2016

Missouri Standard Microgrid Interconnection Process

PREPARED FOR THE MISSOURI DEPARTMENT OF ECONOMIC DEVELOPMENT, DIVISION OF ENERGY

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Contents

I. Introduction

This document provides a framework for the process of interconnecting microgrids, not operated as an independent power producer, with a combined generating capacity of 5 MW or less. Microgrids operating as an independent power producer and/or with a combined generating capacity in excess of 5 MW may use this framework, but additional negotiation with the utility may be required. This process applies only to microgrids designed to operate in parallel with the utility's electrical system, until intentional islanding is employed. In intentional islanding operation, the interconnection will permit the microgrid to continue operating autonomously during outages on the main grid. The microgrid must be able to connect safely to the utility's system at the correct frequency and phase, inject electricity of sufficient quality to meet utility requirements, disconnect quickly and safely from the grid when going into islanded mode, and reconnect (either automatically or with operator intervention) when it is safe to do so. This document outlines the process by which a customer will request approval to interconnect a microgrid with the local utility, and the responsibilities of the utility in responding to the request. Design and operating requirements are addressed, with emphasis placed on the use of IEEE standard 1547: *Standard for Interconnecting Distributed Resources with Electric Power Systems*.

A. Applicant Responsibilities

This document will provide microgrid interconnection applicants with an understanding of the process and information required to allow utilities to review and accept their interconnection request in a reasonable and expeditious manner. It is the applicant's responsibility to follow the process outlined in this document. While the time required to complete the process will reflect the complexity of the proposed project, a detailed application and all necessary supporting documentation will allow the utility to process the application more quickly. The applicant is responsible for payment of a non-refundable application fee, and all costs incurred to the utility for the interconnection of the microgrid.

B. Utility Responsibilities

Utilities must offer the application process and attendant services on a non-discriminatory basis. Utilities must process microgrid applications within the timelines set forth in this document. Utilities must clearly identify their incremental costs related to the interconnection request, specifically those costs that the utility would not have otherwise incurred without the applicant's microgrid interconnection. Utilities must keep a log of each microgrid interconnection application. For approved applications, the utility will document the anticipated timeline for completion, the specific milestones met or not met, and the justification for failing to meet milestones (whether incurred by applicant, utility, or unforeseen circumstances). This information should be maintained by the utility for a minimum of five (5) years after project completion.

II. Microgrid Interconnection Application Process

Step 1: Potential Applicant initiates initial Microgrid Interconnection inquiry

Communication could range from a general inquiry to a detailed application.

Step 2: Inquiry is reviewed by the Utility to determine the scope of the project

Technical staff from the utility will discuss the scope of the interconnection with the potential applicant (either by phone or in person) and will provide general guidance based on size and location of proposed microgrid. Basic utility information that will assist the customer in preparing an application will be provided in this step, as well as access to any utility-specific technical specifications. If the proposed project meets the basic guidelines of 5MW or less, operating in parallel with the Utility's system technical staff will direct the applicant to an internet site that contains the Missouri Standard Microgrid Interconnection Process (MSMIP).

Step 3: Applicant files an application

The applicant submits an application package to the utility. A non-refundable processing fee in the amount of $_____ for microgrids served at 480 volts or below, and in the amount of $_____ for microgrids served at over 480 volts will be included with the application package. (The Public Service Commission (PSC) approves the charge structure for investor-owned utilities in the state of Missouri and will make the final decision on the fees that they can charge.)

A complete application package, sealed by a Missouri licensed Professional Engineer, will consist of:

1. Letter of authorization, signed by the applicant, to allow contractor to act as the applicant's agent, if necessary
2. Completed standard application form (Appendix A) that includes:
    a. A narrative description of the proposed microgrid
    b. A list of all equipment that will be included in proposed microgrid
    c. A site plan for the proposed microgrid
    d. A safety and emergency response plan that will be furnished to the local Fire Marshal

Step 4: Utility reviews application and provides a report and interconnection cost estimate to the applicant

The utility will review the application to determine if it is complete and will notify the customer within 10 business days of any deficiencies in the application. Within 40 business days of application receipt, the utility will provide the following in a report to the applicant:

1. Utility system impacts, if any
2. A detailed description of any design modifications to the applicant's microgrid and any utility system upgrades and associated equipment deemed necessary for interconnection of the microgrid
3. An estimate of the total cost of the utility system upgrades required for completion of the interconnection of the proposed microgrid
4. A statement of cost responsibility for all required interconnection equipment and system upgrades. Utility cost estimates shall be detailed and broken down by specific requirements identified in the report.

