



**CITY OF ST. CHARLES  
ELECTRIC UTILITY**

**DECEMBER  
2016**

**INTERCONNECTION  
APPLICATION AND  
REQUIREMENTS FOR  
QUALIFYING FACILITIES  
0 TO 40 KW**

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# 1 OVERVIEW AND DEFINITIONS

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## OVERVIEW

The Interconnection Application and Requirements for Qualifying Facilities (0 - 40kW) document describes the requirements for connecting a Qualifying Facility (QF) generation of 40 kW or less to St. Charles Electric Utilities' (Municipal) distribution system. The purpose of this document is to provide the customer the required information and forms to apply for permission to install generation that connects to the Municipal distribution system. The process follows the State of Minnesota Interconnection guidelines.

The Municipal will provide an estimate for the application fees and engineering study costs and other required information for QF's with nameplate ratings 40 kW and larger. These installations will be reviewed on a case by case basis using a review process that follows the State of Minnesota Interconnection guidelines.

## DEFINITIONS

**Net Metering** - Customers electing Net Metering shall be billed under the appropriate retail rate only for that amount of energy used by customer which exceeds the energy delivered by the QF to the Municipal at the same site during the same billing period. Any energy delivered by the QF to the Municipal in excess of that received by QF from the Municipal during the same billing period at the same site shall be compensated according to the appropriate rate schedule.

**Qualifying Facility (QF)** – A qualifying facility is a cogeneration or small power production facility which satisfies the conditions in 18 Code of Federal Regulations, Section 292.101(b)(1) (1981), as applied when interpreted in accordance with the amendments to 18 Code of Federal Regulations, Sections 292.201-292.207 adopted through 46 Federal Register 33025-33027 (1981).

## **2 APPLICATION PROCESS**

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The following is the process to be followed when a customer desires to interconnect a qualifying facility (QF) to the Electric Distribution owned by the Municipal.

### **Step 1 – Initial contact with customer**

A copy of this document is provided to a customer that contacts the Municipal for information on QF interconnections with the Municipal. The Municipal will provide information on zoning, permits and Ordinances that apply. The owner of the QF is responsible for reviewing the Municipal building and safety requirements and satisfying these requirements which may include the payment of fees and completing the required permits and other forms.

### **Step 2 – Customer Files Application with City for QF Interconnection**

Customers that are interested in the interconnection of QF are to provide the following to the Municipal:

- Completed Generation Interconnection Application and Contract included in this document
- One-line diagram showing QF interconnection with utility
- Technical specifications of the generator and other equipment such as the inverter
- Application fee of \$100 for QF with nameplate ratings of 19.9 kW and less and \$250 for QF with nameplate ratings of 20 to 39.9 kW.
- Required permits and fees related to the Municipal building codes.

### **Step 3 – Interconnection Requirements for QF**

The following are the requirements for interconnection of a QF to the municipal distribution. The Municipal will provide this completed application and technical specifications to the

contract electrical engineer for review. The engineer will review the application and send a letter to the customer notifying them if the QF installation meets the Municipal requirements.

### **Metering**

Metering for generation interconnection usually requires a non-standard metering installation. The customer will be responsible for the cost associated with a non-standard facility metering installation. A new meter socket(s) may be required to be installed.

### **Generator Service Disconnect**

The customer shall provide a visible, lockable manual disconnect switch within ten (10) feet of the meter location which is readily accessible to the Municipal per Minnesota Rule 7835.5200. This disconnect switch shall be clearly marked, "Generator Disconnect Switch", with permanent half inch or larger letters. The disconnect switch will open all of the phases, but not the neutral.

### **Permits**

The customer will provide the Municipal with copies of all electrical permits and inspections from agencies having jurisdiction over the location of the installation before interconnection of the generation will be allowed. The QF installation must comply with the City of St. Charles Ordinance No. 547; An Ordinance Establishing Regulations Concerning Alternative Energy Systems.

### **System Inspection**

The QF will not be allowed to operate in parallel with the Municipal until the customer provides a satisfactory demonstration to the Municipal showing the safe operation of the generation system.

### **Insurance**

A minimum liability insurance policy of \$300,000 is required, in accordance with Minnesota Rule 7835.2300. The customer should contact their insurance carrier to advise them of the

generating interconnected equipment is being added to the home or facility. Proof of \$300,000 liability insurance is required to be provided to the Municipal.

## **Billing**

Billing for the energy usage and delivery will be based on a Net Metering calculation for generation less than 40 kW. Reimbursement for kilo-watt hours (kWh) produced and delivered to the Municipal above and beyond the Customer's own use will be according to the Municipal Average Retail Energy Rates (ARER) calculation.

## **Step 4 – Interconnection of QF with City**

City works with Customer to complete interconnection if approved by Engineer. The City provides a cost estimate of the interconnection costs to the Customer which include the labor and material costs to install the special meter and other costs that are required for the interconnection. The actual costs are paid by the Customer. The City installs the special meter with dual register (bi-directional meter that measures energy sold to the consumer and energy delivered to the grid) and makes other changes to the service required for the interconnection and charges the Customer for the interconnection costs. For QF units 40 kW and larger, the QF owner installs a meter socket at the QF unit and the City installs a dual register meter to measure the energy produced by the QF unit. This 2<sup>nd</sup> meter is required in addition to the dual register main meter. The City inspects the final equipment by checking for a disconnect switch that is operable and accessible for the QF unit and the unit shuts down automatically when the utility source is not available. The customer receives payment for the energy sold to the City as described in the "Contract for Cogeneration and Small Power Production Facilities Rated 0 to 40 kW" included in Appendix B, part 4 of this document. The City billing department determines the bill each month by the following method:

- QF unit less than 40 kW – Energy recorded on the meter register measuring energy that flows to the grid is subtracting from the energy on the register that measures energy to the consumer. The net amount is billed according to the rate tariff for the consumer if the energy sold to the consumer exceeds the energy delivered to the grid. If the energy

delivered to the grid exceeds the energy sold to the consumer, the net amount is shown as a credit and “subtracted” against future sales or is paid monthly to the consumer at the average energy retail rate.

- QF unit 40 kW or larger – Energy recorded on the meter register measuring energy that flows to the grid is shown as a credit to the consumer by multiplying the energy delivered to the grid by the “avoided cost” rate that is negotiated with the consumer. The energy on the meter register showing energy sold to the consumer is billed according to the rate tariff to the consumer. The credit from energy sales to the utility is either paid monthly to the consumer or shown as a credit and is used to off-set the bill for energy sales to the consumer.

Testing is required for the generation equipment. The following is the section on testing from the State of Minnesota generation interconnection requirements:

***All interconnection-related protection systems shall be periodically tested and maintained, by the Interconnection Customer, at intervals specified by the manufacture. These intervals shall not exceed 5 years. Periodic test reports and a log of inspections shall be maintained, by the Interconnection Customer and made available to the City of St. Charles upon request.***

The required testing can be completed by opening the disconnect switch connecting the generation equipment and verify that the generation equipment automatically shuts down and does not restart for at least five minutes after the switch is closed. The purpose of the testing is to verify the equipment is operating in a safe manner.

### 3 APPENDIX A – APPLICATION FORM

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The customer fills in the information in the application form and returns the completed form to the Municipal along with the application fee.

**Customer:**

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Installation Address (if different from above):  
\_\_\_\_\_

Home Phone: \_\_\_\_\_ Daytime Phone \_\_\_\_\_

Account Number: \_\_\_\_\_

**Contractor Information:**

Contractor: \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_

Contact Person: \_\_\_\_\_

**Specifications:**

Estimated In-Service Date: \_\_\_\_\_

Existing Electric Service: Amperes Voltage \_\_\_\_\_ Volts \_\_\_\_\_

Identify Type of Service: ( ) Solar PV array ( ) Fuel Cell ( ) Wind ( ) Other

If Other Describe: \_\_\_\_\_

Specific Location of Service Disconnect Equipment on Property: \_\_\_\_\_  
\_\_\_\_\_

Generation Equipment Information: (Include copy of product literature)

Manufacturer: \_\_\_\_\_ Model No: \_\_\_\_\_

Version No: \_\_\_\_\_

Synchronous  Induction  Inverter

Other \_\_\_\_\_

Rating: \_\_\_\_\_ kW

Single Phase  Three Phase

Interconnection Voltage: \_\_\_\_\_ Volts

**Interconnection Compliance & Owner Acknowledgement**

The electrical system referenced above shall meet the requirements included in this document.

Customer shall be solely responsible for obtaining and complying with any and all necessary easements, licenses and permits, or exemptions, as may be required by federal, state, local statutes, regulations, ordinances or other legal mandates. The customer shall submit documentation to Municipal that the system has been inspected and approved by the local permitting agency regarding electrical code requirements. Customer shall not commence parallel operation of the generating system until inspecting written approval of the interconnection has been given by Municipal.

I the undersigned have completed this application for interconnection, which accurately describes the QF equipment to be interconnected and operated in parallel with the Municipal's distribution system. I have read and understand the requirements for interconnecting the QF included in this document.

Customer Signature \_\_\_\_\_

Date \_\_\_\_\_

## 4 APPENDIX B – CONTRACT FORM

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The customer fills in the information in the contract form and returns the completed form to the Municipal for their review and signature.

CONTRACT FOR COGENERATION AND SMALL POWER PRODUCTION FACILITIES RATED (0 TO 40 kW)

THIS CONTRACT is entered into \_\_\_\_\_, \_\_\_\_\_, by the City of St. Charles, acting by and through its St. Charles Electric Utility (hereafter called "Municipal") and

\_\_\_\_\_  
(hereafter called "QF" - Qualifying Facility).

### RECITALS

The QF has installed electric generating facilities, consisting of

\_\_\_\_\_  
\_\_\_\_\_  
(Description of facilities), rated at less than 40 kilowatts of electricity, on 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, any technical standards for interconnection the Municipal has established and Municipal's Rules Covering Cogeneration and Small Power Production Facilities and the Ordinance Establishing Regulations Concerning Alternative Energy Systems (the Rules). A contract between the QF and MUNICIPAL is required by the Rules.

### AGREEMENTS

The QF and MUNICIPAL agree:

1. MUNICIPAL will sell electricity to the QF under the rate schedule in force for the class of customer to which the QF belongs.
2. MUNICIPAL will buy electricity from the QF under the current rate schedule as part of the Rules. The QF has elected the rate schedule category hereinafter indicated (select one):  
\_\_\_\_ a. Average retail utility energy rate under MN rules part 7838.4013.

N/A   b. Simultaneous purchase and sale billing rate under MN rules part 7835.4014.

  N/A   c. Time-of-day purchase rates under part MN rules 7835.4015.

A copy of the present rate schedule is available at the MUNICIPAL office. The QF and Municipal agree that sales and purchases will be made under the rates in effect each month during the time this contract exists.

3. MUNICIPAL will buy electricity from the QF and 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 MUNICIPAL.

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

4. The QF will operate its electric generating facilities within any rules, regulations, and policies of MUNICIPAL not prohibited by rules of the Commission on Cogeneration and Small Power Production which provide reasonable technical connection and operating specifications for the QF. The QF installation must comply with the City of St. Charles Ordinance No. 547; An Ordinance Establishing Regulations Concerning Alternative Energy Systems. A copy of those rules, regulations, and policies of MUNICIPAL is attached to this contract. This agreement does not waive the QF's right to bring a dispute before the MUNICIPAL Board for resolution of a dispute.

5. 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.

7. The QF is responsible for the actual, reasonable costs of interconnection incurred by MUNICIPAL which are estimated to be \$                    . The QF will pay MUNICIPAL in this way:

\_\_\_\_\_.

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

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

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

\_\_\_\_\_.

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

12. This contract becomes effective as soon as it is signed by the QF and MUNICIPAL. This contract will remain in force until either the QF or MUNICIPAL gives written notice to the other that the contract is canceled. This contract will be canceled 30 days after notice is given. Such cancellation does not relieve the QF of any costs for which it is responsible under Item 8 above.

13. This contract contains all the agreements made between the QF and MUNICIPAL except that this contract shall at all times be subject to all rules and orders issued by any government agency having the requisite jurisdiction. The QF and MUNICIPAL are not responsible for any agreements other than those stated in this contract.

THE QF AND MUNICIPAL 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.

**IN WITNESS WHEREOF**, the parties hereto have executed this Agreement on the day and year first above written.

St. Charles Electric

By \_\_\_\_\_  
City Administrator

ATTEST:

\_\_\_\_\_  
Secretary

QF OWNER

\_\_\_\_\_  
\_\_\_\_\_

FILE: \_\_\_\_\_

Attachments:

City of St. Charles Ordinance No. 547; An Ordinance Establishing Regulations Concerning Alternative Energy Systems