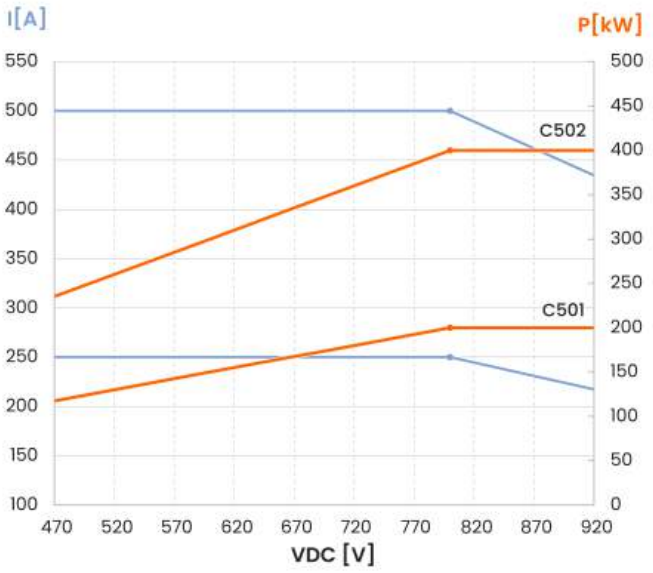
Product type	Number of power modules	Number of independent AC supply cables[1]	Standard operation			Continuous operation		
			Charging power	Input current per supply cable at 400 V	Input current per supply cable at 480 V	Charging power	Input current per supply cable at 400 V	Input current per supply cable at 480 V
C501	1	1	50 kW	91 A	76 A	40 kW	73 A	61 A
	2	1	100 kW	181 A	151 A	80 kW	145 A	121 A
	3	1	150 kW	272 A	227 A	120 kW	218 A	182 A
	4	1	200 kW	362 A	302 A	160 kW	290 A	242 A
C502	5	2	250 kW	91 A	76 A	200 kW	73 A	61 A
	6	2	300 kW	181 A	151 A	240 kW	145 A	121 A
	7	2	350 kW	272 A	227 A	280 kW	218 A	182 A
	8	2	400 kW	362 A	302 A	320 kW	290 A	242 A

[1] Each cabinet has a dedicated supply cable

Figure 1. Power curve – standard operation

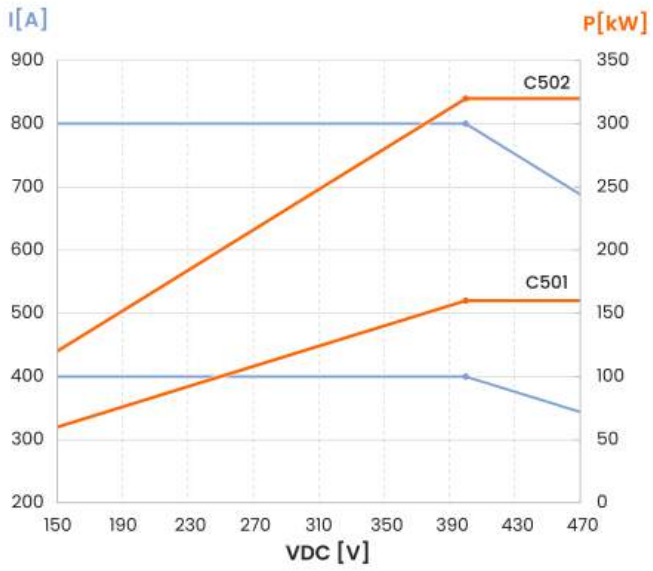


150–470 VDC

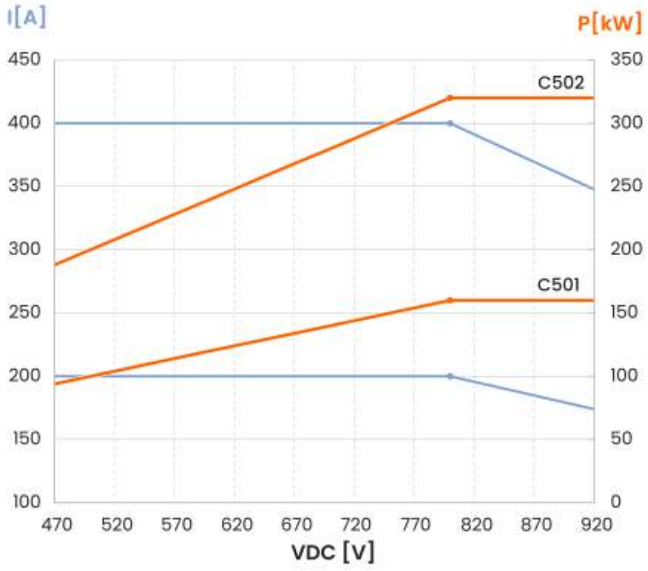


470–920 VDC

Figure 2. Power curve – continuous operation



150–470 VDC



470–920 VDC

Compliance to standards

IEC 61851-1, IEC 61851-23, IEC 61851-21-2 , IEC 62196-3
UL 2202, UL 2231-2
CSA Std. c22.2 No. 281.2, CSA Std. c22.2 No. 107.1
FCC 47 CFR Part 15 Subpart B, Class A
CTEP Certified to Accuracy Class 2.0 (< 1.0% error): • COA No. 5982-24 for Kempower standard devices without a 3rd party DC meter

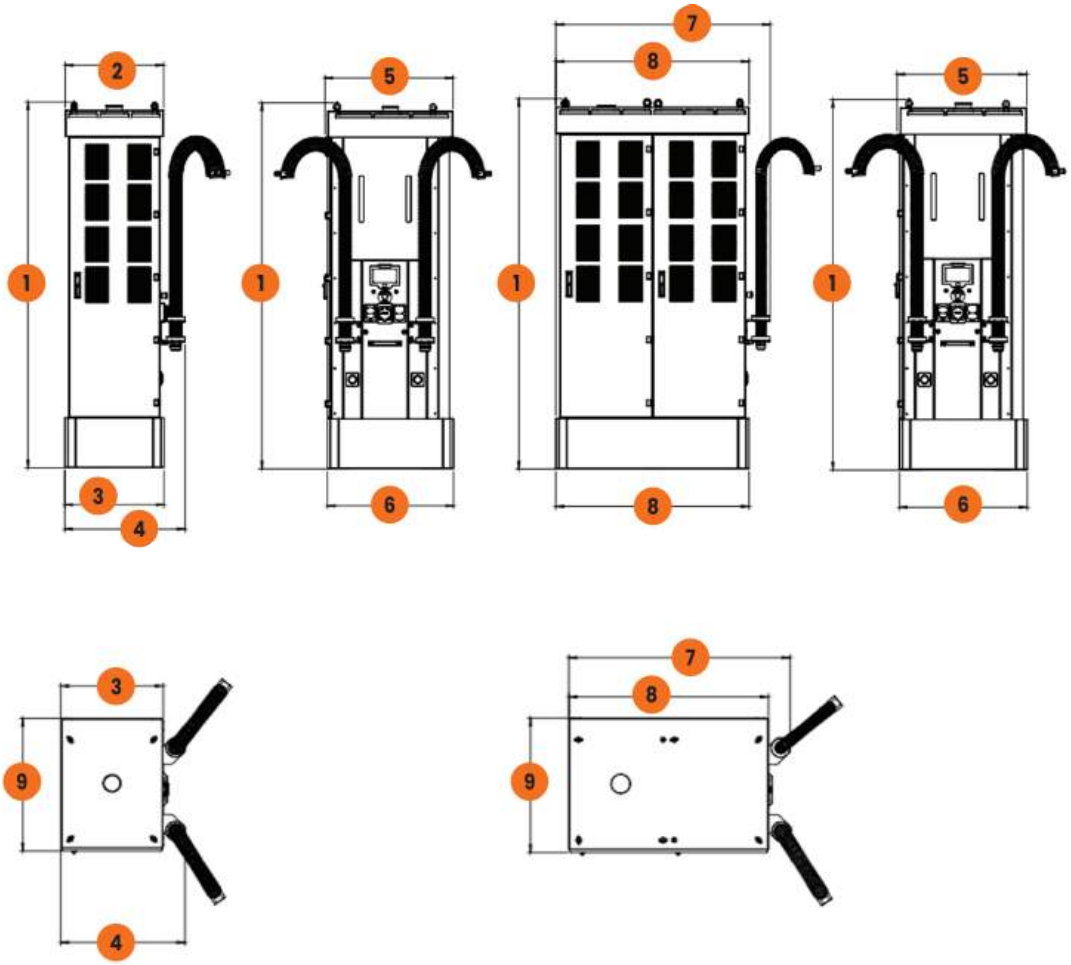
Options

Payment terminal	Payter Apollo: Contactless payment with online PIN entry and verification[1] Payter P68 payment terminal with contactless, chip reader, and magnetic stripe (no PIN pad)[2]
Customized branding	Branding options, such as custom colors and stickers Contact Kempower for availability, pricing, and minimum order quantity

[1] When a credit card reader is needed in Washington State, use Payter P68 due to local regulations.
[2] Available in the US only.

Mechanical dimensions

Size (W x H x D)	Weight
C501: 25.6 x 94.3 x 33.1 in./651 x 2395 x 841 mm	Maximum 1,157 lb./525 kg
C502: 49.2 x 94.3 x 33.1 in./1250 x 2395 x 841 mm	Maximum 2,039 lb./925 kg



1	94.3 in./2395 mm	3	25.6 in./651 mm	5	33 in./839 mm	7	54.6 in./1388 mm	9	33.1 in./841 mm
2	25.4 in./645 mm	4	31 in./788 mm	6	32.5 in./826 mm	8	49.2 in./1250 mm		