The utility will also review the application to confirm that the applicant's proposed microgrid meets the technical requirements outlined in Section III, Microgrid Interconnection Design Requirements. The utility will include in the report notification of whether the proposed system meets the criteria and, if applicable, a description of where the proposed system is not in compliance with these requirements. Smaller municipal utilities and electric cooperatives may be required to hire a consultant to conduct the technical review if they do not have a professional engineer on staff. The requirement for consultant fees will be identified by the utility in Step 2 of the process, and the estimated consultant costs will be provided in the report from the utility.

Step 5: Utility executes Microgrid Interconnection and Operating Agreement

Upon confirmation by the utility that the applicant's proposed system meets the technical requirements outlined in Section III, Microgrid Interconnection Design Requirements, the utility will return an executed Missouri Standard Microgrid Interconnection and Operating Agreement to the applicant (Appendix B).

Step 6: Applicant returns signed Interconnection and Operating Agreement and provides advance payment of Utility's estimated costs

The applicant will sign the Missouri Standard Microgrid Interconnection and Operating Agreement and will return it to the utility along with an advance payment of the utility's estimated costs as identified in Step 4 before the utility can begin its construction. The PSC approves the charge structure for investor-owned utilities in the state of Missouri.

Step 7: Utility system modifications and Microgrid project construction

The utility shall commence construction/installation of system modifications and metering requirements as identified in Step 4. Utility system modifications will vary in construction time depending on the extent of work and equipment required. The schedule for this work is to be discussed and agreed upon with the applicant in Step 4.

The applicant will install the microgrid according to the utility-accepted design and the equipment manufacturer's requirements. If there are substantive design variations from the originally approved application diagram, a revised diagram shall be submitted by the applicant for the utility's review and acceptance. Upon completion of construction, the applicant will notify the utility, and request a verification test.

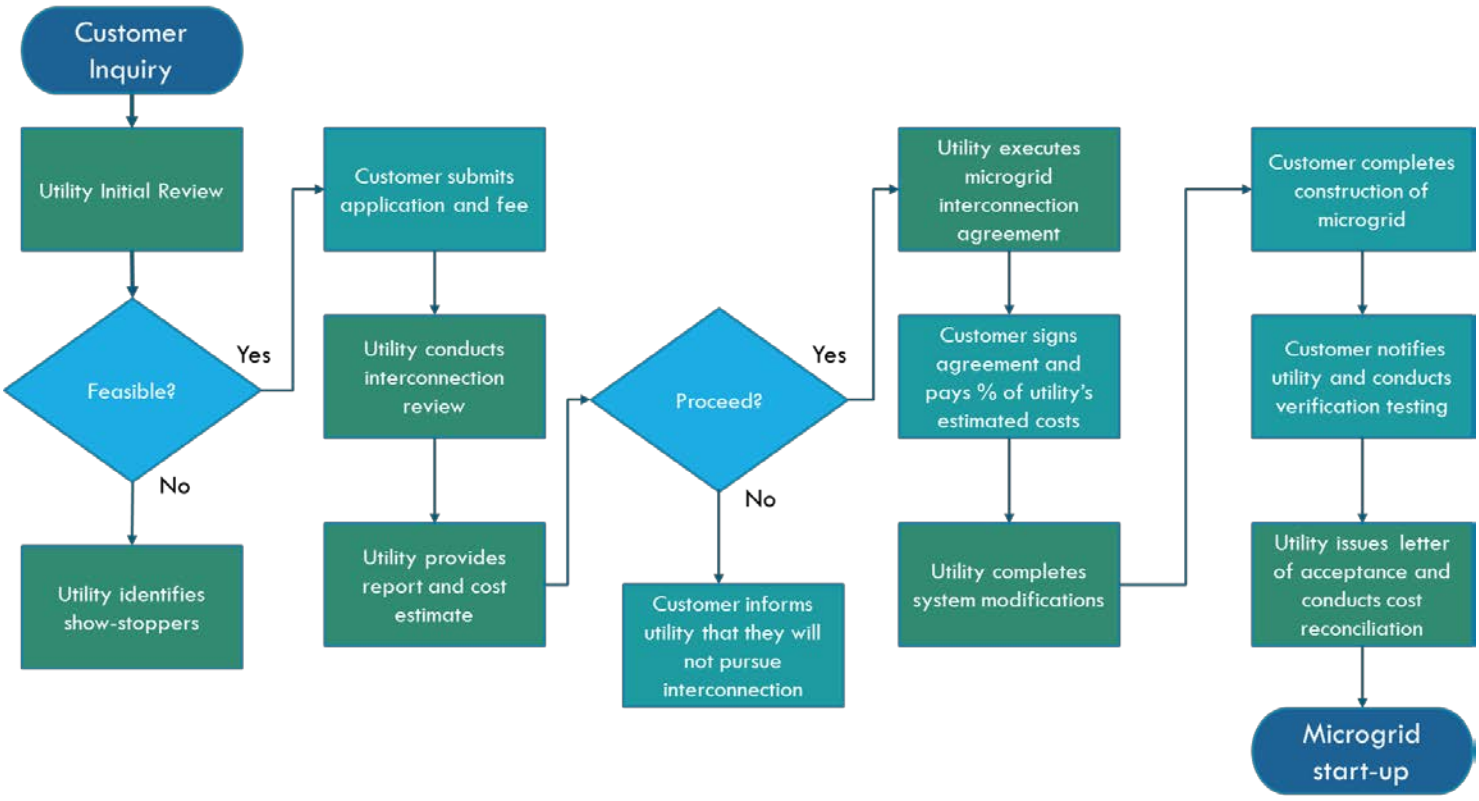
Step 8: Microgrid verification testing

Verification testing will be performed by the applicant in accordance with the interconnection agreement. Upon successful completion of the verification test, the applicant shall provide the utility with written certification that the microgrid has been installed and tested in compliance with the MSMIP, the utility-accepted design, and the equipment manufacturer's instructions.

Step 9: Final acceptance and Utility cost reconciliation

Within five (5) business days of receipt of the written certification, the utility will issue to the applicant a formal letter of acceptance for interconnection. The applicant will be allowed to commence parallel operation of the microgrid upon receipt of the final acceptance letter. At this time, the utility will also commence reconciliation of its actual costs related to the applicant's project against the application fee and advance payment made by the applicant. The applicant will receive either a bill for any balance due or a reimbursement for overpayment of the estimated costs. The utility's final reconciliation invoice shall be paid within thirty (30) business days or the utility reserves the right to lock the microgrid offline. The applicant may contest the reconciliation with the utility, and if the applicant is not satisfied with the utility's response, may file a formal complaint with the Missouri Public Service Commission (PSC) or the governing authority under which the utility operates.

III. Microgrid Interconnection Application Flow Chart



IV. Microgrid Interconnection Design Requirements

A. General Design Requirements

The requirements set forth in this document are intended to be consistent with those contained in the most current version of IEEE Standard 1547, Standard for Interconnecting Distributed Resources with Electric Power Systems. The requirements in IEEE Standard 1547, above and beyond those contained in this document, shall be followed and any other Standards included in or referenced in IEEE Standard 1547 shall be adhered to.

B. Voltage Response

The required voltage operating range for microgrids shall be from 88% to 110% of nominal voltage magnitude. In addition, the microgrid shall not cause the system voltage at the PCC to deviate from a range of 95% to 105% of the utility system voltage. For excursions outside these limits the protective device shall automatically initiate a disconnect sequence from the utility system as detailed in the most current version of

IEEE Standard 1547. Clearing time is defined as the time the range is initially exceeded until the microgrid ceases to energize the PCC and includes detection and intentional time delay. Other static or dynamic voltage functionalities shall be permitted as agreed upon by the utility and the microgrid owner.

C. Frequency Response

The required operating range for microgrids shall be from 59.3 Hz to 60.5 Hz. If deemed necessary due to abnormal system conditions, the utility may request that the microgrid operate at frequency ranges below 59.3 Hz in coordination with the load shedding schemes of the utility system. For excursions outside these limits the protective device shall automatically initiate a disconnect sequence from the utility system as detailed in the most current version of IEEE Standard 1547. Clearing time is defined as the time the range is initially exceeded until the microgrid's equipment ceases to energize the PCC and includes detection and intentional time delay. Other static or dynamic frequency functionalities shall be permitted as agreed upon by the utility and the microgrid owner.

