

OWATONNA PUBLIC UTILITIES

Interconnection Process and Requirements For Qualifying Facilities (0 - 40 kW)



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Document History and Review

Date	Revision Description	Revised by
Mar 27,2012	Date of Original Document	

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 Company at the same site during the same billing period. Any energy delivered by the QF to Company in excess of that received by QF from Company 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).

Overview

The “Interconnection Process and Requirements for Qualifying Facilities (0 - 40kW)” document describes the requirements for connecting a Qualifying Facility (QF) generation of 40 kW or less to Owatonna Public Utilities’ (OPU) distribution system. The primary purpose of this document is to ensure that any generation system installed on OPU’s distribution system functions reliably and does not adversely affect the safety and reliability of the electrical distribution system and those working on the system.

This document will provide applicants (customers) with an understanding of the process and information required allowing OPU to review and accept the applicant’s equipment for interconnection in a reasonable and expeditious manner. This document will ensure that customers are aware of the technical interconnection requirements and OPU’s interconnection policies and practices. Generation not operating in parallel is not subject to these requirements.

The time required to complete the process will reflect the complexity of the proposed project. Projects using previously submitted designs that have been satisfactorily tested will move through the process more quickly. Several steps may be satisfied with an initial application depending on the detail and the completeness of the application and supporting documentation submitted by the customer. Customers submitting previously tested systems, however, are not exempt from providing OPU with complete design packages necessary for OPU to verify the electrical characteristics of the generator systems, the interconnecting facilities, and the impacts of the customer’s equipment on OPU’s system.

Application Process

Step 1: The inquiry is reviewed by OPU to determine the nature of the project.

OPU staff will discuss the scope of the project with the potential customer to determine what specific information and documents (i.e. application, technical requirements, specifications, applicable rate schedules and metering requirements) will be provided to the potential applicant. The preliminary technical feasibility of the project at the proposed location may also be discussed at this time.

Step 2: Potential customer files an application.

The filing must include the completed standard application form (Appendix A), including generator information, and a one-line drawing of the proposed QF and interconnecting system. OPU's application does not include the city's Building Safety requirements e.g. permit(s). The customer /or their installer is required to contact the city's Building and Safety Department for this information.

Step 3: OPU performs a review of customer's proposed interconnection design package.

OPU will review the design package to ensure that the plans and design satisfy the goal of attaining a safe, reliable, and efficient interconnection and satisfy the technical requirements for interconnection. Upon completion of the review, OPU will notify the customer of its final acceptance of the customer's design or an explanation of the technical requirements the design fails to meet.

Step 4: Customer commits to OPU's metering requirements and possible construction of distribution system modifications.

Metering for QF interconnection usually requires a non-standard metering installation. The customer will be responsible for the incremental costs of the metering over standard metering installation for the facility. If any construction on the utility distribution systems is determined to be required for the interconnection, the customer will be required to pay an advance payment for the estimated costs associated with the system modification. The customer and OPU then sign two original copies of the contract in Appendix B.

Step 5: Project construction.

The customer can now install their facility in accordance with the previously submitted design, with comments incorporated into the installation design. OPU will commence construction and installation of any system modifications and metering requirements as identified in Step 4, after receipt of estimated system upgrade costs. OPU system modifications will vary in construction time depending on the extent of work and equipment required. The schedule for this work will be discussed with the customer.

Step 6: OPU's cost reconciliation.

OPU will reconcile its actual costs related to the customer's project against any advance payments for utility distribution system construction made by the customer. The customer will receive either a bill for any balance due or a reimbursement for overpayment as determined by OPU. The customer must have all bills associated with the interconnection paid in full prior to OPU authorizing the operation of the interconnection.

Step 7: Final acceptance and interconnection.

OPU will review the results of its on-site verification and issue to the customer a formal letter of acceptance for interconnection. The customer's QF will be allowed to commence parallel operation upon electrical inspection by agencies having jurisdiction at the location, and satisfactory demonstration to OPU of the safe operation of the customer-owned QF system when interconnected to the OPU distribution system. In addition, the customer must have complied with and must continue to comply with any applicable code, safety, operating, maintenance, and or technical requirements. The customer is strongly urged to follow the manufacturer's maintenance, testing, and operation instructions for the life of the installed generation and associated controls.

Requirements for Interconnection

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. Depending on the nature of the customer's installation, a new meter socket(s) likely will need to be installed. This installation will be the customer's responsibility. See Exhibit 1 for metering details

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 OPU at all times of the year 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 OPU 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.

System Inspection

The QF will not be allowed to operate in parallel with OPU until the customer provides a satisfactory demonstration to OPU showing the safe operation of the generation system. The customer will also allow OPU to inspect and test the isolation and protective equipment when necessary as per Minnesota Rule 7835.5400.

Insurance

Due to the increased potential liability which can result from an operation of a generating facility, OPU requires a minimum liability umbrella policy of \$300,000, 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 OPU.

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 OPU above and beyond the Customer's own use will be according to the OPU Average Retail Energy Rates (ARER) calculation.

Customers with a QF over 40kW will be reviewed on a case by case basis and either fall under standard rates or a negotiated contract as per Minnesota Rules: 7835.2000, 7835.3200, 7835.3300, 7835.3400, and 7835.3500.

Rates

OPU will calculate the customer's bill for the billing period using a Net Metering calculation and with the following conditions:

1. The customer will be billed for service in accordance with the rate structure and monthly charges that the customer would be assigned if the customer had not interconnected a QF.
2. If electricity supplied by OPU exceeds electricity generated by the customer during a billing period, the customer shall be billed for the net energy supplied by OPU in accordance with the appropriate rate schedule.
3. If the kWh generated by the customer's QF exceed the kWh supplied by the grid during the billing period, OPU shall credit the customer's account by the dollar value of the excess kWh generated. This dollar value will be determined by multiplying the excess kWh generated for the month by OPU's current Average Retail Energy Rate (ARER) for the previous year.
 - a. An outstanding credit balance on the account will be applied against the customer's total monthly charges from OPU in each subsequent month until the credit balance is completely offset. The phrase "total monthly charges from OPU" refers to all charges OPU may bill for. Currently that includes, among others, these charges: electric energy sold by OPU, electric monthly customer charge, water use, water monthly customer charge, natural gas use, natural gas monthly customer charge, sales taxes, sewer charges, storm water charges, etc.
 - b. If the customer leaves the system, an outstanding credit balance on the account due to excess kWh generated will be paid to the customer after final reads process through the billing system in the same manner an outstanding credit balance on the account due to other reasons is handled.
4. The rates for sales and purchases of electricity may change over the time of this agreement. Also, at times the rates may need to be adjusted retroactively. Therefore, the customer and OPU agree that sales and purchases will be made under the rates in effect each month during the time this agreement is in force.
5. When an applicable tariff is developed and approved by the OPU Board, established agreements will come to an end. The customer will abide by the terms and conditions laid out within the new tariff.

Operation & Safety

The QF system shall not affect the safety, reliability, or operation of OPU's distribution system or adversely affect the quality of service of any adjacent customers. The QF shall not supply power to OPU during any outages of the distribution system or be used to energize any portion of a de-energized utility circuit for any reason. Islanding is not permitted. OPU may require that the QF discontinue parallel operation due to safety, reliability, operational, and power quality issues. The QF is responsible for providing protection for the installed equipment and must adhere to all applicable national, state, and local codes.



Appendix A

Application for Installation of Customer-owned Grid-connected Electric Generating System of 40 kW or Less

Customer:

Name: _____

Mailing Address: _____

Installation Address: _____

Home Phone: _____ Daytime Phone _____

Account Number: _____

System Designer & Installation Contractor Information:

Design Consultant: _____

Address: _____

Phone: _____

Contact Person: _____

Installation Contractor (if different): _____

Address: _____

Phone: _____

Contact Person: _____

Specifications:

Estimated In-Service Date: _____

Existing Electric Service: Amperes _____ 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 Rating: _____ kVa

Single Phase Three Phase

Generator Connection: Delta Wye Wye Grounded

Interconnection Voltage: _____ Volts

Metering: _____

Interconnection Compliance & Owner Acknowledgement

The electrical system referenced above shall meet OPU’s “Interconnection Process and Requirements For Qualifying Facilities (0 – 40kW)”.

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 OPU 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 OPU.

I the undersigned have completed this Appendix A for interconnection, which accurately describes the QF equipment to be interconnected and operated in parallel with OPU’s distribution system. I have read and understand the “Interconnection Process and Requirements For Qualifying Facilities (0 – 40kW)” and understand that approval of Appendix A is dependent on compliance with these requirements and the accuracy of the information as included in this Appendix A.

Customer Signature

Date



Appendix B

Contract For Cogeneration And Small Power Production Facilities

Minnesota Rules 7835.9910 UNIFORM STATEWIDE CONTRACT

THIS CONTRACT is entered into _____, _____, by OWATONNA PUBLIC UTILITIES, A MUNICIPAL CORPORATION (hereafter called "Utility") and _____ (hereafter called "QF").

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 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 available at the OPU office.

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 the 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: _____

Its _____

Date: _____

OWATONNA PUBLIC UTILITIES

By: _____

Its _____

Date: _____



Appendix C

Notification to Customers

Minnesota Rules 7835.4600, 7835.4700

- 1) Owatonna Public Utilities is obligated to interconnect with and purchase electricity from qualifying co-generators and small power producers. Qualifying facilities are defined under Subp. 19 of Minnesota Rules 7835.0100.
- 2) Owatonna Public Utilities is obligated to provide information concerning its rates and interconnection policies relative to qualifying facilities to all interested persons free of charge upon request.
- 3) Any disputes over interconnection, sales, and purchases relative to qualifying facilities are subject to resolution by the Minnesota Public Utilities Commission upon complaint.
- 4) Inquiries should be directed to:

Owatonna Public Utilities
208 S. Walnut Avenue
Owatonna, MN 55060
507-451-2480

Exhibit 1

The following diagram represents “Net Metering”:

