ORDINANCE NO. 4048-20

AN ORDINANCE ADOPTING AND INCORPORATING BY REFERENCE, THE INTERCONNECTION STANDARDS FOR PARALLEL INSTALLATION AND OPERATION OF CUSTOMER OWNED ELECTRIC GENERATING FACILITIES, WITH PROPOSED AMENDMENT, AND REPEALING PRIOR INCONSISTENT ORDINANCES.

BE IT ORDAINED BY THE GOVERNING BODY OF THE CITY OF OTTAWA, KANSAS:

SECTION 1. There is hereby adopted and incorporated by reference by the City of Ottawa the Interconnection Standards for Parallel Installation and Operation of Customer Owned Electric Generating Facilities together with all policy positions, procedures, agreements and standards all contained in the Community Wind Renewable Energy Interconnection and Operations Workshop Manual, July 24, 2007, prepared for the City of Ottawa, Kansas by the Kansas Municipal Energy Agency as amended below. No fewer than one copy of the publication shall be marked or stamped "official copy as adopted by ordinance No. ____ of the City of Ottawa, Kansas," and shall be filed with the City Clerk and open for inspection and available to the public at all reasonable hours.

SECTION 2. Numbered paragraph 4 of the Interconnection Standards is hereby amended to the following:

4. SYSTEM UPGRADES:
   a) As a result of the above analysis, the City will provide the Customer with a cost estimate and projected timeframe for any system upgrades that may be necessary to accommodate the generating facility.
   b) When a property owner is performing upgrades or additions to their electric service which requires a licensed electrician, the Utility Director, or their designee, may direct the customer to upgrade their service entrance to meet the current Electric Utility standards installation.

SECTION 3. All other ordinances or parts of ordinances in conflict herewith are hereby repealed.

SECTION 4. If any section, subsection, sentence, clause or phrase of this Ordinance is, for any reason, held to be unconstitutional, such decision shall not affect the validity of the remaining portions of this Ordinance. The Governing Body of the City of Ottawa, Kansas, hereby declares that it would have passed this Ordinance, and each section, subsection, clause or phrase thereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses and phrases be declared unconstitutional.

SECTION 5. Compensation to said customer for excess energy supplied to the City shall be in accordance with State or Federal Law.

SECTION 6. The City Clerk is hereby ordered and directed to cause this Ordinance to be published in the Ottawa Herald one time as required by law.

SECTION 7. This Ordinance and rules, regulations, provision, requirements, orders and matters established and adopted hereby shall take effect and be in full force and effect from and after the date of its final passage and adoption and publication.

PASSED by the City Commission and approved by the Mayor this 5th day of February, 2020.

Mayor

ATTEST:

Amy Finch, City Clerk

FRANKLIN COUNTY CITY SEAL OF OTTAWA KANSAS

City of Ottawa, Kansas
Electric Department

Interconnection Standards
For
Parallel Installation and Operation
Of
Customer-Owned
Electric Generating Facilities

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PROGRAM OVERVIEW

1. ELIGIBILITY:
   a. Interconnection to the electric system shall be granted only to new or existing customers, in good standing, under the City's electric service schedules. The Interconnection Agreement shall be between the Customer and the City and will not include third parties. Customers with more than 1 interconnection point are eligible for more than 1 Customer-owned generation.
   b. The Customer-owned generation output is used to meet the annual use of the Customer.
   c. The Interconnection Standards are intended for Customer-owned generation with a nameplate output limited to the following:
      1) 100,000 watts (100 kW), Systems rated for more than 100 kW will be handled under a different process and may involve the local control area and regional transmission organization.

2. REQUEST:
   The Customer shall make a request by completing the attached document entitled "Application for Interconnection". The City may require additional details or clarifications as needed to properly evaluate the application.

3. SYSTEM EFFECTS:
   The City will analyze the overall impact of the proposed generating facility on the transmission and distribution system. Such analyses will be based on Good Utility Practice to determine thermal effects, voltage ranges, power quality, system stability, etc.

4. SYSTEM UPGRADES:
   a) As a result of the above analysis, the City will provide the Customer with a cost estimate and projected timeframe for any system upgrades that may be necessary to accommodate the generating facility.
   b) When a property owner is performing upgrades or additions to their electric service which requires a licensed electrician, the Utility Director, or their designee, may direct the customer to upgrade their service entrance to meet the current Electric Utility standards installation.

5. AGREEMENT:
   Once the Customer and the City have identified mutually agreed on the scope of the overall project including the generating facility, system upgrades and estimated costs, the Customer and the City shall execute the attached document entitled "Interconnection Agreement".

6. CODES AND PERMITS:
   a. The 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.

b. The equipment shall meet the standards listed in the attached document entitled "National Certification Codes and Standards". These standards and codes are hereby adopted by reference.
c. The construction and facilities shall meet all local building and electrical codes.

7. NET METERING:
The Customer shall complete the necessary net metering service schedule documentation to permit the bi-directional flow of electricity and the financial treatment of the net deliveries.

8. CERTIFICATE OF COMPLETION:
Upon completion of the generating facility and prior to normal operation, the Customer shall provide a signed copy of the attached document entitled "Certificate of Completion".

9. NORMAL OPERATION:
The Customer may begin normal operation of the generating facility upon completion of all documentation and receipt of written approval from the City.

10. DEFINITIONS:
All capitalized terms and phrases throughout this set of standards shall be defined as indicated in the attached Glossary of Terms.

TECHNICAL REQUIREMENTS

1. CHARACTER OF SERVICE:
The electrical service shall be 60 cycle per second alternating current (AC) at supply voltages and number of phases that apply under the City's rate schedules.

2. CODE REQUIREMENTS:
The Generating Facility shall meet all requirements established by the National Electrical Code (NEC), National Electrical Safety Code (NESC), Institute of Electrical and Electronics Engineers (IEEE), and Underwriters Laboratories (UL). Specific codes are listed on the attached document entitled "National Certification Codes and Standards".

3. GENERATING FACILITY PARAMETERS:
The control system of the Generating Facility shall comply with the IEEE specifications and standards for parallel operation with the City, and in particular as follows:
   a. Power output control system shall automatically disconnect from City source upon loss of City voltage and not reconnect until City voltage has been restored by the City.
   b. Power output control system shall automatically disconnect from City source if City voltage fluctuates beyond plus or minus 10% (ten percent).
   c. Power output control system shall automatically disconnect from City if frequency fluctuates plus or minus 2 cycles (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.

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.

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.

6. DISCONNECT DEVICE:
A safety disconnect switch shall be installed that is visible to and readily accessible by City 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.

Application for Interconnection

This Application is considered complete when it provides all applicable and correct information required below. Additional information or clarification to evaluate the Application may be requested by the City.

Processing Fee

A non-refundable processing fee of $**200.00** must accompany this Application. Additional charges for professional engineering recommendation shall apply if the scope of the project is beyond the professional abilities of staff. An estimated amount for these studies shall be provided by the City prior to commencement of the project.

Customer

Name: _____

Contact Person: _____

Address: _____

City: _____ State: _____ Zip: _____

Telephone (Day): _____ (Evening): _____

Fax: _____ E-Mail Address: _____

Contact (if different from Customer)

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Telephone (Day): _____ (Evening): _____

Fax: _____ E-Mail Address: _____

Owner of the facility: _____

Generating Facility Information

Location (if different from above): _____

Electric Service Company: _____

Account Number: _____

Inverter Manufacturer: _____

Model _____

Nameplate Rating: (kW) _____ (kVA) _____

(AC Volts) Single Phase _____ Three Phase _____

System Design Capacity: _____ (kW) _____ (kVA)

Prime Mover: Photovoltaic ☐ Reciprocating Engine ☐ Fuel Cell ☐

Turbine ☐ Other _____

Energy Source: Solar ☐ Wind ☐ Hydro ☐ Diesel ☐ Natural Gas ☐

Fuel Oil ☐ Other (describe) _____

Is the equipment UL1741 Listed? Yes_____ No ___

If Yes, attach manufacturer's cut-sheet showing UL1741 listing

Estimated Installation Date: _____ Estimated In-Service Date: _____

List components of the Small Generating Facility equipment package that are currently certified:

Equipment Type	Certifying Entity
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____

Customer Signature

I hereby certify that, to the best of my knowledge, the information provided in this Application is true. I agree to abide by the terms and conditions of the City's Interconnection Standard and will return the Certificate of Completion when the Generating Facility has been installed.

Signed: _____

Title: _____ Date: _____

Contingent Approval to Interconnect the Generating Facility

Interconnection of the Generating Facility is approved contingent upon the terms and conditions of the City's Interconnection Standard and upon return of the Certificate of Completion.

City Utility Department Signature: _____

Title: _____ Date: _____

Application ID number: _____

City waives inspection/witness test? Yes___ No___

INTERCONNECTION AGREEMENT

This Agreement, ("**Agreement**") is entered into by and between the **City of Ottawa, Kansas** ("**City**"), and _____, ("**Customer**"). Customer and City are referenced in this Agreement collectively as "**Parties**" and individually as "**Party**."

Recitals

WHEREAS, City is a publicly-owned electric utility engaged in the retail sale of electricity in the state of Kansas;

WHEREAS, Customer owns or desires to install, own and operate an electric Generating Facility;

Agreement

NOW, THEREFORE, in consideration of the covenants and promises herein, the Parties mutually agree as follows:

1. SCOPE OF AGREEMENT
   This Agreement governs the terms and conditions under which the Customer's Generating Facility will interconnect with, and operate in parallel with, the City's electrical system.

2. PARALLEL OPERATION
   Customer shall not commence parallel operation of the generating facility until written approval of the interconnection facilities has been given by City. Such approval shall not be unreasonably withheld. City shall have the right to have representatives present at the initial testing of Customer's protective apparatus.

3. INTERCONNECTION COSTS
   The City has estimated the costs, including overheads, for the purchase and construction of necessary System Upgrades to its Distribution System and has provided a detailed itemization of such costs on the attached document entitled "System Upgrade Estimated Costs". The Customer agrees to pay the costs upon receipt of the City's invoice within the timeframe indicated on the invoice.

4. INTERRUPTION OR REDUCTION OF DELIVERIES
   City may require Customer to interrupt or reduce deliveries when the City determines, in its sole discretion, that curtailment, interruption or reduction is necessary because of personnel safety, emergencies, Force Majeure or compliance with Good Utility Practices.

5. ADVERSE OPERATING EFFECTS
   The interconnection of the customer-owned generation shall not reduce the reliability and quality of the Distribution System. This includes, but is not limited to high levels of harmonics, abnormal voltage fluctuations and excessive frequency deviations. The City

shall notify the Customer as soon as practicable if, based on Good Utility Practice, operation of the Generating Facility may cause disruption or deterioration of service to other customers served from the same electric system, or if operating the Generating Facility could cause damage to the City's distribution system. If, after notice, the Customer fails to remedy the adverse operating effect within a reasonable time, the City shall disconnect the Generating Facility. The City shall provide the Customer with notice of such disconnection as provided in the City's Service Policies. If the Customer disagrees with the disconnection performed by the City, the Customer shall provide in writing, notice to the Director of Utility.

6. ACCESS TO PREMISES

City shall have access to the Customer's premises or property as permitted in the Service Policies.

7. INDEMNITY AND LIABILITY

The Parties shall at all times indemnify, defend, and hold the other Party and the directors, officers, employees and agents for said Party, harmless from, any and all damages, losses, claims, including claims and actions relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from the other Party's action or failure to meet its obligations under this Agreement on behalf of the indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the indemnified Party.

8. CONSEQUENTIAL DAMAGES

Other than as expressly provided for in this Agreement, neither Party shall be liable under any provision of this Agreement for any losses, damages, costs or expenses for any special, indirect, incidental, consequential, or punitive damages, including but not limited to loss of profit or revenue, loss of the use of equipment, cost of capital, cost of temporary equipment or services, whether based in whole or in part in contract, in tort, including negligence, strict liability, or any other theory of liability; provided, however, that damages for which a Party may be liable to the other Party under another agreement will not be considered to be special, indirect, incidental, or consequential damages hereunder.

11. INSURANCE

The Customer shall, at its own expense, maintain in force general liability insurance without any exclusion for liabilities related to the interconnection undertaken pursuant to this Agreement. The amount of such insurance shall be sufficient to insure against all reasonably foreseeable direct liabilities given the size and nature of the generating equipment being interconnected, the interconnection itself, and the characteristics of the system to which the interconnection is made. The Customer shall obtain additional insurance only if necessary as a function of owning and operating a generating facility. Such insurance shall be obtained from an insurance provider authorized to do business in the State of Kansas. Certification that such insurance is in effect shall be provided upon request of the City, except that the Customer shall show proof of insurance to the City no later than ten Business Days prior to the anticipated date of normal operation.

12. GOVERNING LAW

This Agreement shall be interpreted and governed under the laws of the State of Kansas. Venue of any action arising hereunder or related to this Agreement shall lie in Franklin County, Kansas.

13. DOCUMENTS

The Agreement includes the following documents, which are attached and incorporated by reference:

a. Application For Interconnection,
b. Net Metering service schedule,
c. Certificate of Completion and,
d. Other documents of the City's Interconnection Standards for Parallel Operation and Net Metering of Customer-Owned Electric Generating Facilities.

14. GLOSSARY OF TERMS

Capitalized terms used herein shall have the meanings specified in the attached document entitled "Glossary of Terms".

15. NOTICES

All written notices shall be directed as follows:

CITY:	**City of Ottawa, Kansas** **Director of Utilities** **101 S. Hickory, P.O. Box 60** **Ottawa, Kansas 66067**
CUSTOMER:	Name _____ Address _____ City _____

16. TERM OF AGREEMENT

This Agreement shall be in effect when signed by the Customer and City and shall remain in effect thereafter month to month unless terminated by either Party on thirty (30) days prior written notice and in accordance with the Service Policies.

IN WITNESS WHEREOF, the Parties hereto have caused two originals of this Agreement to be executed by their duly authorized representatives.

This Agreement is effective as of the last date set forth below.

(CUSTOMER)	**City of Ottawa, Kansas**
_____	_____
Signature	Signature
_____	_____
Print Name	Print Name
_____	_____
Title	Title
_____	_____
Date	Date

Certificate of Completion

Is the Generating Facility installed, tested and ready for operation? Yes_____ No _____

Customer: _____

Contact Person:_____

Address: _____

Location of the Generating Facility (if different from above):

_____

City: _____ State: _____ Zip Code: _____

Telephone (Day): _____ (Evening): _____

Fax: _____ E-Mail Address: _____

Electrician/Service Company:

Name: _____

Address: _____

City: _____ State: _____ Zip Code: _____

Telephone (Day): _____ (Evening): _____

Fax: _____ E-Mail Address: _____

License number: _____

Date Approval to Install Facility granted by the City: _____

Application ID number: _____

Inspection:

The Generating Facility has been installed and inspected in compliance with the local building and electrical codes of _____

Signed (Local electrical wiring inspector, or attach signed electrical inspection):

_____

Print Name: _____

Date: _____

As a condition of interconnection, you are required to send/fax a copy of this form along with a copy of the signed electrical permit to:

Name: _____

Company: _____

Address: _____

_____

City, State ZIP: _____

Fax: _____

Approval to Energize the Generating Facility

Energizing the Generating Facility is approved:

City Signature: _____

Title: _____ Date: _____

Glossary of Terms

Applicable Laws and Regulations – All duly promulgated applicable federal, state and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders, permits and other duly authorized actions of any Governmental Authority.

Avoided Energy Cost - The current average cost of fuel and purchased energy for the preceding 12 months for the City of Ottawa.

Distribution System – The City's facilities and equipment used to transmit electricity to ultimate usage points such as homes and industries directly from nearby generators or from interchanges with higher voltage transmission networks which transport bulk power over longer distances.

Force Majeure – A Force Majeure event shall mean "any act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment, any order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond a Party's control". A Force Majeure event does not include an act of negligence or intentional wrongdoing.

Generating Facility – The Customer's device for the production of electricity identified in the Interconnection Application.

Good Utility Practice – Any of the practices, methods and acts engaged in or approved by a significant portion of the electric industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region.

Governmental Authority – Any federal, state, local or other governmental regulatory or administrative agency, court, commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, or other governmental authority having jurisdiction over the Parties, their respective facilities, or the respective services they provide, and exercising or entitled to exercise any administrative, executive, police, or taxing authority or power; provided, however, that such term does not include the Customer or any Affiliate thereof.

Interconnection Application – The Customer's request to interconnect a new Generating Facility, or to increase the capacity of, or make a material modification to the operating characteristics of, an existing Generating Facility that is interconnected with the City's electrical system.

Net Metering – Using metering equipment sufficient to measure the difference between the electrical energy supplied to a Customer-generator by a retail electric supplier and the electrical energy supplied by the Customer-generator to the retail electric supplier over the applicable billing period.

Reasonable Efforts – With respect to an action required to be attempted or taken by a Party under the Interconnection Agreement, efforts that are timely and consistent with Good Utility Practice and are otherwise substantially equivalent to those a Party would use to protect its own interests.

System Upgrades – The additions, modifications, and upgrades to the City's Distribution System at or beyond the point of interconnection to facilitate interconnection of the Generating Facility and render the transmission service necessary to effect the Interconnection Customer's wholesale sale of electricity in interstate commerce. Distribution Upgrades do not include Interconnection Facilities.

National Certification Codes and Standards

IEEE1547 Standard for Interconnecting Distributed Resources with Electric Power Systems (including use of IEEE 1547.1 testing protocols to establish conformity)

UL 1741 Inverters, Converters, and Controllers for Use in Independent Power Systems

IEEE Std. 929 IEEE Recommended Practice for City Interface of Photovoltaic (PV) Systems

NFPA 70, National Electrical Code

IEEE Std. C37.90.1, IEEE Standard Surge Withstand Capability (SWC) Tests for Protective Relays and Relay Systems

IEEE Std. C37.90.2, IEEE Standard Withstand Capability of Relay Systems to Radiated Electromagnetic Interference from Transceivers

IEEE Std. C37.108, IEEE Guide for the Protection of Network Transformers

IEEE Std. C57.12.44, IEEE Standard Requirements for Secondary Network Protectors

IEEE Std. C62.41.2, IEEE Recommended Practice on Characterization of Surges in Low Voltage (1000V and Less) AC Power Circuits

IEEE Std. C62.45, IEEE Recommended Practice on Surge Testing for Equipment Connected to Low-Voltage (1000V and Less) AC Power Circuits

ANSI C84.1-1995 Electric Power Systems and Equipment – Voltage Ratings (60 Hertz)

IEEE Std. 100, IEEE Standard Dictionary of Electrical and Electronic Terms

NEMA MG 1, Motors and Small Resources

IEEE Std. 519, IEEE Recommended Practices and Requirements for Harmonic Control in Electrical Power Systems

NEMA MG 1, Motors and Generators

(UL) IEC 61730, Photovoltaic (PV) module safety qualification

NET METERING SERVICE SCHEDULE
(NM)

If the electricity generated by the customer-generator exceeds the electricity supplied by the City of Ottawa during a billing period, the customer-generator shall be billed for the appropriate customer charges for that billing period in accordance with City of Ottawa electric service schedule and shall be credited an amount as determined by State or Federal laws or statutes for the excess kilowatt-hours generated during the billing period with this credit applied to the following billing period.