Shakopee Public Utilities Commission
Solar Electric Rebate – Residential Application

APPLICANT INFORMATION

Name ____________________________
Mailing Address ____________________
City, State, Zip ____________________
Phone ____________________________
E-mail ____________________________
Utility Account #____________________

Is applicant a past SPUC Solar Rebate recipient? [ ] Yes [ ] No
Is this a primary residence for at least 1 occupant? [ ] Yes [ ] No
Will system be visible from the street [ ] Yes [ ] No
Is the system sized no larger than required to meet the building load? [ ] Yes [ ] No

Site Address if different than mailing address: ____________________________

Township, section, and range (rural properties only): ________________________

Year subject property built ____________________________

SOLAR INSTALLER/CONTRACTOR INFORMATION

Business Name ____________________________
Lead Installer Name ____________________________
Mailing Address ____________________________
City, State, Zip ____________________________
Phone ____________________________
Email ____________________________

The solar installer must meet the following criteria to be eligible to install under this program.

[ ] A licensed residential contractor or licensed electrical contractor
License # ____________________________

Is lead installer NABEC PV certified (not required)
[ ] Yes [ ] No

If yes, NABEC Solar PV # ____________________________

All electrical work must be performed by a licensed electrician working for a licensed electrical contractor:
Electrician License # ____________________________

INSTALLATION INFORMATION

Solar Module Manufacturer ____________________________
Solar Module Model # ____________________________

• Thin film [ ] Yes [ ] No
• Number of modules ____________________________
• Module rating watts ____________________________
• System rating (sum of solar panels) kW ____________________________
• Module performance warranty years ____________________________
• Tilt of panels (if fixed) degrees ____________________________
• Battery system: [ ] Yes [ ] No
• Is Maximum Power Point Tracking (MPPT) performed centrally for all modules or individually for each module? Centrally [ ] Individually [ ]

Inverter Manufacturer ____________________________
Inverter Model # ____________________________

• Inverter Rating kW ____________________________
• Warranty years ____________________________
• System type (circle one) ____________________________
  Fixed ____________________________
  Seasonally adjusted ____________________________
  Single Axis ____________________________
  Dual Axis ____________________________
  Roof ____________________________
  Ground ____________________________
  Pole ____________________________
• Location (circle one) ____________________________
  Azimuth angle (orientation) ____________________________
  Interconnection (circle one) ____________________________
  Grid-tied ____________________________
  Off-Grid ____________________________

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**DECLARATION**

The undersigned warrants, certifies and represents that: (1) the information provided in this form is true and correct to the best of my knowledge; and (2) the installation will meet all SPUC Solar Electric Rebate Program requirements.

**SIGNATURE**

The following supporting documentation is included in this application:

- [ ] Evidence of intent
- [ ] Site photos
- [ ] Shading analysis
- [ ] Solar site diagram
- [ ] Electrical one line diagram of proposed solar system
- [ ] End User Agreement

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Applicant (original signature required)

Signature ____________________________
Print Name __________________________
Date ________________________________

Solar Installer (original signature required)

Signature ____________________________
Print Name __________________________
Date ________________________________

**Shakopee Public Utilities Commission Employee**

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| Date of Pre-Inspection: | SPUC Representative Signature: |
|合格 | 非合格 |

| Date of Final Inspection: | SPUC Representative Signature: |
|通过 | 失败 |

**Office Use:**

Date of Reservation __________________________
Date Application Received ______________________
Date of Final Inspection _______________________

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<th>Amount of Reservation</th>
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Rebate Amount $____________________
SPUC Solar Electric Rebate Program – Definitions

Anti-islanding test – a utility engineer will test the completed system for safety before an interconnection contract is processed

Azimuth – the direction measured in degrees from North that the solar installation is oriented

Building Code – check with city and/or county to identify permits needed for the solar installation

DC rating – solar capacity, measured in watts

End-User Agreement – agreement between applicant and SPUC to provide data on the electricity produced by the solar energy system

Evidence of Intent – evidence that the applicant is serious about participating in the solar rebate program

Grid-connected – PV system is interconnected to an electric utility; grid connected systems in Minnesota benefit from net metering if the capacity is not more than 40 kW

Interconnection contract – a contract with the electric utility to let a customer sell electricity back to the utility; utilities must use standard state contract (MN Rule 7835.9910 www.leg.state.mn.us)

Interconnection guidelines – safety and technical requirements for the solar installation

Inverter – converts DC electricity from the solar panels into AC electricity

Kilowatt (kW) – 1000 watts (five 200 watt solar modules = 1 kilowatt)

Maximum Power Point Tracking (MPPT) – Devices incorporated into the PV system which allow each individual panel to deliver continuously at maximum available power based on total panel illumination, irrespective of conditions of other panels in the system (such as local shading and soiling, panel matching, other panel or interconnect failures, etc.)

Minnesota Rules Chapter 7835 – Minnesota’s net metering rules (www.leg.state.mn.us)

Minnesota Statute 216B.164 – Minnesota’s net metering statute (www.leg.state.mn.us)

National Environmental Protection Act (NEPA) – requires federal agencies to integrate environmental values into their decision making processes by considering the environmental impacts of their proposed actions. As a federally funded program, the SPUC Solar Electric Rebate Program is subject to NEPA provisions. The following solar electric systems are categorically excluded:

- Ground mounted installations sized to serve the site load and not more than 60 kW
- Building mounted installations sized to serve the building load

National Electrical Code Article 690 – national electrical safety standards for photovoltaic systems established by the National Fire Protection Association (www.nfpa.org)

Off-grid PV System – not interconnected to an electric utility; integrates battery storage

Solar module warranty – solar modules in the rebate program must have a 20-year or greater performance warranty

Photovoltaics – (PV) a semiconductor technology that converts sunlight to direct current electricity

Rebate Claim Form – a form to complete to receive the rebate once the solar installation is complete; the form is mailed to applicant upon application approval (sent with Confirmation Form)

Rebate Confirmation Form – the form received once the applicant is approved for a rebate; work must not begin before receiving this form

Renewable Energy Credit (REC) – also known as green tags, a REC represents the value of all environmental and social attributes in a Megawatt-hour of renewable energy; RECs can be sold or traded independently from the electricity associated with them

Site pictures – a labeled photo of the proposed solar energy system installation location AND labeled panoramic photos of the horizon from East to West through South

Shading Analysis Tool – a device used to accurately chart the total shading at a specific location. (Pathfinder, SunEye, Asset, or comparable tools are acceptable)

System rating – the sum of all of the solar modules to be used in the system (# of solar modules x DC rating of solar modules)

Tilt angle – the elevation angle from horizontal at which the solar modules are positioned
COGENERATION AND SMALL POWER PRODUCTION

I Scope and purpose

The purpose of these rules are to implement certain provisions of Minnesota Statutes, Section 216.164; the Public Utility Regulatory Policies Act of 1978, United States Code, title 16, section 824a-3 (Supplement III, 1979); and the Federal Energy Regulatory Commission regulations, Code of Federal Regulations, title 18, sections 292.101-292.602 (1981). These rules shall at all times be applied in accordance with their intent to give the maximum possible encouragement to cogeneration and small power production consistent with protection of the ratepayers and the public.

II Definitions

A. Applicability. For purposes of these rules the following terms have the meanings given them.

B. Average annual fuel savings. "Average annual fuel savings" means the annualized difference between the system fuel costs that the utility would have incurred without the additional generation facility and the system fuel costs the utility is expected to incur with the additional generation facility.

C. Average retail utility energy rate. "Average retail utility energy rate" means, for any class of utility customer, the quotient of the total annual class revenue from sales of electricity minus the annual revenue resulting from fixed charges, divided by the annual class kilowatt-hour sales. Data for the most recent 12 month period available prior to each reporting period required by Minnesota Statutes 216B.164 Subd. 7 shall be used in the computation.

D. Backup power. "Backup power" means electric energy or capacity supplied by the utility to replace energy ordinarily generated by a qualifying facility's own generation equipment during an unscheduled outage of the facility.

E. Capacity. "Capacity" means the capacity to produce, transmit, or deliver electric energy.

F. Capacity costs. "Capacity costs" means the costs associated with providing the capacity to deliver energy. They consist of the capital costs of facilities used to generate, transmit, and distribute electricity and the fixed operating and maintenance costs of these facilities.

G. Energy. "Energy" means electric energy, measured in kilowatt-hours.

H. Energy costs. "Energy costs" means the variable costs associated with the production of electric energy. They consist of fuel costs and variable operating and maintenance
expenses.

I. Firm power. "Firm power" means energy delivered by the qualifying facility to the utility with at least 65 percent on-peak capacity factor in the month. The capacity factor is based upon the qualifying facility's maximum on-peak metered capacity delivered to the utility during the month.

J. Generating utility. "Generating utility" means a utility which regularly meets all or a portion of its electric load through the scheduled dispatch of its own generating facilities.

K. Incremental cost of capital. "Incremental cost of capital" means the current weighted cost of the components of a utility's capital structure, each cost weighted by its proportion of the total capitalization.

L. Interconnection costs. "Interconnection costs" means the reasonable costs of connection, switching, metering, transmission, distribution, safety provisions, and administrative costs incurred by the utility that are directly related to installing and maintaining the physical facilities necessary to permit interconnected operations with a qualifying facility. Costs are considered interconnection costs only to the extent that they exceed the corresponding costs which the utility would have incurred if it had not engaged in interconnected operations, but instead generated from its own facility's or purchased from other sources an equivalent amount of electric energy or capacity. Costs are considered interconnection costs only to the extent that they exceed the costs the utility would incur in selling electricity to the qualifying facility as a non-generating customer.

M. Interruptible power. "Interruptible power" means electric energy or capacity supplied by the utility to a qualifying facility subject to interruption under the provisions of the utility's tariff applicable to the retail class of customers to which the qualifying facility would belong irrespective of its ability to generate electricity.

N. Maintenance power. "Maintenance power" means electric energy or capacity supplied by the utility during scheduled outages of the qualifying facility.

O. Marginal capital carrying charge rate in the first year of investment. "Marginal capital carrying charge rate in the first year of investment" means the percentage factor by which the amount of a new capital investment in a generating unit would have to be multiplied to obtain an amount equal to the total additional first year amounts for the cost of equity and debt capital, income taxes, property and other taxes, tax credits (amortized over the useful life of the generating unit), depreciation, and insurance which would be associated with the new capital investment and would account for the likely inflationary or deflationary changes in the investment cost due to a one-year delay in building the unit.

P. Non-generating utility. "Non-generating utility" means a utility which has no electric generating facilities, or a utility whose electric generating facilities are used only during emergencies or readiness tests, or a utility whose electric generating facilities are
ordinarily dispatched by another entity.

Q. On-peak hours. "On-peak hours" means those hours formally designated by the utility as on-peak for ratemaking purposes or those hours for which its typical loads are at least 85 percent of its average maximum monthly loads.

R. Purchase. "Purchase" means the purchase of electric energy or capacity or both from a qualifying facility by the utility.

S. Qualifying facility. "Qualifying facility" means a cogeneration or small power production facility which satisfies the conditions established in Code of Federal Regulations, title 18, section 292.101 (b) (1) (1981), as applied when interpreted in accordance with the amendments to Code of Federal Regulations, title 18 sections 292.201-292.207 adopted through 46 Federal Register 33025-33027 (1981). The initial operation date or initial installations date of a cogeneration or small power production facility shall not prevent the facility from being considered a qualifying facility for the purposes of these rules if it otherwise would satisfy all stated conditions.

T. Sale. "Sale" means the sale of electric energy or capacity or both by the utility to a qualifying facility.

U. Supplementary power. "Supplementary power" means electric energy or capacity supplied by the utility which is regularly used by a qualifying facility in addition to that which the facility generates itself.

V. System emergency. "System emergency" means a condition on the utility’s system which is imminently likely to result in significant disruption of service to customers or to endanger life or property.

W. System incremental energy costs. "System incremental energy costs" means amounts representing the hourly energy costs associated with the utility generating the next kilowatt-hour of load during each hour.


III Filing requirements

A. Upon adoption of these rules, the utility shall file with the Minnesota Public Utilities Commission a notice that the utility has adopted rules in accordance with the provisions of Minnesota Statutes Section 2] 6B.] 64 Subdivision 9.

B. The utility shall maintain at its principle place of business, available to the public during regular business hours;
   1. a copy of these rules;
   2. the tariffs for the cogenerators and small power producers;
   3. contracts;
   4. safety standards;
5. operating procedures for interconnected operations; and
6. the information contained in the following schedules:
   A. Retail rates schedule
   B. Plant additions
   C. Average retail rates
   D. Standard contract form
   E. Safety standards
   F. Shut off notice
   G. Computations
   H. Purchased power rates

IV Reporting requirements

A. The utility interconnected with a qualifying facility shall provide the Minnesota Public Utilities Commission with the following information upon request for the purpose of the Minnesota Public Utilities Commission’s requirements under Subdivision 7 of Minnesota Statutes 216B.164:

B. Net energy billed qualifying facilities. For qualifying facilities under net energy billing, the utility shall provide the following:

1. a summary of the total number of interconnected qualifying facilities, the type of interconnected qualifying facilities by energy source, and the name plate ratings of each unit;
2. for each qualifying facility type, the total kilowatt-hours delivered per month to the utility by all net energy billed qualifying facilities;
3. for each qualifying facility type, the total kilowatt-hours delivered per month by the utility to all net energy billed qualifying facilities; and
4. for each qualifying facility type, the total net energy delivered per month to the utility by net energy billed qualifying facilities.

C. Other qualifying facilities. For all qualifying facilities not under net energy billing, the utility shall provide the commission with the following information:

1. a summary of the total number of interconnected qualifying facilities, the type of interconnected qualifying facilities, and the nameplate ratings of such units; and
2. for each qualifying facility type, the total kilowatt-hours delivered per month to the utility, reported be on-peak and off-peak periods to the extent that data is available.

D. Wheeling. The utility shall provide a summary of all wheeling activities undertaken with respect to qualifying facilities.

E. Major impacts. The utility may provide a statement of any major impacts that cogeneration or small power production has had on the utility’s systems.

F. Effectiveness. The utility may provide a statement of the effectiveness of Minnesota
Statutes, section 216.164 and these rules in encouraging cogeneration and small power production, as observed by the utility.

V Conditions of service

A. Requirement to purchase. The utility shall purchase energy and capacity from any qualifying facility which offers to sell energy to the utility and agrees to the conditions set forth in these rules.

B. Written contract. A written contract shall be executed between the qualifying facility and the utility.

C. Compliance with national electrical safety code. The interconnection between the qualifying facility and the utility shall comply with the requirements of the "National Electrical Safety Code", most recent edition adopted by the State of Minnesota uniform building code, issued by the Institute of Electrical and Electronics Engineers as American National Standards Institute Standard C 2.

D. Responsibility for apparatus. The qualifying facility, without cost to the utility, shall furnish, install, operate, and maintain in good order and repair any apparatus the qualifying facility needs in order to operate in accordance with Schedule E.

E. Liability insurance. A utility or qualifying facility may require proof of coverage or the procurement of a reasonable amount of liability insurance up to $600,000 as a condition of service.

F. Legal status not affected. Nothing in these rules affect the responsibility, liability, or legal rights of any party under applicable law or statutes. The utility shall not require the execution of an indemnity clause or hold harmless clause in the written contract as a condition of service.

G. Payments for interconnection costs. Payments for interconnection costs may:
1. be made at the time the costs are incurred; or
2. be made according to any schedule agreed upon by the qualifying facility and the utility.

H. Types of power to be offered. The utility shall offer maintenance, supplementary, and backup power to the qualifying facility upon request.

I. Metering. The utility shall meter the qualifying facility to obtain the data necessary to fulfill its reporting requirements. The qualifying facility shall pay for the requisite metering as an interconnection cost.

J. Discontinuing sales during emergency. The utility may discontinue sales to the qualifying facility during a system emergency, the discontinuance and recommencement of service shall not be discriminatory.
K. Interconnection plan. The utility may require the qualifying facility to submit an interconnection plan not more than 30 days prior to interconnection in order to facilitate interconnection arrangements. If a plan is required, it shall include no more than:
   1. Technical specifications of equipment;
   2. Proposed date of interconnection; and
   3. Projection of net output or consumption by the qualifying facility when available.

VI Rates for sale
A. Rate to be governed by tariff. Except as otherwise provided in B., rates for sales to a qualifying facility shall be governed by the applicable tariff for the class of electric utility customers to which the qualifying facility would belong were it not a qualifying facility.

B. Petition for specific rates. Any qualifying facility or utility may petition the utility for establishment of specific rates for supplementary, maintenance, back-up, or interruptible power.

VII Standard rates for purchases
A. General. For qualifying facilities with capacity of 100 kilowatts or less, standard rates apply. Qualifying facilities with capacity of more than 100 kilowatts may negotiate contracts with the utility or may be compensated under standard rates if they make commitments to provide firm power. The utility shall make available three types of standard rates, described in B., C., and D. The QF shall choose interconnection under one of these rates, and shall specify its choice in the written contract required as a part of these rules. Any net credit to the qualifying facility shall, at its option, be credited to its account with the utility or returned by check within 15 days of the billing date. The option chosen shall be specified in the written contract. Qualifying facilities remain responsible for any monthly service charges and demand charges specified in the tariff under which they consume electricity from the utility.

B. Net energy billing rate.
   1. The net energy billing rate is available only to qualifying facilities with capacity of less than 40 kilowatts which choose not to offer electric power for sale on either a time-of-day basis or a simultaneous purchase and sale basis.
   2. The utility shall bill the qualifying facility for the excess of energy supplied by the utility above energy supplied by the qualifying facility during each billing period according to the utility’s applicable retail rate schedule.
   3. When the energy generated by the qualifying facility exceeds that supplied by the utility, the utility shall compensate the qualifying facility for the excess energy at the average retail utility energy rate.

C. Simultaneous purchase and sale billing rate
   1. The simultaneous purchase and sale rate is available only to qualifying facilities with capacity of less than 40 kilowatts which choose not to offer electric power
for sale on a time-of-day basis.

2. The qualifying facility shall be billed for all energy and capacity it consumes during billing period according to the utility’s applicable retail rate schedule.

3. The utility shall purchase all energy and capacity which is made available to it by the qualifying facility. At the option of the qualifying facility, its entire generation shall be deemed to be made available to the utility. Compensation to the qualifying utility shall be the sum of a. and b.

   a. The energy component shall be the energy rate shown on Schedule H;
   b. The capacity component shall be the capacity cost per kilowatt shown on Schedule H, divided by the number of hours in the billing period. If the qualifying facility does not provide firm power to the utility, no capacity component shall be included in the compensation paid to the qualifying facility.

D. Time-of-day purchase rates

   1. Time-of-day rates are required for qualifying facilities with capacity of 40 kilowatts or greater and less than or equal to 100 kilowatts, and they are optional for qualifying facilities with capacity less than 40 kilowatts. Time-of-day rates are also optional for qualifying facilities with capacity greater than 100 kilowatts if these qualifying facilities provide firm power.

   2. The qualifying facility shall be billed for all energy and capacity it consumes during each billing period according to the utility’s applicable retail rate schedule.

   3. The utility shall purchase all energy and capacity which is made available to it by the qualifying facility. Compensation to the qualifying facility shall be the sum of a. and b.

      a. The energy component shall be the energy rate shown on Schedule H.
      b. If the qualifying facility provides firm power to the utility, the capacity component shall be the capacity cost per kilowatt shown on Schedule H, divided by the number of on-peak hours in the billing period. The capacity component shall apply only to deliveries during on-peak hours. If the qualifying facility does not provide firm power to the utility, no capacity component shall be included in the compensation paid to the qualifying facility.

VIII Negotiated rate for purchases

A. Contracts negotiated by customer. Except as provided in D., a qualifying facility with capacity greater than 100 kilowatts shall negotiate a contract with the utility setting applicable rates for payments to the customer of avoided capacity and energy costs.

B. Amount of capacity payments; considerations. The qualifying facility shall be entitled to the full avoided capacity costs of the utility. The amount of capacity payments shall be determined through consideration of:
1. The capacity factor of the qualifying facility;
2. The cost of the utility’s avoided capacity;
3. The length of the contract term;
4. Reasonable scheduling of maintenance;
5. The willingness and ability of the qualifying facility to provide firm power during system emergencies;
6. The willingness and ability of the qualifying facility to allow the utility to dispatch its generated energy;
7. The willingness and ability of the qualifying facility to provide firm capacity during system peaks;
8. The sanctions for noncompliance with any contract terms; and
9. The smaller capacity increments and the shorter lead times available when capacity is added from the qualifying facility.

C. Full avoided energy costs. The qualifying facility shall be entitled to the full avoided energy costs of the utility. The costs shall be adjusted as appropriate to reflect line losses.

D. Qualifying facilities of greater than 100 kilowatts. Nothing in A. – C. prevents a utility from connecting qualifying facilities of greater than 100 kilowatts under its standard rates, this arrangement is mutually agreeable to both parties.

IX Utility treatment of costs

All purchases from qualifying facilities with capacity of 100 kilowatts or less, and purchases of energy from qualifying facilities with capacity of over 100 kilowatts shall be considered an energy cost in calculating an electric utility’s fuel adjustment clause.

X Wheeling and exchange agreements

For all qualifying facilities with capacity of 40 kilowatts or greater, the utility shall, at the qualifying facility’s request or with its consent, provide wheeling or exchange agreements whenever practicable to sell the qualifying facility’s output to any other Minnesota utility than anticipates or plans generation expansion in the ensuing ten years. The following provisions apply unless the qualifying facility and the utility to which it is interconnected agree otherwise.

A. Inter-utility payment; wheeling. The utility to which the qualifying facility is interconnected shall pay any reasonable wheeling charges from other utilities arising from the sale of the qualifying facility’s output.

B. Inter-utility payment, energy and capacity. Within 30 days of receipt, the utility ultimately receiving the qualifying facility’s output shall pay its resulting full avoided capacity and energy costs by remittance to the utility with which the qualifying facility’s facility is interconnected.

C. Payment to qualifying facility. Within 15 days of receiving payment under B., the utility with which the qualifying facility is interconnected shall send the qualifying
facility the payment it has received less the total charges it has incurred under A. and it own reasonable wheeling costs.

XI Disputes

In a case of a dispute between a utility and a qualifying facility or an impasse in the negotiations between them, either party may request the Minnesota Public Utilities Commission to determine the issue. When the commission makes the determination, the burden of proof shall be on the utility. In the order resolving the dispute, the commission shall require the prevailing party’s reasonable costs, disbursements, and attorney’s fees to be paid by the party against whom the issue or issues were adversely decided, except that a qualifying facility will be required to pay the costs, disbursements, and attorney’s fees of the utility only if the commissions finds that the claims of the qualifying facility have been made in bad faith or are a sham or frivolous.

XII Notification to customers

A. Contents of written notice. Within 60 days following adoption of these rules and following each change in the rates or the rules the utility shall cause a notice to be published in the official newspaper containing the following:

1. That the utility is obligated to interconnect with and purchase electricity from cogenerators and small power producers;
2. That the utility is obligated to provide information to all interested persons free of charge upon request; and
3. That disputes are subject to resolution by the Minnesota Public Utilities Commission upon complaint.

B. Availability of information. The utility shall maintain information that shall be available to all interested persons free of charge upon request. Such information shall include at least the following:

1. A statement of rates, terms and conditions of interconnections;
2. A statement of technical requirements
3. A sample contract containing the applicable terms and conditions;
4. Pertinent rate schedules;
5. The title, address, and telephone number of the department of the utility to which inquiries should be directed; and
6. The statement: “The Minnesota Public Utilities Commission is available to resolve disputes upon written request”, and the address and telephone number of the commission.

XIII Interconnection guidelines

A. Denial of interconnection application. Except as hereinafter provided, the utility shall interconnect with a qualifying facility that offers to make energy or capacity available to the utility. The utility may refuse to interconnect a qualifying facility with its power system until the qualifying facility has properly applied under V K. and has
received approval from the utility. The utility shall withhold approval only for failure to comply with applicable utility rules, Federal or State rules, or Federal or State law. The utility shall be permitted to include in its contract reasonable technical connection and operating specifications for the qualifying facility.

B. Notification of telephone utility and cable television firm. The electric utility shall notify the appropriate telephone utility and cable television firm when a qualifying facility has applied to be interconnected with its system. This notification shall be as early as practicable to permit coordinated analysis and testing before interconnection, if considered necessary.

C. Separate distribution transformer, when required. The utility may require a separate distribution transformer for the qualifying facility if necessary either to protect the safety of employees or the public or to keep service to other customers with prescribed limits.

D. Limiting capacity of single-phase generators, when permitted. If necessary, to avoid the likelihood that a qualifying facility will cause problems with the service of other customers, the utility may limit the capacity and operating characteristics of single-phase generators in a way consistent with the utility limitations for single-phase motors.

E. Isolation of generator. Each qualifying facility shall have a lockable, manual disconnect switch capable of isolating the generator from the utility’s system and readily accessible to the utility.

F. Discontinuing parallel operation. The utility may require that the qualifying facility discontinue parallel generation operation when necessary for system safety.

G. Permitting entry. If the particular configuration of the qualifying facility precludes disconnection or testing from the utility side of the interconnection, the qualifying facility shall make equipment available and permit electric and communication utility personnel to enter the property at reasonable times to test isolation and protective equipment, to evaluate the quality of power delivered to the utility’s system, and to test to determine whether the qualifying facility’s generating system is the source of any electric service or communication systems problems. The utility shall remain responsible for its personnel.

H. Maintenance power output. The power output of the qualifying facility shall be maintained so that frequency and voltage are compatible with normal utility service and do not cause that service to fall outside the prescribed limits of commission rules and other standard limitations.

I. Varying voltage levels. The qualifying facility shall be operated so that variations from acceptable voltage levels and other service-impairing disturbances do not adversely affect the service or equipment of other customers, and so that the facility does not produce levels of harmonics which exceed the prescribed limits of commission rules or other levels customarily accepted.
J. Safety. The qualifying facility shall be responsible for providing protection for the installed equipment and shall adhere to all applicable national, state, and local codes.

K. Right of appeal for excessive technical requirements. The qualifying facility has the right of appeal to the commission when it considers individual technical requirements excessive.

XIV Contracts

A. Existing contracts. Any interconnection contracts executed between a utility and qualifying facility with installed capacity of less than 40 kilowatts before the effective date of these rules may, at the option of either party, be cancelled and replaced with the uniform statewide contract by either party giving the other written notice thereof. The notice shall be effective upon the shortest period permitted under the existing contract for termination, but not less than ten nor more than 30 days.

B. Uniform systemwide contract. The form of the contract shall be as shown in Exhibit B.
Exhibit “B”

UNIFORM STATEWIDE CONTRACT FOR COGENERATION AND SMALL POWER PRODUCTION FACILITIES

THIS CONTRACT is entered into ______________________, __________, by Shakopee Public Utilities Commission (hereafter called “Utility”) and ______________________ (hereafter call “QF”).

RECITALS

The QF has installed electric generating facilities, consisting of ______________________

(Description of facilities), rated at less than 40 kilowatts of electricity, or property located at ______________________.

The QF is prepared to generate electricity in parallel with the Utility.

The QF’s electric generating facilities meet the requirements of the Minnesota Public Utilities Commission (hereafter called “Commission”) rules on Cogeneration and Small Power Production and any technical standards for interconnection the Utility has established that are authorized by those rules.

The Utility is obligated under federal and Minnesota law to interconnect with the QF and to purchase electricity offered for sale by the QF.

A contract between the QF and the Utility is required by the Commission’s rules.

AGREEMENTS

The QF and the Utility agree:

1. The Utility will sell electricity to the QF under the rate schedule in force for the class of customer to which the QF belongs.
2. The Utility will buy electricity from the QF under the current rate schedule filed with the Commission. The QF has elected the rate schedule category hereinafter indicated (select one):

_________ a. Net energy billing rate under part 7835.3300.

_________ b. Simultaneous purchase and sale billing rate under part 7835.3400.

_________ c. Time-of-day purchase rates under part 7835.3500.

A copy of the presently filed rate schedule is attached to this contract.

3. The rates for sales and purchases of electricity may change over the time this contract is in force, due to actions of the Utility or of the Commission, and the QF and the Utility agree that sales and purchases will be made under the rates in effect each month during the time this contract is in force.

4. The Utility will compute the charges and payments for purchases and sales for each billing period. Any net credit to the QF will be made under one of the following options as chosen by the QF:

_________ 1. Credit to the QF’s account with the Utility.

_________ 2. Paid by check to the QF within 15 days of the billing date.

5. The QF must operate its electric generating facilities within any rules, regulations, and policies adopted by the Utility not prohibited by the Commission’s rules on Cogeneration and Small Power Production which provide reasonable technical connection and operating specifications for the QF. This agreement does not waive the QF’s right to bring a dispute before the Commission as authorized by Minnesota Rules, parts 7835.4800, 7835.5800, and 7835.4500, and any other provision of the Commission’s rules on Cogeneration and Small Power Production authorizing Commission resolution of a dispute.

6. The Utility’s rules, regulations, and policies must conform to the Commission’s rules on Cogeneration and Small Power Production.

7. The QF will operate its electric generating facilities so that they conform to the national, state, and local electric and safety codes, and will be responsible for the costs of conformance.

8. The QF is responsible for the actual, reasonable costs of interconnection which are
estimated to be $________________________. The QF will pay the Utility in this way:

9. The QF will give the Utility reasonable access to its property and electric generating facilities if the configuration of those facilities does not permit disconnection or testing from the Utility's side of the interconnection. If the Utility enters the QF's property, the Utility will remain responsible for its personnel.

10. The Utility may stop providing electricity to the QF during a system emergency. The Utility will not discriminate against the QF when it stops providing electricity or when it resumes providing electricity.

11. The Utility may stop purchasing electricity from the QF when necessary for the Utility to construct, install, maintain, repair, replace, remove, investigate, or inspect any equipment or facilities within its electric system. The Utility will notify the QF before it stops purchasing electricity in this way:

12. The QF will keep in force liability insurance against personal or property damage due to installation, interconnection, and operation of its electric generating facilities. The amount of insurance coverage will be $________________________ (The utility may not require an amount greater than $300,000).

13. This contract becomes effective as soon as it is signed by the QF and the Utility. This contract will remain in force until either the QF or the Utility gives written notice to the other that the contract is canceled. This contract will be canceled 30 days after notice is given.

14. This contract contains all the agreements made between the QF and the Utility except that this contract shall at all times be subject to all rules and orders issued by the Public Utilities Commission or other government agency having jurisdiction over the subject matter of this contract. The QF and the Utility are not responsible for any agreements other than those stated in this contract.
THE QF AND THE UTILITY HAVE READ THIS CONTRACT AND AGREE TO BE BOUND BY ITS TERMS. AS EVIDENCE OF THEIR AGREEMENT, THEY HAVE EACH SIGNED THIS CONTRACT BELOW ON THE DATE WRITTEN AT THE BEGINNING OF THIS CONTRACT.

QUALIFYING FACILITY

By: ____________________________

______________________________

______________________________

(Title)

SHAKOPEE PUBLIC UTILITIES COMMISSION

By: ____________________________

______________________________

______________________________

(Title)
Schedule A: see attached current retail rates

Schedule B: no planned additions of generating equipment

Schedule C: see attached current data for average utility rates

Schedule D: see Exhibit “B” of this resolution

Schedule E: The safety standards, required equipment, required operating procedures for interconnected operations, and the functions to be performed by any control and protective apparatus follow.

Required Equipment & Safety Standards

1. Customer agrees to locate the qualifying facility so as to not cause a hazard to the SPUC distribution system.

2. The connection of the qualifying facility (QF) to the SPUC distribution system must be made through a customer-provided, customer-installed, manual safety disconnect switch of adequate ampere capacity. The switch shall not open the neutral when the switch is open. This switch shall have provisions for being padlocked in the open position with a standard SPUC padlock. Customer agrees to locate the switch in a position accessible to SPUC personnel and within 5 feet of the main service meter. Customer further agrees the switch may be operated by SPUC personnel at all times that such operation is deemed necessary by SPUC for safety and operating reasons.

   QF’s using line-commutated synchronous inverters shall have the inverters connected on the load side (QF side) of the safety disconnect switch.

3. Customer shall install a second meter socket for purposes of measuring the energy produced by the QF. This meter shall be called the production meter. The production meter socket shall be installed within 5 feet of the main service meter.

4. Customer agrees to supply SPUC a schematic diagram and associated equipment list for the qualifying facility (QF) control circuitry to enable SPUC to determine if the QF’s safety equipment provides a level of safety consistent with the safety level required by SPUC in its electrical equipment. If further analysis of the proposed QF by SPUC reveals that it is capable of backfeed into the SPUC lines during distribution outages, customer shall immediately disconnect the QF from SPUC distribution system and shall only reconnect the QF through a customer-provided, SPUC approved interconnect device that will prevent said backfeed.
5. Customer understands and agrees that as additional qualifying facilities are connected to the SPUC distribution system, may require customer to install further additional safety devices at customer expense.

**Operating Procedures**

1. Customer agrees to disconnect the qualifying facility (QF) from the SPUC distribution system or to reimburse SPUC for cost of necessary system modifications if operation of the QF causes radio, television or electrical service interference to other customers, or interference with the operation of SPUC system.

2. Since the power factor and the voltage at which Company’s system and customer’s system are operated will vary, each party agrees to operate his system at a power factor as near unity as possible in such manner as to absorb his share of the reactive power, and voltage as conducive to the best operating standards.

**Functions of Required Control & Protective Equipment**

1. Customer shall provide the necessary equipment as approved by SPUC to operate the qualifying facility (QF) in parallel with SPUC distribution system. The QF shall be equipped to instantaneously discontinue all output to and energization of SPUC distribution system under the following conditions:
   a. De-energized SPUC system
   b. Sustained line faults on SPUC system
   c. Faults on customer’s system

2. Customer agrees to effectively ground the qualifying facility installation and to provide and install adequate surge arrester protection to prevent lightning damage to any SPUC distribution system equipment.

3. Customer shall consult with SPUC regarding these minimum requirements, additional protection recommended, and proper operation of customer’s generating system.

**Schedule F:**

see Exhibit “B” for this resolution

**Schedule G:**

not applicable: No computation made for Schedule “A”

**Schedule H:**

see attached MMPA Distributed Generation Tariff