

# City of Waterloo's Customer Self-Generation Net Metering Policy and the Self-Generation Interconnection Policy

## 2022

Section 1: City of Waterloo shall make available, upon request, net metering service to any customer taking service from City of Waterloo and who meets the requirements set forth in this policy. For purposes of this policy “net metering” means service to an electric customer under which electric energy generated by that electric customer from an eligible on-site generating facility owned by that customer and, under some circumstances, delivered to the local distribution facilities, may be used to offset electric energy provided by the electric utility to the electric customer as provided for in this policy. The term “net metering” is not used as a limiting term, but rather is used in its general sense to include the full range of methods for valuing customer self-generation and implementing fair credits for excess energy delivered to the municipal distribution system by the customer. For multi-unit residential and commercial buildings, if all units are on the same account it qualifies as a single customer for purposes of this policy. If individual units are separately metered and individual tenants have individual accounts, then the term “customer” only refers to the building owner and any usage by the owner. City of Waterloo cannot be responsible to allocate renewable generation facilities to individual accounts in a multi-unit residential or commercial building. Before the project starts construction, customer must complete the attached application form and receive approval from the Director of Public Works. Before the project in service date, the contractor must complete and deliver the attached Certification of Completion to the Director of Public Works.

Section 2: For purposes of this policy an eligible on-site generating facility shall be defined as a renewable generating facility, such as a photovoltaic facility and small wind turbines, and may include technology to store renewable energy at the customer's premises. Other forms of renewable generation shall be considered on a case-by-case basis. In all cases, facilities interconnected must be deemed by City of Waterloo to be renewable to qualify for this policy.

Section 3: The electric generating facility must also abide by City of Waterloo Interconnection Standards currently in place at the time of installation to be an eligible on-site generating facility.

Section 4: Subject to the limitations set forth herein, City of Waterloo shall make net metering service available upon request to any City of Waterloo residential or small commercial electric customer with an eligible on-site generating facility owned by the customer. Customers receiving service under the “general service” rate classification are deemed small commercial. The eligible on-site generating facility shall be located on the customer's premises and on the customer's side of the billing meter and be sized to primarily produce only enough electricity to offset the customer’s own electrical requirements. Proper sizing of eligible on-site generating facilities shall be determined as set forth in Section 13 below.

Section 5: Any request for net metering service by a customer that is not a residential or small commercial customer shall be considered on a case by case basis. The decision with respect to such facilities shall be made by the Director or Public Works based on potential impacts to the distribution system or portions thereof and to the property of other customers of City of Waterloo. Customers that do not qualify for net metering service under this Policy shall be permitted to interconnect and self-generate as required by and in accordance with the Federal Energy Regulatory Commission’s rules under the Public Utility Regulatory Policies Act (PURPA) on a case by case basis.

Section 6: Notwithstanding the provisions in Section 4, City of Waterloo reserves the authority to withhold, deny or delay approval of the interconnection of proposed on-site generating facilities and of net metering service hereunder if the operation of the facility would be unsafe or pose a risk of adverse impacts to the distribution system or portions thereof or to the property of other customers of City of Waterloo. City of Waterloo shall withhold approval for only so long as is reasonably necessary to remedy the risk of adverse impact. City of Waterloo shall only deny approval if the adverse impact cannot reasonably be remedied or if the customer refuses to meet all applicable State and local safety and electrical code requirements or refuses to provide for payment of the costs of the improvements to the facility or the system that are required to accommodate the otherwise eligible on-site generating facility. City of Waterloo shall not be required to make unscheduled improvements to its distribution system or portions thereof to remedy the situation causing the delayed or withheld approval unless the customer agrees to pay for the reasonable costs thereof. Likewise, City of Waterloo may require a customer with an approved on-site generating facility that has been installed and begun to operate to suspend operations of the

facility if it becomes unsafe or causes adverse impacts to the distribution system or portions thereof or to the property of other customers of City of Waterloo, and such suspension shall be in place only so long as is reasonably necessary to remedy the adverse impact. City of Waterloo may require the customer to disconnect the on-site generating facility from the distribution system in serious situations.

Section 7: [This Section left blank intentionally.]

Section 8: (a) Energy generated by the customer-owned generator during the billing period may supply all or a portion of the energy required by the customer's load. The customer shall be credited for excess energy delivered by the customer to City of Waterloo at the meter from the approved on-site generating facility.

(b) For all on-site generating facilities, the following credit method shall be used to determine excess energy credit: For energy delivered by the utility to the customer at the meter, as reflected in the meter reading, shall be billed at the appropriate utility full retail energy rate. For any excess energy generated by the customer from an approved on-site generating facility and delivered by the customer to the utility at the meter, as reflected in the meter reading, a credit shall be created and applied to the customer's bill set forth in Section 12 below. City of Waterloo shall install an appropriate meter to measure both the energy delivered by the utility to the customer at the meter and the energy delivered by the customer to the utility at the meter from the approved on-site generating facility.

(c) Credits from electric energy delivered to the municipal distribution system by the customer shall be used to offset usage based electric energy (kWh) charges only. No such credits shall be applied to, and the customer shall remain responsible for, (i) taxes, fees, and other charges that would otherwise be applicable to the net amount of electric energy (kWh) purchased by the customer from City of Waterloo or consumed by the customer, and (ii) other charges to the customer under any other rules, regulations or rates that are not based on per kilowatt-hour (kWh) charges, including but not limited to, basic service charges, customer service charges, facilities charges, demand charges, kVAR charges, transformation charges, taxes and assessments billed on other than kWh basis, rental fees, and late fees.

(d) City of Waterloo shall carry over any unused credits earned and apply those credits to subsequent billing periods to offset usage based electric energy (kWh) charges only for electric energy supplied to the customer by City of Waterloo until all credits are used or until the end of the annual period. The annual period shall end each year on the last day of February; provided however for new net metering customers with generating facilities installed during an annual period, the annual period shall end on the last day of February of the following year. At the end of the annual period or in the event that the customer terminates service at the service location with City of Waterloo prior to the end of annual period, any remaining credits in the customer's account shall expire and no credit or payment shall be due to the customer for such expired credits. In the event of termination of an account qualifying for net metering under this policy, any outstanding credits are surrendered. No credit or payment shall be due to the customer for such surrendered credits. Under no circumstance will credits for excess energy transfer to a new customer at the service location after the customer's service with the City of Waterloo terminates.

Section 9: Any costs City of Waterloo incurs associated with the interconnection of generating facilities by a customer, including but not limited to changes in metering (to include installation of a bi-directional meter), or other physical facilities, whether on the customer's premises or a reasonably necessary upgrade to the municipal distribution system or a portion thereof that is not on the customer's premises, shall be borne by the customer seeking to install or for whom the generating facility was installed; provided however that such costs shall be capped at \$1,500 to each qualifying customer interconnecting facilities of 10 kW or less. For those facilities greater than 10 kW that are deemed to qualify under this policy, all costs associated with the interconnection of the generating facility shall be borne by the customer seeking to install or for whom the generating facility was installed. Costs assessed under this Section shall be demonstrable and cost-based. Such costs shall not include or be based on reduced sales by or lost revenues to City of Waterloo associated with net metering service.

Section 10: [This Section left blank intentionally.]

Section 11: City of Waterloo shall develop such documents as needed to implement this policy and any customer applying for or taking service hereunder shall execute all appropriate documents.

Section 12: For all approved on-site generating facilities, including currently existing facilities, “avoided cost” shall be determined based on the sum of 1 and 2 below:

1. The rate in cents per kWh as published and approved annually by the governing body of City of Waterloo based on the calculations and recommendation from Illinois Municipal Electric Agency electric wholesale supplier. The rate shall take into consideration the following:
  - a. Historic real time pricing of prior calendar year of energy in the wholesale market as valued at the locational marginal pricing (LMP) for that location as defined by the appropriately located Regional Transmission Organization (RTO),
  - b. Solar-weighted LMP: The simple average of the LMP weighted using Solar Weighting. Solar weighting is the expected production of each hour of a typical solar installation as determined using the National Renewable Energy Laboratory (NREL) System Advisory Model (SAM) as may be amended from time to time.
  - c. Capacity value: Appropriate RTO capacity price with solar factors applied for average system peak times
  - d. Transmission Value: Appropriate RTO transmission cost recovery with solar factor applied for average peak times
2. The rate in cents per kWh as calculated by City of Waterloo for the avoidance of distribution system losses.

Section 13: The maximum size in kilowatts<sub>AC</sub> of the eligible on-site generating facility for an individual customer service location in the rate categories identified in Section 4 shall be determined as follows:

The installation of a renewable generating facility under this Policy is intended to supply all or a portion of the customer’s own peak demand of electricity. Therefore, in order to be approved, a renewable generating facility must be properly sized so as not to exceed the customers expected peak demand based on the customer’s current energy needs. It is also important to the customer that the generating facilities are properly sized because the credits under this Policy for excess energy delivered to the distribution system expire if not used within the time period established in this Policy. As part of the interconnection application, customer’s electric load profile will be analyzed using 36-months of history (if available) in order to calculate the customer’s expected peak demand. If a customer provides documentation

specifying why the usage has increased over that time, such as home renovation/addition or installation of electric heating or an electric vehicle charging station on the premises, then the previous 12-month period shall be used to determine the expected peak demand. If the applicable months of data are not available for an individual customer, the peak demands of other similar customers of City of Waterloo, as determined by City of Waterloo, shall be used to set the expected peak demand. If facilities are allowed for customers in other rate classes, the right-sizing shall be determined on a case by case basis.

In addition to the foregoing historic load profile, City of Waterloo shall consider potential adverse impacts to the distribution system and to other customers of City of Waterloo that will be caused by or expected to be caused by the installation of the new renewable generating facility at the particular customer service location as part of the interconnection application review. The maximum size of the eligible on-site generating facility for an individual customer service location shall be reduced below the expected peak demand of the customer to mitigate the potential adverse impacts to the distribution system or portions thereof and to the other customers of City of Waterloo unless the customer pays for any necessary upgrade to the system or portion thereof to avoid the potential adverse impact.

Section 14: [This Section left blank intentionally.]

Section 15: City of Waterloo reserves the right to interpret, amend or rescind this policy. Nothing herein is intended to nor shall it create a right for a customer to rely on any particular netting or crediting methodology contained in the policy from time to time, and all rates for excess credits are subject to change in accordance with the laws of the State of Illinois governing municipalities.

Section 16: Citizen and customer concerns generally with this Net Metering Policy may be raised in the public comment portion of any open meeting of the governing body of City of Waterloo at any time and will be considered by the governing body in accordance with its normal processes. Individual customer complaints, disputes or concerns shall be raised in the first instance with the Line Department Foreman. If the matter cannot be resolved at the utility staff level, this issue shall be reduced to writing and forwarded to the Public Works Director who shall schedule a meeting in person or by telephone or other communications media (i.e., Zoom call) with the customer. The

customer may invite its contractor or other consultant to participate in the meeting. If the matter cannot be resolved at this stage, the process will escalate to the Mayor or his Designee. If this process fails to resolve the matter, the customer may appeal it to the circuit court and exercise whatever rights and remedies the customer may have in law or equity. This policy shall be posted on the City of Waterloo website along with appropriate contact information.





- 1.5 **System Upgrades.** As a result of the analysis described in section 1.4, the Utility will provide the Customer with a cost estimate and projected timeframe for any distribution system upgrades that may be necessary to accommodate the generating facility.
- 1.6 **Metering.** The interconnection Customer shall be responsible for the cost to purchase and install appropriate metering. Appendix A illustrates the sample of interconnection and metering requirement, ownership and responsibilities of the Parties.
- 1.7 **Codes and Permits.**
- a) The interconnection Customer shall be responsible for procuring all building, operating, and environmental permits that are required by any governmental authority having jurisdiction for the type of generating facility and for the necessary ancillary structures to be installed, if any.
  - b) The equipment shall meet the standards listed in Section 2.7.
  - c) The construction and facilities shall meet all applicable building and electrical codes.

## Article II **Technical Requirements**

- 2.1 **Character of Service.** The electrical service shall be 60 cycles per second (60 Hertz) alternating current (AC) at supply voltages and number of phases that apply under the Utility's terms, conditions, rules, regulations and provisions for electric service, including metering requirements.
- 2.2 **Codes Requirements.** Once the generating facility has been authorized to commence parallel operation, the interconnection Customer shall abide by all operating procedures established by the National Electrical Code (NEC), National Electrical Safety Code (NESC), Institute of Electrical and Electronics Engineers (IEEE), Underwriters Laboratories (UL), and Occupational Safety and Health Administration. Specific codes are listed in Section 2.7 below as "National Certification Codes and Standards". In addition, Manufacturer's Ownership, Operating and Maintenance Manuals shall be reviewed and accepted by both Parties prior to beginning operation.
- 2.3 **Generating Facility Control and Operation.** The control system of the generating facility shall comply with the IEEE specifications and standards for parallel operation with the Utility and in particular as follows:
- a) Power output control system shall automatically disconnect from distribution system upon loss of Utility voltage and not reconnect until Utility voltage has been restored and stabilized by the Utility.
  - b) Power output control system shall ride through voltage fluctuations but shall automatically disconnect from distribution system if Utility or Customer-owned generation voltage fluctuates beyond plus or minus 10% (ten percent). The interconnection Customer shall provide adequate protection to prevent damage to the distribution system from inadvertent over/under voltage conditions originating in Customer's generating facility and to protect the Customer's generating facility from inadvertent over/under voltage conditions originating from the distribution system

- c) Power output control system shall ride through frequency fluctuations but shall automatically disconnect from Utility if frequency fluctuates beyond plus or minus 2 cycles per second from 60 cycles per second (Hertz).
- d) Inverter output distortion shall meet IEEE requirements.
- e) The generating facility shall meet the applicable IEEE standards concerning impacts to the distribution system with regard to harmonic distortion, voltage flicker, power factor, direct current injection and electromagnetic interference.
- f) The voltage produced by the Customer's generating facility must be balanced if it is a three-phase installation. The interconnection Customer is responsible for protecting the generating facility from an inadvertent phase imbalance in the Utility's service voltage.

2.4 **Fault Current Contribution.** The generating facility shall be equipped with protective equipment designed to automatically disconnect during fault current conditions and remain disconnected until the voltage and frequency have stabilized.

2.5 **Reclosing Coordination.** The generating facility shall be coordinated with the distribution system reclosing devices by disconnecting from the system during the initial de-energized operation and shall remain disconnected until the voltage and frequency have stabilized.

2.6 **Disconnect Device.** A safety manual disconnect switch of the visible load break type shall be installed by the customer. The disconnect switch shall be visible to and readily accessible by Utility personnel. The switch shall be capable of being locked in the open position and shall prevent the generator from supplying power to the distribution system.

2.7 **Standards for Interconnection, Safety, and Operating Reliability.** The interconnection of a generating facility and associated interconnection equipment to the Utility's distribution System shall meet the applicable provisions of the following publications:

- a) ANSI/IEEE1547-2018 Standard for Interconnecting Distributed Resources with Electric Power Systems (including use of IEEE 1547.1-2020 testing protocols to establish conformity) as they may be amended from time to time. The following standards shall be used as guidance in applying IEEE 1547:
- b) IEEE Std 519-2014, IEEE Recommended Practices and Requirements for Harmonic Control in Electrical Power Systems
- c) IEEE1453, IEEE Recommended Practice for the Analysis of Fluctuating Installation on Power Systems
- d) UL1741 requirement for inverter based generation
- e) NESC Electric Safety Code
- f) ANSI/NFPA 70, National Electrical Code
- g) OSHA (29 CFR § 1910.269)

## Article III

### Inspection, Testing, Authorization, and Right to Access

#### 3.1 Equipment Testing and Inspection.

- a) Upon completing construction, the interconnection Customer shall test and inspect its generating facility including the interconnection equipment prior to interconnection in accordance with updated IEEE standards 1547 and IEEE standard 1547.1 by the City of Waterloo. The interconnection Customer shall not operate its generating facility in parallel with distribution system without prior written authorization by the Utility.
- b) All interconnection related protective functions and associated direct current supplies shall be tested prior to commencement of commercial service, and (if nameplate rating of Customer's generating facilities is greater than 25 kW<sub>AC</sub>) periodically tested thereafter no less than every three (3) years.

#### 3.2 Certification of Completion.

The interconnection Customer shall provide the Utility with a copy of the Certificate of Completion with all relevant and necessary information fully completed by the interconnection Customer, as well as an inspection form from the City of Waterloo demonstrating that the generating facility passed inspection.

#### 3.3 Witness Test.

- a) The Utility shall perform a witness test after construction of the generating facility is completed but before parallel operation, unless the Utility specifically waives the witness test. The interconnection Customer shall provide the Utility at least 30 business days' notice of the planned commissioning test for the generating facility. If the Utility performs a witness test at a time that is not concurrent with the commissioning test, it shall contact the interconnection Customer to schedule the witness test at a mutually agreeable time within 10 business days after the commissioning test, the witness test is deemed waived unless the parties mutually agree to extend the date for scheduling the witness test, or unless the Utility cannot do so for good cause, in which case, the parties shall agree to another date for scheduling the test within 10 business day of the original scheduled date. For systems sized less than 25 kW<sub>AC</sub> the 30 business days' notice shall be waived.
- b) If the witness test is not acceptable to the Utility, the interconnection Customer has 30 business days to address and resolve any deficiencies. This time period may be extended upon agreement between the Utility and interconnection Customer. If the interconnection Customer fails to address and resolve the deficiencies to the satisfaction of the Utility, this Agreement shall be terminated. The interconnection Customer shall, if requested by the Utility, provide a copy of all documentation in its possession regarding testing conducted pursuant to IEEE standard 1547.1.
- c) After the generating facility passes the witness testing, the Utility shall affix an authorized signature to the Certificate of Completion and return

it to the interconnection Customer approving the interconnection and authorization parallel operation.

- 3.4 **Right of Access.** The Utility must have access to the disconnect switch and metering equipment of the generating facility at all times without notice. When practical, the Utility shall provide notice to the Customer prior to using its right of access.

**Article IV Effective Date, Term, Termination, and Disconnection**

- 4.1 **Effective Date.** This Agreement shall become effective upon execution by all parties.

- 4.2 **Term of Agreement.** This Agreement shall become effective on the effective date and shall remain in effect unless terminated earlier in accordance with Article 4.4 of this Agreement.

- 4.3 **Governing Law, Regulatory Authority, and Rules.** The validity, interpretation and enforcement of this Agreement and each of its provisions shall be governed by the Codes and Regulations of City of Waterloo as well as the laws of the State of Illinois without regard to its choice of law principals. Nothing in this Agreement is intended to affect any other agreement between the Utility and the interconnection Customer.

- 4.4 **Termination.** This Agreement may be terminated under the following conditions:
- a) By interconnection Customer - The interconnection Customer may terminate this Agreement by providing written notice to the Utility. If the interconnection Customer ceases operation of the generating facility, the interconnection Customer must notify the Utility.
  - b) By the Utility - The Utility may terminate this Agreement if the interconnection Customer fails to remedy a violation of the terms of this Agreement within 30 calendar days after notice, or such other date as may be mutually agreed to prior to the expiration of the 30 calendar day remedy period. The termination date may be no less than 30 calendar days after the interconnection Customer receives notice of its violation from the Utility.
  - c) Upon termination of this Agreement, the generating facility will be permanently disconnected from the distribution system. Terminating this Agreement does not relieve either party of its liabilities and obligations that are owed or continuing when the Agreement is terminated.
  - d) Upon termination of this Agreement, the Utility shall open and padlock the manual disconnect switch on Customer's premises.

- 4.5 **Disconnection.** The Utility may temporarily disconnect the generating facility upon any of the following conditions, but must reconnect the generating facility once the condition is cured:
- a) For scheduled outages, provided that the generating facility is treated in the same manner as Utility's load Customers;

- b) For unscheduled outages or emergency conditions;
- c) If the generating facility does not operate in the manner consistent with this Agreement;
- d) Improper installation or failure to pass the witness test;
- e) If the generating facility is creating a safety, reliability or a power quality problem; or
- f) The interconnection equipment used by the generating facility is de-listed by the nationally recognized testing Laboratory that provided the listing at the time the interconnection was approved.
- g) Failure of the customer to obtain or maintain the insurance coverage set forth in Article 7 of this Agreement.

4.6 **Modification of Generating Facility.** The interconnection Customer must receive written authorization from the Utility before making any changes to the generating facility that could affect the distribution system. If the interconnection Customer makes such modifications without the Utility's prior written authorization, the Utility shall have the right to disconnect the generating facility immediately.

4.7 **Permanent Disconnection.** In the event the Agreement is terminated, the Utility shall have the right to disconnect its distribution system or direct the interconnection Customer to disconnect its generating facility.

4.8 **Lost Opportunity.** The Utility is not responsible for any lost opportunity or other costs incurred by the interconnection Customer as a result of an interruption of service under this Article 4.

## Article V **Cost Responsibility for Interconnection Facilities and Distribution Upgrades**

### 5.1 **Interconnection Facilities.**

- a) The interconnection Customer is responsible for the cost of additional interconnection facilities necessary to interconnect the generating facility with the distribution system.
- b) The interconnection Customer is responsible for its expenses, including overheads, associated with owning, operation, maintaining, repairing, and replacing its interconnection equipment
- c) **Distribution System Upgrades.** The Utility shall design, procure, construct, install, and own any distribution system upgrades. The cost of the distribution system upgrades shall be directly assigned to the interconnection Customer whose generating facility caused the need for the distribution system upgrades.

5.2 **Cost for Small Systems.** For qualifying systems sized 10 kW<sub>AC</sub> or less the cost in section 5.1 shall be capped at \$1500.

## Article VI

### Assignment, Limitation on Damages, Indemnity, Force Majeure

- 6.1 **Assignment/Transfer of Ownership of the Generating Facility.** This Agreement shall terminate upon the transfer of ownership of the generating facility to a new owner unless the transferring owner assigns the Agreement to the new owner, the new owner agrees in writing to the terms of this Agreement, and the transferring owner so notifies the Utility in writing prior to the transfer of ownership.
- 6.2 **Limitation of Liability.** Each Party's liability to the other Party for any loss, cost, claim, injury, liability, or expense, including reasonable attorney's fees, relating to or arising from any act or omission in its performance of this Agreement, shall be limited to the amount of direct damage actually incurred. In no event shall either Party be liable to the other Party for any indirect, incidental, special, consequential, or punitive damages of any kind whatsoever.
- 6.3 **Indemnification.** The interconnection Customer shall indemnify and defend the city, Utility and the elected officials, directors, officers, employees, and agents from all damages and expenses resulting from any third party claim arising out of or based upon the interconnection Customer's (a) negligence or willful misconduct; (b) breach of this Agreement; or (c) the operation of the Customer's generating facility, regardless of Customer's negligence or willful misconduct, except when and to the extent the loss occurs due to the grossly negligent actions of the Utility. The Utility shall indemnify and defend the interconnection Customer and the interconnection Customer's directors, officers, employees, and agents from all damages and expenses resulting from a third party claim arising out of or based upon the Utility's (a) negligence or willful misconduct or (b) breach of this Agreement.
- 6.4 **Force Majeure.** If a force majeure event prevents a Party from fulfilling any obligations under this Agreement, the Party effected by the force majeure event (Affected Party) shall notify the other Party of the existence of the force majeure event within one business day. The notification must specify the circumstances of the force majeure event, the expected duration, and the steps that the Affected Party is taking and will take to mitigate the effects of the event on its performance. If the initial notification is verbal, it must be followed up with a written notification within one business day. The Affected Party shall keep the other Party informed on a continuing basis of developments relating to the force majeure event until the event ends. The Affected Party may suspend or modify its obligations under this Agreement. The term "force majeure" shall mean any act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, epidemic, pandemic, breakage or accident to machinery or equipment, an order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond a Party's reasonable control. A Force Majeure event does not include an act of negligence or intentional wrongdoing by the Party claiming Force Majeure.

**Article VII Insurance**

- 7.1 **Insurance.** The interconnection customer shall carry general liability insurance coverage, such as, but not limited to, homeowner's insurance or commercial building insurance. The interconnection Customer shall provide the Utility with proof that it has a current homeowner's insurance or commercial building insurance policy, or other general liability policy. The interconnection Customer shall name the City of Waterloo as an additional insured on its homeowner's insurance or commercial building insurance policy, or similar policy covering general liability and shall cause the insurance company to issue a Certificate of Insurance to the City of Waterloo annually. The interconnection customer shall notify the City of Waterloo immediately if such insurance policy is terminated or cancelled prior to the end of its term and if the insurance company has communicated an intent not to renew the policy.

**Article VIII Documents and Notices**

- 8.1 **Documents.** The Agreement includes the following documents, which are attached and incorporated by reference:
- a) One-line drawing
  - b) Interconnection Request Application Form
  - c) System Upgrade Estimated Costs
  - d) Certificate of Completion
- 8.2 **Notice.** The Parties may mutually agree to provide notices, demands, comments, or requests by electronic means such as e-mail. Absent Agreement to electronic communication, or unless otherwise provided in this Agreement, any written notice, demand, or request required or authorized in connection with this Agreement shall be deemed properly given if delivered in person, delivered by recognized national courier service, or sent by first class mail, postage prepaid, to the person specified below:

**If to Interconnection Customer:**

Use the contact information provided in the interconnection Customer's application. The interconnection Customer is responsible for notifying the City of Waterloo of any change in the contact party information, including change of ownership.

**If to Utility:**

Use the contact information provided below. The City of Waterloo is responsible for notifying the interconnection Customer of any change in the contact party information.

Name:

\_\_\_\_\_

Mailing Address:

\_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Telephone (Daytime): \_\_\_\_\_ (Evening): \_\_\_\_\_

Fax Number: \_\_\_\_\_ E-Mail Address: \_\_\_\_\_

**Article IX                      Signatures**

**IN WITNESS WHEREOF**, the Parties have caused this Agreement to be executed by their respective duly authorized representatives.

**Interconnection Customer:**

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

Signature: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

**City of Waterloo:**

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

Signature: \_\_\_\_\_

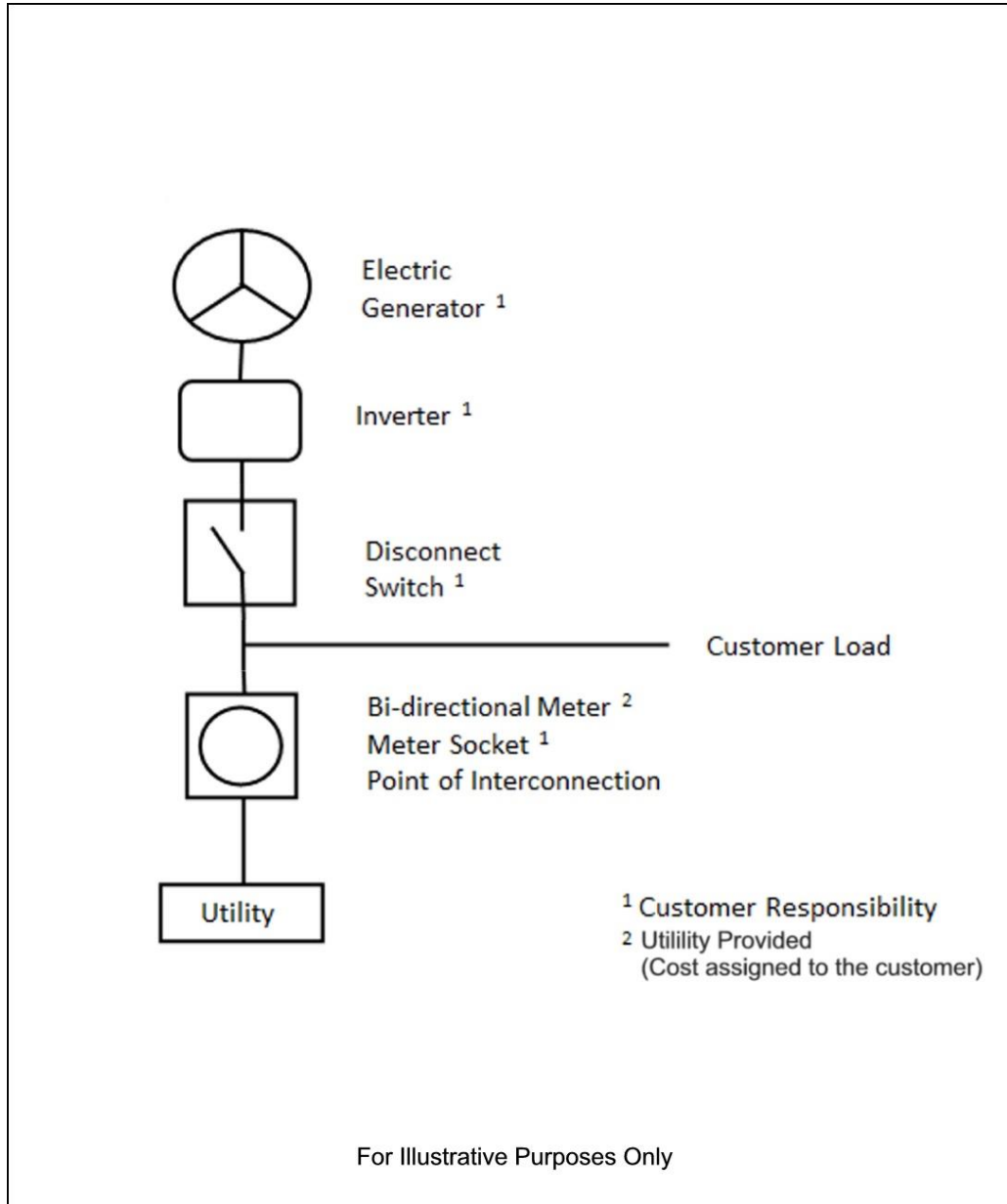
Title: \_\_\_\_\_

Date: \_\_\_\_\_



APPENDIX A

Sample One-line Interconnection Diagram



**City of Waterloo Standard Distributed Generation Interconnection  
Interconnection Request Application Form  
(Lab-Certified) Inverter-Based Distributed Generation Facilities 25KW<sub>AC</sub> and Smaller**

**Interconnection Applicant Contact Information**

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

Primary Contact: \_\_\_\_\_

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

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Telephone (Daytime): \_\_\_\_\_ (Evening): \_\_\_\_\_

Fax Number: \_\_\_\_\_ E-Mail Address: \_\_\_\_\_

Additional Contact Information (if different from primary contact)

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

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

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Telephone (Daytime): \_\_\_\_\_ (Evening): \_\_\_\_\_

Fax Number: \_\_\_\_\_ E-Mail Address: \_\_\_\_\_

**Equipment Contractor**

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

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

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Telephone (Daytime): \_\_\_\_\_ (Evening): \_\_\_\_\_

Fax Number: \_\_\_\_\_ E-Mail Address: \_\_\_\_\_

**Electrical Contractor (if Different from Equipment Contractor):**

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

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

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Telephone (Daytime): \_\_\_\_\_ (Evening): \_\_\_\_\_

Fax Number: \_\_\_\_\_ E-Mail Address: \_\_\_\_\_

Contractor License number: \_\_\_\_\_

Active License?        Yes                No

Registered with Municipality?        Yes                No

Is the Interconnection Customer requesting Net Metering?

Yes    No

**Distributed Generation Facility (“Facility”) Information**

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

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

(Utility) serving Facility site: \_\_\_\_\_

Account Number of Facility site: \_\_\_\_\_

Inverter Manufacturer: \_\_\_\_\_ Model: \_\_\_\_\_

Is the inverter lab-certified as that term is defined in the Illinois Distributed Generation Interconnection Standard? Yes No

(If yes, attach manufacturer’s technical specifications and label information from a nationally recognized testing laboratory.)

Generation Facility Nameplate Rating: \_\_\_\_\_ (kW) \_\_\_\_\_ (kVA) \_\_\_\_\_ (AC Volts)

Prime Mover:    Photovoltaic                Turbine

Energy Source: Solar                Wind

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

(If the In-Service Date changes, the interconnection customer must inform the utility as soon as it is aware of the changed date.)

**Insurance Disclosure**

The attached terms and conditions contain provisions related to liability and indemnification, and should be carefully considered by the interconnection customer. The interconnection customer shall carry general liability insurance coverage, such as, but not limited to, homeowner’s insurance. The interconnection customer shall name the City of Waterloo as an additional insured on its homeowner’s insurance policy, or similar policy covering general liability.

**Customer Signature**

I hereby certify that: (1) I have read and understand the terms and conditions which are attached hereto by reference; (2) I hereby agree to comply with the attached terms and conditions; and (3) to the best of my knowledge, all of the information provided in this application request form is complete and true.

Applicant Signature: \_\_\_\_\_ Date: \_\_\_\_\_

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

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**Conditional Agreement to Interconnect Distributed Generation Facility**

By its signature below, the City of Waterloo has determined the interconnection request is complete. Interconnection of the distributed generation facility is conditionally approved contingent upon the attached terms and conditions of this Agreement, the return of the attached Certificate of Completion, duly executed verification of electrical inspection and successful witness test.

City of Waterloo  
Representative Signature: \_\_\_\_\_ Date: \_\_\_\_\_

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

# Interconnection Request Application Form

(Greater than 25kW<sub>AC</sub>)

## Interconnection Applicant Contact Information

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

Primary Contact: \_\_\_\_\_

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

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Telephone (Daytime): \_\_\_\_\_ (Evening): \_\_\_\_\_

Fax Number: \_\_\_\_\_ E-Mail Address: \_\_\_\_\_

Alternative Contact Information (if different from Primary Contact Information)

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

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

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Telephone (Daytime): \_\_\_\_\_ (Evening): \_\_\_\_\_

Fax Number: \_\_\_\_\_ E-Mail Address: \_\_\_\_\_

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

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

(utility name) serving Facility site: \_\_\_\_\_

Account Number of Facility site (existing utility customers): \_\_\_\_\_

Inverter Manufacturer: \_\_\_\_\_ Model: \_\_\_\_\_

## Equipment Contractor

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

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

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Telephone (Daytime): \_\_\_\_\_ (Evening): \_\_\_\_\_

Fax Number: \_\_\_\_\_ E-Mail Address: \_\_\_\_\_

**Electrical Contractor** (if different from Equipment Contractor)

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

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

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Telephone (Daytime): \_\_\_\_\_ (Evening): \_\_\_\_\_

Fax Number: \_\_\_\_\_ E-Mail Address: \_\_\_\_\_

License number: \_\_\_\_\_

**Electric Service Information for Customer Facility Where Generator Will Be Interconnected**

Capacity: \_\_\_\_\_ (Amps) Voltage: \_\_\_\_\_ (Volts)

Type of Service:       Single Phase                               Three Phase

If 3 Phase Transformer, Indicate Type:

Primary Winding               Wye               Delta

Secondary Winding            Wye               Delta

Transformer Size: \_\_\_\_\_ Impedance: \_\_\_\_\_

**Generator & Prime Mover Information**

ENERGY SOURCE (Wind and Solar):  
\_\_\_\_\_

ENERGY CONVERTER TYPE (Wind Turbine, Photovoltaic Cell,):  
\_\_\_\_\_

GENERATOR SIZE:  kW or kVA	NUMBER OF UNITS:  	TOTAL CAPACITY:  kW or kVA
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GENERATOR TYPE (Check one):  
Induction       Inverter       Synchronous       Other

**Distributed Generation Facility Information**

**In-Service Date:** \_\_\_\_\_

**List interconnection components/systems to be used in the distributed generation facility that are lab-certified.**

Component/System	NRTL Providing Label & Listing
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____

Please provide copies of manufacturer brochures or technical specifications.

**Energy Production Equipment/Inverter Information:**

Synchronous      Induction      Inverter      Other \_\_\_\_\_

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

Rated Voltage: \_\_\_\_\_ Volts

Rated Current: \_\_\_\_\_ Amps

System Type Tested (Total System):  
Yes      No; attach product literature

**Additional Information For Inverter-Based Facilities**

**Inverter Information:**

Manufacturer: \_\_\_\_\_ Model: \_\_\_\_\_

Type:    Forced Commutated      Line Commutated

Rated Output: \_\_\_\_\_ Watts      \_\_\_\_\_ Volts

Efficiency: \_\_\_\_\_ %      Power Factor: \_\_\_\_\_ %

Inverter UL 1741 Listed:      Yes      No

**DC Source / Prime Mover:**

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

Rated Voltage: \_\_\_\_\_ Volts

Open Circuit Voltage (if applicable): \_\_\_\_\_ Volts

Rated Current: \_\_\_\_\_ Amps

Short Circuit Current (if applicable): \_\_\_\_\_ Amps

**Other Facility Information:**

One Line Diagram attached: Yes

Plot Plan attached: Yes

**Insurance Disclosure**

The attached terms and conditions contain provisions related to liability and indemnification, and should be carefully considered by the interconnection customer. The interconnection customer shall carry general liability insurance coverage, such as, but not limited to, homeowner's insurance. The interconnection customer shall name the City of Waterloo as an additional insured on its homeowner's insurance policy, or similar policy covering general liability.

**Customer Signature**

I hereby certify that all of the information provided in this Interconnection Request Application Form is true.

Applicant Signature: \_\_\_\_\_

Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_



**City of Waterloo Acknowledgement**

Receipt of the application fee is acknowledged and this interconnection request is complete.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_

## Certificate of Completion

To be completed and returned to the Director of Public Works when installation is complete and final electric inspector approval has been obtained\*

### Interconnection Customer Information

Customer Name: \_\_\_\_\_  
Primary Contact: \_\_\_\_\_  
Mailing Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_  
Telephone (Daytime): \_\_\_\_\_ (Evening): \_\_\_\_\_  
Fax Number: \_\_\_\_\_ E-Mail Address: \_\_\_\_\_

### Installer

Check if owner-installed

Name: \_\_\_\_\_  
Mailing Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_  
Telephone (Daytime): \_\_\_\_\_ (Evening): \_\_\_\_\_  
Fax Number: \_\_\_\_\_ E-Mail Address: \_\_\_\_\_

### Final Electric Inspection and Interconnection Customer Signature

The distributed generation facility is complete and has been approved by the local electric inspector having jurisdiction. A signed copy of the electric inspector's form indicating final approval is attached. The interconnection customer acknowledges that it shall not operate the distributed generation facility until receipt of the final acceptance and approval by the utility as provided below.

Signed: \_\_\_\_\_ Date: \_\_\_\_\_  
*(Signature of interconnection customer)*

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

Check if copy of signed electric inspection form is attached

Check if copy of as built documents is attached (projects larger than 10 kVA only)

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### Acceptance and Final Approval for Interconnection (for utility use only)

The interconnection agreement is approved and the distributed generation facility is approved for interconnected operation upon the signing and return of this Certificate of Completion by utility:

Utility waives Witness Test? (Initial) Yes (\_\_\_) No (\_\_\_)

If not waived, date of successful Witness Test: \_\_\_\_\_ Passed: (Initial) \_\_\_\_\_

Utility Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_

\* Prior to interconnected operation, the interconnection customer is required to complete this form and return it to the utility.

# Customer Self-Generation Interconnection Policy

## 2022

Section 1: City of Waterloo shall make available, upon request, interconnection services to any customer that meets the required guidelines. Interconnection services in this policy refers to on-site generating facilities (as defined in the Customer Self-Generation Net Metering Policy) connected to City of Waterloo electric distribution system in a manner that will allow excess electricity generated by the eligible on-site generating facility to be safely delivered onto City of Waterloo electric distribution system.

Section 2: Guidelines for interconnecting to the utility system are as follows;

- a. Only generating facilities that have been approved by the Superintendent of Electric shall be interconnected with City of Waterloo electric distribution system.
- b. All interconnections shall comply with codes established by National Electrical Code (NEC), National Electrical Safety Code (NESC), Institute of Electrical and Electronics Engineers (IEEE), and Underwriters Laboratories (UL) as they may be amended from time to time.
- c. Construction and development of generating facilities is required to follow all applicable building codes, permitting processes, and zoning rules.
- d. City of Waterloo is under no obligation to purchase energy supplied to the City of Waterloo under this standard. This does not preclude the customer meeting applicable standards that would allow the customer to supply power onto the City of Waterloo's system and receive credit for such energy under the City of Waterloo Customer Self-Generation Net Metering Policy or the Public Utility Regulatory Policies Act (PURPA).
- e. The City of Waterloo may require periodic testing of systems. All test reports shall be submitted to the City of Waterloo Engineering Department after completion of the testing.
- f. City of Waterloo may charge reasonable fees associated with the implementation and application of this policy.

Section 3: The terms and conditions for any and all such interconnections are set forth in the attached model Interconnection Agreement, which may be reasonably adapted by City of Waterloo staff from time to time in implementing this policy and the Customer Self-Generation Net Metering Policy.

Section 4: City of Waterloo staff shall develop such documents as needed to implement this policy from time to time.