

ROCHESTER PUBLIC UTILITIES

Schedule 3a

Interconnection Process For Qualifying Facilities (0 - 40 kW)



Revision History

Date	Revision Description	Revised by
Mar 25, 2004	Date of Original Document	
May 11, 2010	Revised Overview, Revised and reversed Step 6 & Step 7, revised System Inspection, revised Insurance, revised Rates #3, added street light fee in Rates #3a, modified Operations to say Operations & Safety	RLA
July 28, 2011	Revised Document title, revised metering diagram ME1MI01 and added as Exhibit 1, Misc formatting changes, added Appendix A & B, added Definitions, changed document name to "...Qualifying Facility". Added proof of insurance requirement. Added Rate Option on Appendix A. Clarified language in Rates section.	RLA
Aug 16, 2011	Modified language in Step 3, Step 5, Appendix A (changed Attachment to Appendix), Appendix B (rate schedule available at office instead of attached)	RLA
Mar 1, 2012	Misc. formatting	RLA
Mar 27, 2018	Revised to be consistent with RPU's latest RPU Distributed Generation Rules and current State common interconnection agreement. Removed sections: Definitions, Billing and Rates which are now covered in rules. Revised Overview which includes reference to RPU Rules Covering Cogeneration and Small Powr Production Facilities. In contract, agreements 5, 7, 14, 15, 17, 18, 19, 20 and 21. Added Exhibit 2 to the contract showing inspection checklist.	SJC

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Overview

The interconnection of generation to RPU's electric system is covered by RPU's Distributed Generation Rules which can be found on RPU's website. The Distributed Generation Rules are a governing document approved by RPU's board.

The "Interconnection Process for Qualifying Facilities (0 - 40kW)" document is a guide that describes the process and requirements for connecting a Qualifying Facility (QF) generation of 40 kW or less to Rochester Public Utilities' (RPU) distribution system.

This document will provide customers with an understanding of the process and information required allowing RPU 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 RPU'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 RPU with complete design packages necessary for RPU to verify the electrical characteristics of the generator systems, the interconnecting facilities, and the impacts of the customer's equipment on RPU's system.

Application Process

Step 1:

Customer reviews RPU’s “Rules Distributed Generation Rules”

A copy of the above mentioned document is available on RPU’s website for the customer to review.

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. RPU’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: RPU performs a review of customer’s proposed interconnection design package.

RPU 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, RPU 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 RPU’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.

Step 5: Interconnection Agreement is Submitted

The customer submits the contract located on the RPU website. This contract will not become officially authorized until the Mayor and City Clerk have signed the copies of the contract.,

Step 6: Project construction.

The customer can now install their facility in accordance with the previously submitted design, with comments incorporated into the installation design. RPU will commence construction and installation of any system modifications and metering requirements as identified in Step 4, after receipt of estimated system upgrade costs. RPU 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 7: RPU’s cost reconciliation.

RPU 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

RPU. The customer must have all bills associated with the interconnection paid in full prior to RPU authorizing the operation of the interconnection.

Step 8: Final acceptance and interconnection.

RPU 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 RPU of the safe operation of the customer-owned QF system when interconnected to the RPU 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 requires a non-standard metering installation. The customer will be responsible for the cost associated with this 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 which 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 RPU 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 RPU 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 RPU until the customer provides a satisfactory demonstration to RPU showing the safe operation of the generation system. See Exhibit 2 for details on RPU system inspection checklist and requirements used to demonstrate safe operation.

Insurance

Due to the increased potential liability which can result from an operation of a generating facility, RPU 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 RPU.

Operation & Safety

The QF system shall not affect the safety, reliability, or operation of RPU's distribution system or adversely affect the quality of service of any adjacent customers. The QF shall not supply power to RPU 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. RPU 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 Generation Interconnection (0 - 40 kW)

Customer:

Name: _____

Address: _____

Installation Address (if different from above): _____

Home Phone: _____ Daytime Phone _____

Email: _____

Account Number: _____

System Designer & Installation Contractor Information:

Design Consultant: _____

Address: _____

Phone: _____

Email: _____

Contact Person: _____

Installation Contractor (if different): _____

Address: _____

Phone: _____

Email: _____

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: _____

Pre-Incentive Install Cost and Cost Components _____

Attach a single line diagram showing the switchgear, metering and generation facilities.

Generation Equipment Information: (Include copy of product literature)

Manufacturer: _____ Model No: _____
Version No: _____

Synchronous Induction Inverter
 Other _____

Rating: _____ kW(dc) Rating: _____ kW(ac) 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 RPU's "Interconnection Process 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 and sign RPU's "Contract For Cogeneration And Small Power Production Facilities Rated (0 to 40kW)" prior to RPU inspection of the generating system.

The customer shall submit documentation to RPU 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 RPU.

I the undersigned have completed this Appendix A for interconnection, which accurately describes the QF equipment to be interconnected and operated in parallel with RPU's distribution system. I have read and understand the "Interconnection Process 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

Exhibit 1

The Average Retail Rate and Roll-over Credit Configuration on the following diagram represents “Net Metering” along with a generation output meter:

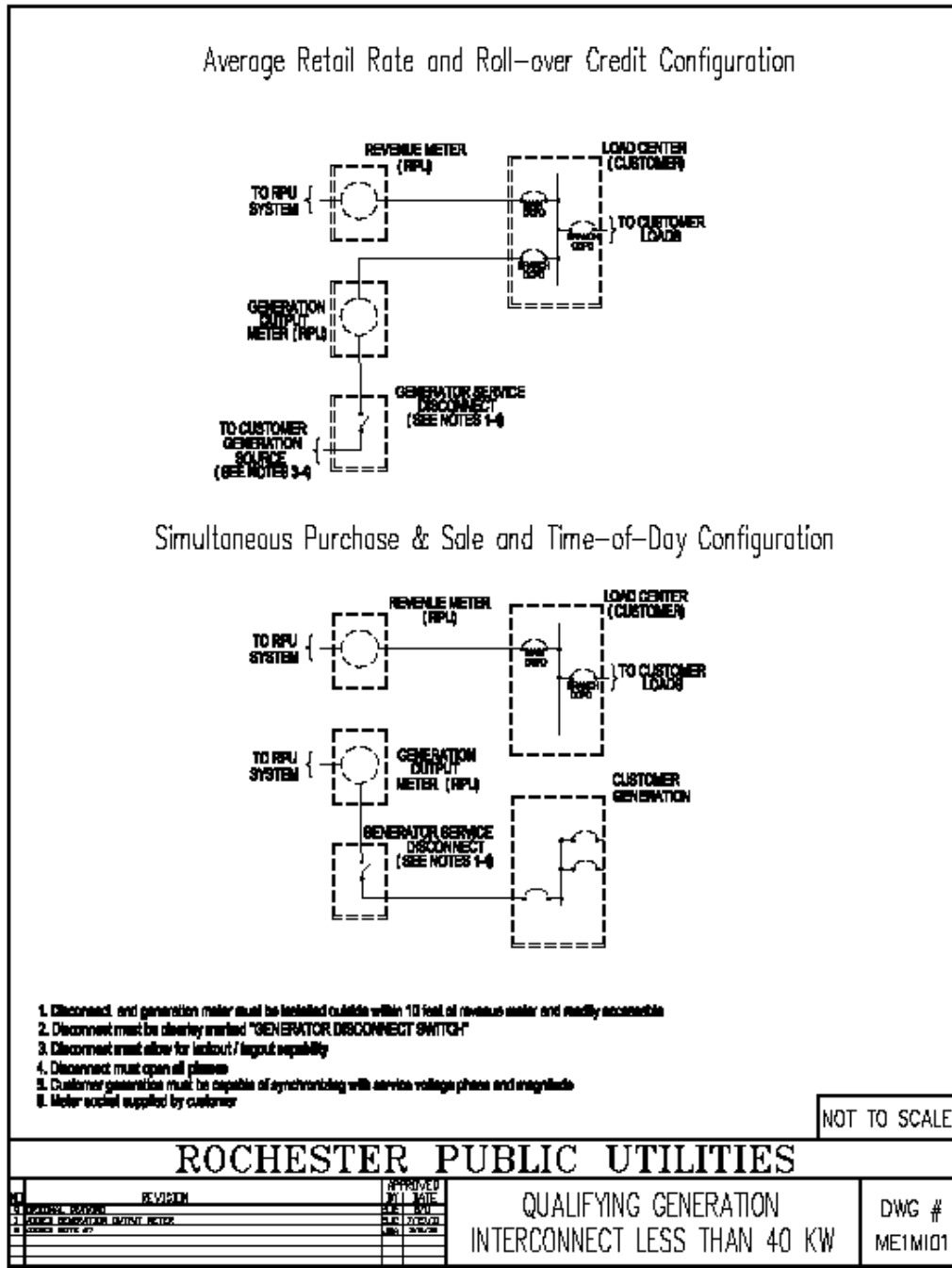


Exhibit 2

The following checklist contains the installation checklist RPU will perform prior to allowing a system to be operated in parallel with RPU's distribution system.

TASK	DATE	PERSON
Interconnection Inspection:		
<input type="checkbox"/> RPU is notified that the customer's system is installed.	_____	_____
<input type="checkbox"/> All electrical permits and inspections received from Building & Safety. Received notification from Building & Safety that the final inspection has been done and approved	_____	_____
<input type="checkbox"/> Customer or owner customer representative is present for the testing. Three phase customers acknowledge that the system will be tested for loss of phase which may cause issues to non-generating equipment and that they accept this risk. Name of representative _____ Signature of representative _____	_____	_____
<input type="checkbox"/> Testing procedure explained to customer or customer representative.	_____	_____
<input type="checkbox"/> Remote Generator Disconnect(s) installed properly and tested.	_____	_____
<input type="checkbox"/> Remote Generator Disconnect(s) labeled properly.	_____	_____
<input type="checkbox"/> Main meter area signage installed identifying location of remote Generator Disconnect(s), if located other than within 10ft of main meter.	_____	_____
<input type="checkbox"/> Disconnect the generator from utility system power and ensure the inverter(s) properly shutdown.	_____	_____
<input type="checkbox"/> Reconnect the generator to utility system power by closing the disconnect switch and ensure the system does not re-parallel with the utility system for at least 5 minute once the switch was closed.	_____	_____
Three phase systems only		
Open cutouts or pull elbows one phase at a time		
<input type="checkbox"/> All generation stopped after one phase was lost	_____	_____
<input type="checkbox"/> All generation stopped after two phases were lost		
<input type="checkbox"/> All generation stopped after three phases were lost		
<input type="checkbox"/> Production meter socket tested and production meter installed.	_____	_____
<input type="checkbox"/> Bi-directional meter installed on the day of the monthly meter read date.	_____	_____
<input type="checkbox"/> Customer notified by Tech Services that system output and disconnects have been tested and accepted as functioning properly by RPU and that an RPU owned lock needs to be installed on the remote disconnect switch cover.	_____	_____