D. Reconnection to the Utility System

If the microgrid is disconnected as a result of the operation of a protective device, the microgrid shall remain disconnected until the utility's service voltage and frequency have recovered to acceptable voltage and frequency limits as defined in the most current version of IEEE Standard 1547, for a minimum of five (5) minutes.

E. Minimum Protective Function Requirements

Protective system requirements for microgrids result from an assessment of many factors, including but not limited to:

a) Type and size of the generation equipment within the microgrid
b) Voltage level of the interconnection
c) Location of the microgrid on the circuit
d) Distribution transformer
e) Distribution system configuration
f) Available fault current
g) Load that can remain connected to the microgrid under isolated conditions
h) Amount of existing distributed generation on the local distribution system

The need for additional protective functions shall be determined by the utility on a case-by-case basis. If the utility determines a need for additional functions, it shall notify the microgrid owner in writing of the requirements. The notice shall include a description of the specific aspects of the utility system that necessitate the addition, and an explicit justification for the necessity of the enhanced capability. The utility shall specify and provide settings for those functions that the utility designates as being required to

satisfy protection practices. Any protective equipment or setting specified by the utility shall not be changed or modified at any time by the microgrid owner without written consent from the utility.

A failure of the microgrid's protective devices, including loss of control power, shall open the automatic disconnect device, thus disconnecting the microgrid from the utility system. A microgrid's protection equipment shall utilize a non-volatile memory design such that a loss of internal or external control power, including batteries, will not cause a loss of interconnection protection functions or loss of protection set points.

F. Metering

If a customer's existing metering equipment is not capable of measuring both the amount of electricity delivered by the utility to the applicant and the amount of electricity delivered by the applicant to the utility, then the customer must pay for the cost of new metering equipment that meets these requirements.

G. Dedicated Transformer

The utility reserves the right to require a microgrid to connect to the utility system through a dedicated transformer. The transformer shall either be provided by the connecting utility at the microgrid owner's expense, purchased from the utility, or conform to the connecting utility's specifications. The transformer that is part of the normal electrical service connection of a microgrid owner's facility may meet this requirement if there are no other customers supplied from it. A dedicated transformer is not required if the installation is designed and coordinated with the utility to protect the utility system and its customers adequately from potential detrimental net effects caused by the operation of the microgrid.

If the utility determines a need for a dedicated transformer, it shall notify the microgrid owner in writing of the requirements under Section IID, Step 4 of the application process. The notice shall include a description of the specific aspects of the utility system that necessitate the addition, the conditions under which the dedicated transformer is expected to enhance safety or prevent detrimental effects, and the expected response of a normal, shared transformer installation to such conditions.

H. Disconnect Switch

Microgrids shall be capable of being isolated from the utility system by means of an external, manual, visible, gang-operated, load-break disconnecting switch. The disconnect switch shall be installed, owned, and maintained by the microgrid owner, and located between the generating equipment and its interconnection point with the utility system.

The disconnect switch must be rated for the voltage and current requirements of the installation, conform to NFPA, and labeled per ANSI Z535.The basic insulation level (BIL) of the disconnect switch shall be such that it will coordinate with that of the utility's equipment. Disconnect devices shall meet applicable requirements of the most current revision of UL, ANSI, and IEEE standards, and shall be installed to meet all applicable local, state, and federal codes.

I. Power Quality

The maximum harmonic limits for electrical equipment shall be in accordance with the latest version of IEEE Standard 519: *IEEE Recommended Practices and Requirements for Harmonic Control in Electric Power Systems* to limit the maximum individual frequency voltage harmonic to 3% of the fundamental frequency and the total harmonic distortion (THD) to 5% on the utility side of the PCC. In addition, any voltage fluctuation resulting from the connection of the microgrid owner's equipment to the utility system must not exceed the limits defined by the maximum permissible voltage fluctuations border line of irritability curve contained in IEEE Standard 519.

J. Islanding

The interconnection will be designed to permit the microgrid to continue operating autonomously and provide uninterrupted service during outages on the main grid. Protective devices must be automatically configured when transitioning between islanded and grid-connected modes. In addition, microgrids must include provisions to shed load that exceeds the local generation capacity when operating in islanded mode.

V. General Provisions and Requirements

A. Equipment Certification

In order for the microgrid to be acceptable for interconnection to the utility system, the interface equipment shall be tested by a Nationally Recognized Testing Laboratory (NRTL) recognized by the United States Occupational Safety and Health Administration (OSHA) and in compliance with the most current revision of UL 1741. If equipment is UL 1741 certified by an NRTL, and compliance documentation is submitted to the utility, the utility shall accept such equipment for interconnection in Missouri. All equipment certified to the most current revision of UL 1741 by an NRTL shall be deemed "certified equipment". Utility grade relays need not be certified per the requirements of this standard.

B. Verification Testing

Prior to initial parallel operation of the microgrid, or any time interface hardware or software is changed, a verification test must be performed. A qualified individual must perform all verification tests prescribed by the equipment manufacturers in accordance

with the manufacturers' published test procedures. Qualified individuals include professional engineers, factory-trained and certified technicians, and licensed electricians with experience in testing protective equipment. Verification testing shall be performed at least once every four years, and verification documentation maintained for inspection by the utility.

C. Microgrid Interconnection Inventory

The utility will manage the queue of microgrid interconnection applications in their inventory in the order in which they are received and according to the timelines set forth in this document.

Utilities shall maintain a microgrid interconnection inventory, including the current queue, for a minimum of 5 years. The following information shall be provided in the inventory:

1. Microgrid Customer Name and Location
2. System Type
3. System Capacity
4. Protective Equipment
5. Application Review Start and End date
6. Utility Interconnection Costs
7. Verification testing date
8. Final Letter of Acceptance date

VI. Glossary of Terms

Applicant: means a person or entity that has filed an Application to interconnect a Microgrid to an Electric Delivery System. For a Microgrid that will offset part or all of the load of a Utility customer, the Applicant is that customer, regardless of whether the customer owns the Generating Facility or a third party owns the Generating Facility.

Applicant's agent: means an individual (usually a contractor or consultant) designated by the applicant to act on the applicant's behalf.

Automatic disconnect device: means an electronic or mechanical switch used to isolate a circuit or piece of equipment from a source of power without the need for human intervention.

Business Day: means Monday through Friday, excluding Federal and State Holidays.

Contractor: means an individual working under contract to the Microgrid Interconnection Applicant.

Customer: means the entity that receives or is entitled to receive Distribution Service through the Utility's Electric Delivery System or is a retail customer of the Utility.

Disconnect: means to cease the transfer of power.

Disconnect Switch: means a mechanical device used for isolating a circuit or equipment from a source of power.

Electric Delivery System means the equipment operated and maintained by a Utility to deliver electric service to end-users, including but not limited to transmission and distribution lines, substations, and transformers.

Independent Power Producer: means a non-utility company that generates and sells energy to one or more customers.

Island or Islanding: means the condition in which a portion of the Utility grid (in this case, the Microgrid) becomes temporarily isolated from the main grid but remains energized by its own distributed generation resources. Islanding capabilities are fundamental to the function of a Microgrid.

Microgrid: means a group of interconnected loads and distributed energy resources within clearly defined electrical boundaries that acts as a single controllable entity with respect to the grid. A microgrid can connect and disconnect from the grid to enable it to operate in both grid-connected and islanded mode.

Microgrid Interconnection Agreement: means a standard form agreement between an Interconnection Customer and a Utility governing the interconnection of a Microgrid to a Utility's Electric Delivery System, as well as the ongoing operation of the Microgrid after it is interconnected.

MSMIP: Missouri Standard Microgrid Interconnection Process

Point of Common Coupling (PCC): means the point in the interconnection of a Microgrid with an Electric Delivery System at which the harmonic limits are applied and shall have the same meaning as in IEEE Standard 1547.

Protective Device: A device that continuously monitors a designated parameter related to the operation of the Microgrid and engages if preset limits are exceeded.

PSC: Public Service Commission

Utility: means an operator of an Electric Delivery System in Missouri. This includes all investor-owned and public utilities, including cooperatives, municipal utilities and public utility districts.

Verification Test: A test performed upon initial installation of the Microgrid and repeated periodically to determine that there is continued acceptable performance.

APPENDIX A: Missouri Standard Microgrid Interconnection Application Form

APPENDIX B: Missouri Standard Microgrid Interconnection Agreement

MISSOURI STANDARD
MICROGRID INTERCONNECTION APPLICATION

Interconnection Customer Information:

Name: _____

Contact Person: _____

Mailing Address: _____

City: _____ State: _____ Zip: _____

Microgrid Facility Location: _____

_____

Telephone (Day): _____ Telephone (Evening): _____

Fax: _____ E-Mail Address: _____

Alternate Contact Information (if designated to act on behalf of Interconnection Customer)

Contact Name: _____

Title: _____

Address: _____

_____

Telephone (Day): _____ Telephone (Evening):_____

Fax: _____ E-Mail Address: _____

Utility Contact Information:

Utility: _____

Designated Contact Person: _____

Address: _____

Telephone Number: _____

Fax: _____

E-Mail Address: _____

Application is for: _____New Microgrid Facility

_____Capacity addition to Existing Microgrid Facility

1. Describe the proposed microgrid. Identify the location and purpose of the microgrid and outline the minimum load requirements. Identify how the proposed microgrid will operate under normal (in parallel with the utility) and islanded conditions, and under what conditions the proposed microgrid will operate in islanded mode. If applicable, explain energy distribution across premise boundaries.

2. Identify all proposed microgrid components as follows:
   1) List all distributed energy generation technologies included in the microgrid; include capacity of each generation type in AC kW:

   2) Energy storage manufacturer, type (e.g. lead acid, Li Ion, etc.), and capacity in AC kWh:

   3) Site controller manufacturer and type:

   4) Proposed metering configuration:

3. Attach the following to this application document:
   1) Site plan and equipment layout diagram that identifies locations of all distributed energy resources and utility interconnection points. Identify new and existing infrastructure that will be part of the microgrid. A single-line diagram is sufficient for designs proposed on single-phase systems and on three-phase systems if the phase loads, connections, and wiring are identical among the phases. If the loads, connections, or wiring are not identical among the phases, submit a three-line diagram. Submittal shall include detailed information on the wiring configuration at the PCC and an exact representation of existing utility service.

   2) Copies of the manufacturer's data sheets or certificate of compliance referencing UL 1741 for each piece of generation, storage, and interface equipment that will be included in the proposed microgrid.

   3) Copy of a safety and emergency response plan that will be furnished to the local Fire Marshal.

MISSOURI STANDARD
MICROGRID INTERCONNECTION AGREEMENT
INTENDED FOR MICROGRIDS 5 MW OR LESS, CONNECTED IN PARALLEL WITH UTILITY DISTRIBUTION SYSTEMS

Owner Information:

Name:

Address:

Telephone:

Fax:

Email:

Microgrid Application/File Number:

Utility Account Number:

Utility Information:

Utility Name:

Address:

Utility Contact Name:

Telephone:

Fax:

Email:

I. TERM AND TERMINATION

A. **Term:** This Agreement shall become effective when executed by both Parties and shall continue in effect until terminated.

B. **Termination:** This Agreement may be terminated as follows:

1. The Owner may terminate this Agreement at any time, by giving the Utility sixty (60) days' written notice.

2. Failure by the Owner to seek final acceptance by the Utility within twelve (12) months after completion of the utility construction process described in the Missouri Standard Microgrid Interconnection Process (MSMIP) shall automatically terminate this Agreement.

3. Either Party may, by giving the other Party at least sixty (60) days prior written notice, terminate this Agreement in the event that the other Party is in default of any of the material terms and conditions of this Agreement. The terminating Party shall specify in the notice the basis for the termination and shall provide a reasonable opportunity to cure the default.

4. The Utility may, by giving the Owner at least sixty (60) days prior written notice, terminate this Agreement for cause. The Owner's non-compliance with an upgrade to the MSMIP, unless the Owner's installation is "grandfathered," shall constitute good cause.

C. **Disconnection and Survival of Obligations:** Upon termination of this Agreement the Microgrid will be disconnected from the Utility's electric system. The termination of this Agreement shall not relieve either Party of its liabilities and obligations, owed or continuing at the time of the termination.

D. **Suspension:** This Agreement will be suspended during any period in which the Owner is not eligible for delivery service from the Utility.

II. SCOPE OF AGREEMENT

A. **Scope of Agreement:** This Agreement relates solely to the conditions under which the Utility and the Owner agree that the Microgrid may be interconnected to and operated in parallel with the Utility’s system.

B. **Electricity Not Covered:** The Utility shall have no duty under this Agreement to account for, pay for, deliver, or return in kind any electricity produced by the Microgrid and delivered into the Utility’s System unless the system is net metered as described in Missouri Revised Statutes: 386.890. 1. "Net Metering and Easy Connection Act".

III. INSTALLATION, OPERATION AND MAINTENANCE OF MICROGRID

A. **Compliance with Missouri Standard Microgrid Interconnection Process (MSMIP):** Subject to the provisions of this Agreement, the Utility shall be required to interconnect the Microgrid to the Utility's system, for purposes of parallel operation, if the Utility accepts the Microgrid as in compliance with the MSMIP. The Microgrid Owner shall have a continuing obligation to maintain and operate the Microgrid in compliance with this agreement.

B. **Microgrid Construction:** The Owner shall ensure that the Microgrid is constructed in accordance with the utility-accepted design and the equipment manufacturer's requirements as outlined in the MSMIP. The Utility may, in its discretion and upon reasonable notice, conduct reasonable on-site verifications during the construction of the Microgrid. Upon completion of construction, the Owner shall provide formal notification to the Utility.

C. **Verification Testing:** A verification test must be performed by a qualified individual prior to parallel operation of the microgrid. The verification test shall be conducted as prescribed by the equipment manufacturers in accordance with the manufacturers' published test procedures. The Owner shall provide the Utility with written certification that the verification was successfully performed. The Utility reserves the right to witness verification testing. If the Utility chooses to observe the verification testing, Utility shall coordinate a mutually agreeable time with the Owner, not to exceed ten (10) business days after receiving formal notification of Microgrid construction completion.

D. **Letter of Acceptance for Interconnection:** Within five (5) business days of receipt of formal notification certifying that the Microgrid has been verification-tested in compliance with the MSMIP, the utility-accepted design, and the equipment manufacturers' instructions, the Utility shall issue to the Owner a formal Letter of Acceptance for Interconnection. The Owner shall be allowed to commence parallel operation of the Microgrid upon receipt of the formal Letter of Acceptance for Interconnection.

IV. DISCONNECTION OF THE MICROGRID

A. **Emergency Disconnection:** The Utility may disconnect the Microgrid, without prior notice to the Owner (a) to eliminate conditions that constitute a potential hazard to Utility personnel or the general public; (b) if pre-emergency or emergency conditions exist on the Utility system; (c) if a hazardous condition relating to the Microgrid is observed by a Utility inspection; or (d) if the Owner has tampered with any protective device. The Utility shall notify the Owner of the emergency if circumstances permit.

B. **Non-Emergency Disconnection:** The Utility may disconnect the Microgrid, after notice to the responsible party has been provided and a reasonable time to correct, consistent with the conditions, has elapsed, if (a) the Owner has failed to make available records of verification tests and maintenance of his protective devices; (b) the Microgrid system interferes with Utility equipment or equipment belonging to other Owners of the Utility; (c) the Microgrid adversely affects the quality of service of adjoining Owners.

C. **Disconnection by Owner:** The Owner may disconnect the Microgrid from the Utility's system at any time.

D. **Utility Obligation to Cure Adverse Effect:** If, after the Owner meets all interconnection requirements, the operations of the Utility are adversely affecting the performance of the Microgrid or the Owner's premises, the Utility shall immediately take appropriate action to eliminate the adverse effect. If the Utility determines that it needs to upgrade or reconfigure its system the Owner will not be responsible for the cost of new or additional equipment beyond the point of common coupling between the Owner and the Utility.

V. ACCESS

A. **Access to Premises:** The Utility shall have access to the disconnect switch of the Microgrid at all times. At reasonable hours and upon reasonable notice consistent with Section III of this Agreement, or at any time without notice in the event of an emergency, the Utility shall have access to the Microgrid Premises.

B. **Utility and Owner Representatives:** The Utility shall designate, and shall provide to the Owner, the name and telephone number of a representative or representatives who can be reached at all times to allow the Owner to report an emergency and obtain the assistance of the Utility. For the purpose of allowing access to the premises, the Owner shall provide the Utility with the name and telephone number of a person who is responsible for providing access to the Premises.

VI. DISPUTE RESOLUTION

A. **Good Faith Resolution of Disputes:** Each Party agrees to attempt to resolve all disputes arising hereunder promptly, equitably and in a good faith manner.

B. **Mediation:** If a dispute arises under this Agreement, and if it cannot be resolved by the Parties within ten (10) business days after written notice of the dispute, the parties agree to submit the dispute to mediation by a mutually acceptable mediator, in a mutually convenient location in Missouri. The Parties agree to participate in good faith in the mediation for a period of up to 90 days. If the Parties are not successful in resolving their disputes through mediation, then the parties may refer the dispute for resolution to the Public Service Commission or to the governing authority under which the utility operates.

C. **Escrow:** If there are amounts in dispute of more than two thousand dollars ($2,000), the Owner shall either place such disputed amounts into an independent escrow account pending final resolution of the dispute in question, or provide to the Utility an appropriate irrevocable standby letter of credit in lieu thereof.

VII. INSURANCE

The Owner is not required to provide general liability insurance coverage as part of this Agreement, however, due to the risk of a Microgrid incurring damages it is recommended that every Microgrid Owner protect itself with insurance. The inability of the Utility to require the Owner to provide general liability insurance coverage for operation of the Microgrid is not a waiver of any rights the Utility may have to pursue remedies at law against the Owner to recover damages.

VIII. MISCELLANEOUS PROVISIONS

A. **Beneficiaries:** This Agreement is intended solely for the benefit of the Parties hereto, and if a Party is an agent, it's principal. Nothing in this Agreement shall be construed to create any duty to, or standard of care with reference to, or any liability to, any other person.

B. **Severability:** If any provision or portion of this Agreement shall for any reason be held or adjudged to be invalid or illegal or unenforceable by any court of competent jurisdiction, such portion or provision shall be deemed separate and independent, and the remainder of this Agreement shall remain in full force and effect.

C. **Entire Agreement:** This Agreement constitutes the entire Agreement between the Parties and supersedes all prior agreements or understandings, whether verbal or written.

D. **Waiver:** No delay or omission in the exercise of any right under this Agreement shall impair any such right or shall be taken, construed or considered as a waiver or relinquishment thereof, but any such right may be exercised from time to time and as often as may be deemed expedient. In the event that any agreement or covenant herein shall be breached and thereafter waived, such waiver shall be limited to the particular breach so waived and shall not be deemed to waive any other breach hereunder.

E. **Applicable Law:** The interpretation and performance of this Agreement shall be in accordance with and controlled by the internal laws of the State of Missouri.

F. **Amendments:** This Agreement shall not be amended unless the amendment is in writing and signed by the Utility and the Owner.

G. **Force Majeure**:

1. For purposes of this agreement, 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."

2. If a Force Majeure Event prevents a Party from fulfilling any obligations under this Agreement, the Party affected by the Force Majeure Event (Affected Party) shall promptly notify the other Party, either in writing or via the telephone, of the existence of the Force Majeure Event. The notification must specify in reasonable detail the circumstances of the Force Majeure Event, its expected duration, and the steps that the Affected Party is taking to mitigate the effects of the event on its performance. 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 will be entitled to suspend or modify its performance of obligations under this Agreement (other than the obligation to make payments) only to the extent that the effect of the Force Majeure Event cannot be mitigated by the use of Reasonable Efforts. The Affected Party will use Reasonable Efforts to resume its performance as soon as possible.

H. **Assignment:** Neither Party shall assign, pledge or otherwise transfer this Agreement or any right or obligation under this Agreement without first obtaining the other Party's written consent, which consent shall not be unreasonably withheld, conditioned or delayed. Any assignment or transfer of this Agreement or any rights, duties or interests hereunder by either Party without the written consent of the other Party shall be null and void and of no force and effect.

I. **Permits and Approvals:** Owner shall obtain all environmental and other permits lawfully required by governmental authorities prior to the construction and for the operation of the Microgrid during the term of this Agreement.

J. **Limitation of Liability:** Neither by inspection, if any, or non-rejection, nor in any other way, does the Utility give any warranty, express or implied, as to the adequacy, safety, or other characteristics of any structures, equipment, wires, appliances or devices owned, installed or maintained by the Owner or leased by the Owner from third parties, including without limitation the Microgrid and any structures, equipment, wires, appliances or devices appurtenant thereto.

ACCEPTED AND AGREED:

Owner Signature:

Printed Name:

Title:

Date:

Utility Signature:

Printed Name:

Title:

Date: