Rule No. 24

CUSTOMER GRID SUPPLY PLUS

A. AVAILABILITY FOR CUSTOMER-GENERATORS

This rule is closed to new enrollments after March 31, 2024. Customer Grid-Supply Plus service is available to Eligible Customer-Generators who own or lease from a third party and operate or contract to operate with a third party a solar, wind turbine, biomass, or hydroelectric energy generating facility, or a hybrid system consisting of two or more of these facilities ("Generating Facility"), with a capacity of not more than one hundred kilowatts (100 kW) and where:

1. The Generating Facility which may include an energy storage system, is located on the Eligible Customer-Generator's premises,

2. The Generating Facility will be operated in parallel with the Company's transmission and distribution facilities,

3. The Generating Facility is in conformance with the Company's interconnection requirements provided in Rule No. 14, Paragraph H, the requirements of this tariff and the Grid Supply Plus Interconnection Agreement, and

4. The Generating Facility is sized and designed such that all of the Generating Facility's output is intended to offset all or part of the Eligible Customer-Generator's own electrical requirements ("Host Load").

The capacity of all Generating Facilities served under Customer Grid-Supply Plus by Maui Electric Company, Limited, shall not exceed seventeen megawatts (17 MW) in total.

B. GRID SUPPLY INTERCONNECTION AGREEMENT

1. Eligible Customer-Generator shall complete and sign an application for service and a standard Grid-Supply Plus Interconnection Agreement (100 kW or less) provided as Appendix I of this Rule ("Interconnection Agreement"), to receive service under this tariff. Where the Eligible Customer-Generator is not the person or entity in whose name electric service is rendered for the Eligible Customer-Generator's premises where the Generating Facility is located, i.e. where a landlord-tenant relationship exists, only the Eligible Customer-Generator shall be required to complete and sign the application for service and the Interconnection Agreement.

Order No. 40278 filed on September 22, 2023 in Docket No. 2019-0323.
Transmittal letter dated October 3, 2023.

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2. The Eligible Customer-Generator's Generating Facility and interconnection systems must be in compliance with all applicable safety and performance standards of the National Electric Code (NEC), the Institute of Electrical and Electronic Engineers (IEEE), accredited testing laboratories such as Underwriters Laboratories (UL), the Company's interconnection requirements provided in Rule No. 14. Section H, and is subject to any other requirements provided in the Interconnection Agreement.

C. METERING AND BILLING

1. The Company, at its expense, may install meter(s) to record the flow of electric power in each direction. The Eligible Customer-Generator shall, at its expense, provide, install and maintain all conductors, service switches, fuses, meter sockets, meter instrument transformer housing and mountings, switchboard meter test buses, meter panels, and similar devices required for service connection and meter installation and operation on the customer's premises in accordance with the Company's Rule No. 14, Section A.2.

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2. Eligible Customer-Generators served under this tariff who also receive energy from the Company shall be billed monthly for the energy supplied by the Company, in accordance with the Company's Rule No. 8, the applicable rate schedule, and the Company's rules filed with the Commission.

3. All rates, terms, and conditions from the applicable rate schedule will apply except for the minimum charge. The minimum charge shall be as follows:

   Applicable Rate Schedule:

Schedule R, TOU-RI, TOU-R, TOU EV, ARD TOU R	$25.00 per month
Schedule G, TOU-G, ARD TOU G	$50.00 per month
Schedule J, TOU-J, SS, ARD TOU J	Per Rate Schedule
Schedule P, TOU-P	Per Rate Schedule
Schedule F	Per Rate Schedule
Schedule EV-F. EV-J, EV-P	Per Rate Schedule

4. The measurement of the kWh supplied by the Company to the Customer-Generator and the kWh received by the Company from the Customer-Generator shall begin on the date of installation of the required meter(s) or Company's approval to interconnect the Generating Facility, whichever comes later. For each billing period, the kWh received by the Company shall be assigned to kWh credits applied to calculate the current bill ("Credits Applied") and/or to kWh credits carried over to the future billing period(s) within the current 12-month period ("Banked Credits"). The Company shall assign to kWh Credits Applied the amount of kWh received up to the amount of the kWh supplied by the Company. Any kWh received by the Company in excess of the kWh supplied by the Company shall be added to kWh Banked Credits. The balance of kWh Banked Credits shall be reduced by any kWh Banked Credits Applied, which are described below.

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5. The applicable Energy Credit Rates for each rate schedule shall be as follows:

Energy Credit Rates for Each Applicable Rate Schedule:

Schedule	MAUI	LANAI	MOLOKAI	
R, TOU-RI, TOU-R, TOU EV, ARD TOU R	12.17	20.80	16.77	cents per kWh daily
G, TOU-G, ARD TOU G	12.17	20.80	16.77	cents per kWh daily
J, TOU-J, SS, EV-F, EV-J, ARD TOU J	12.17	20.80	16.77	cents per kWh daily
P, TOU-P, EV-P	12.17	20.80	16.77	cents per kWh daily
F	12.17	20.80	16.77	cents per kWh daily

Energy Credit Rates shall be fixed at the above levels through October 20, 2022. Thereafter, the applicable Energy Credit Rates shall be subject to modification by the Commission.

6. The Energy Credits for the billing period shall be calculated as the applicable Energy Credit Rate multiplied by the sum of kWh Credits Applied plus kWh Banked Credits Applied. Such Energy Credits shall appear as a separate line item on the customer bill. When the kWh supplied by the Company exceeds the kWh received by the Company, kWh Banked Credits Applied is the amount of the kWh Banked Credits that is included in the calculation of Energy Credits to reduce the Customer-Generator's electric bill calculated under the applicable rate schedule for the energy delivered by the Company to the Customer-Generator in the billing period. Application of Energy Credits may only reduce the electric bill to an amount equal to the minimum charge for the applicable rate schedule, plus any surcharges that are applicable in addition to the minimum charge.

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7. A reconciliation will be made every 12 months for the customer's energy supplied by the Company with the energy received by the Company from the Eligible Customer-Generator's generating facility. This reconciliation will be performed as follows:

The kilowatthours supplied by the Company and the kilowatthours produced by the Eligible Customer-Generator shall be recorded for 12 billing periods. Coincident with the twelfth bill following the start of the grid supply plus contract and each 12-month period thereafter, the Eligible kWh shall be determined as the lesser of the kWh supplied to the Eligible Customer-Generator or the kWh received from the Eligible Customer-Generator over the 12-month period. Credited kWh shall be defined as the sum of kWh Credits Applied plus kWh Banked Credits Applied over the 12-month period. A Reconciliation Bill Credit shall be applied if the Eligible kWh is greater than the Credited kWh, and shall be calculated as the Energy Credit Rate multiplied by the difference between the Eligible kWh and the Credited kWh. If the Credited kWh is greater than or equal to the Eligible kWh, then there is no Reconciliation Bill Credit. At the time of the reconciliation, the balance of the kWh Banked Credits is set to zero for the next 12 month period.

If an Eligible Customer-Generator terminates its Customer Grid Supply Plus service under this tariff prior to the end of any 12-month period, the Company shall reconcile the customer's energy supplied by the Company with the energy produced by the Eligible Customer-Generator generating facility in the same manner as the reconciliation that would have been performed at the end of the normal 12-month period.

The kilowatthours supplied by the Company and the kilowatthours received from the Eligible Customer-Generator, including an accounting of the kWh Credits Applied, kWh Banked Credits, and kWh Banked Credits Applied in each billing period of the current 12-month period will be included in the customer's regular billing statement.

D. COMMUNICATIONS AND CONTROLLABILITY

Subject to the Communications and Controls requirements set forth in this Paragraph D, ~~T~~the Customer-Generator may elect to either: (1) have the Company install a separate smart production meter to be owned, installed or operated by the Company in which case the Company shall be responsible for the cost of metering and control of the Customer-Generator's Generating Facility (the "Smart Meter Option"); or (2) contract separately with a third-party aggregator, where the Company will accept aggregated data from such aggregators that can meet the Company's technical requirements for reliability of data collection and provision to the Company consistent with Section 8.f of Appendix I to this Rule No. 24 (the "Aggregator Option"). A Customer-Generator who elects the Aggregator Option shall be responsible for the costs of contracting with the third-party aggregator.

Whether the Smart Meter Option or the Aggregator Option is elected by the Customer-Generator, the Company shall be able to remotely measure, monitor, evaluate and verify technical compliance, Generating Facility performance, and power quality and, if necessary, control the Generating Facility ("Communication and Controls"). The Communication and Controls shall include monitoring of: (a) gross generation by the generating facility; (b) feedback of Watts, Vars, WattHours, current and voltage; and (c) if available, connection status of the Generating Facility, frequency, and operational state of charge (i.e., 0% to 100% of operational energy storage capacity). The acceptable method(s) of implementing and satisfying the Communication and Controls requirements may include cellular or other comparable technology.

Customer-Generators with single-phase Generating Facilities with a system size rating less than or equal to 175 Amps opting for the Smart Meter Option to satisfy the Communication and Controls requirement will be required to install a meter socket with line terminals wired to an acceptable location on the load side of the production meter or customer generator disconnect switch and load terminals wired to the power output terminals of the generator.

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Customer-Generators with single-phase Generating Facilities with a system size rating greater than 175 Amps or three-phase Generating Facilities of any size opting for the Smart Meter Option to satisfy the Communication and Controls requirement will be required to install a meter socket compatible with a form 2s meter. The line terminals of the meter socket shall be wired to an acceptable location on the load side of the utility revenue meter and the load terminals shall be wired to the control voltage terminal of a definite purpose contactor. The definite purpose contactor shall have normally open contacts rated appropriately for the Generating Facility design and installed with terminals connected to the power output terminals of the generator and the Customer Generator System Disconnect switch.

With respect to the Smart Meter Option, the LTE cellular connectivity and throughput speed will be measured pre-deployment by utilizing built in software toolkits with Verizon LTE mobiledevices. LTE connectivity will be deemed acceptable using either a bandwidth test or a signal strength test. The bandwidth test does not indicate the minimum throughput required for the operation of the Smart Meter Option and is only used to determine acceptable connectivity. The minimum acceptable bandwidth requirement for connectivity testing shall be 1.0 Mbps download and 0.5 Mbps upload. Should the site fail the bandwidth test, a signal strength test will be performed and shall be deemed acceptable with minimum readings of -110 dBm RSRP and an RSRQ of -12 dB or better. Lower signal strength values are considered marginal and may result in lower performance which can be verified by testing the meter on-site. For example, -120 dBm is a lower signal strength measurement than -110 dBm. As necessary, utility personnel will determine and record official cellular connectivity tests prior to the installation and operation of the smart production meter at production meter socket location indicated on the site plan included with the application. Furthermore, once the meter installation is completed, utility personnel will verify the meter is successfully communicating with the Verizon Grid Wide platform.

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Customer-Generators whose geographic location, or other variable, prevents the Customer-Generator from meeting the foregoing minimum cellular connectivity requirements ("Outlying Customer-Generators") shall not be precluded from participating in the Customer Grid Supply Plus Program. In such case, the Company shall utilize non-cellular alternatives to establish the connectivity levels sufficient to implement and satisfy the Communications and Controls requirements, to the extent such alternatives are available and acceptable, as determined by the Company ("Non-Cellular Alternatives").

If the Company's remote control of an Outlying Customer-Generator's Generating Facility cannot be established through Non-Cellular Alternatives, the Outlying Customer-Generator shall install at the Outlying Customer-Generator's premises a second meter socket, to allow for a seamless transition at such time when the technology becomes available, or is otherwise appropriate for installation at the Outlying Customer-Generator's premises, to allow the Company to remotely control such Outlying Customer-Generator's Generating Facility.

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E. INTERCONNECTION PROCESS

1. Eligible Customer-Generator requests to interconnect and operate a Generating Facility in parallel with the Company's electric system will be processed in accordance with the procedures in the Interconnection Process Overview provided in Appendix III of Rule 14, Paragraph H.

2. Under no circumstances shall a Customer-Generator interconnect and operate a Generating Facility in parallel with the Company's electric system without prior written approval by the Company in the form of a fully executed Interconnection Agreement.

F. APPLICATION CHARGE

Each Eligible Customer submitting an application for service under this tariff shall pay a one-time application charge of $50.00 unless such application is submitted electronically via the Company's online Customer Interconnection Tool, in which case no application charge will be assessed.

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G. MICROGRIDS

1. Capitalized terms used in this section are as defined in Rule No.30, Microgrid Services Tariff.

2. During Grid-Connected Mode, the Microgrid will be operated in parallel with the Company's System.

3. A Customer may operate its Generating Facility as part of a Customer Microgrid or be a participant in a Hybrid Microgrid.

4. A Customer who intends to operate its Generating Facility within a Customer Microgrid, or as a participant in a Hybrid Microgrid, shall notify the Company in its application through the Customer Interconnection Tool.

5. A Customer who operates its Generating Facility as part of a Microgrid after obtaining interconnection approval from the Company shall update its application through the Customer Interconnection Tool. Such notification and revision shall satisfy the Customer's notice requirements set forth in Tariff Rule 3B (Change in Customer's Equipment or Operations).

6. Customer Microgrids and Hybrid Microgrid Participants shall comply with the requirements of Rule No.30, Microgrid Services Tariff, including Section H, Microgrid Operation.

APPENDIX 1

GRID-SUPPLY PLUS INTERCONNECTION AGREEMENT

(100 kW or less)

This Grid Supply Plus Interconnection Agreement (100 kW or less) ("Agreement") is made by and between:

Maui Electric Company, Limited ("Company"),

_____ ("Customer-Generator") and, if applicable,

_____ ("Owner/Operator"),

and is made, effective and binding as of To be filled out by the Company ("Effective Date"). Company and Customer-Generator may be referred to individually as a "Party" and collectively as the "Parties".

WHEREAS, Company is an operating electric public utility subject to the Hawaii Public Utilities Law, Hawaii Revised Statutes, Chapter 269, and the rules and regulations of the Hawaii Public Utilities Commission ("Commission");

WHEREAS, the Customer-Generator receives permanent service from the Company;

WHEREAS, the Customer-Generator qualifies as an "Eligible Customer-Generator," as defined in the Company's Customer Grid Supply Plus Tariff;

WHEREAS, the Customer-Generator intends to construct a generating facility, as further described herein ("Generating Facility") and desires to interconnect and operate the Generating Facility in parallel with the Company's electric system;

WHEREAS, the Owner/Operator, may be a person or entity other than the Customer-Generator, who owns and operates the Generating Facility.

NOW, THEREFORE, in consideration of the premises and the respective promises herein, the Company and the Customer-Generator, and if applicable, the Owner/Operator, hereby agree as follows:

1. **Notice and Disclaimer Regarding Future Rate and Tariff Modifications**. This Agreement shall, at all times, be subject to modification by the Commission as said Commission may, from time to time, direct in the exercise of its jurisdiction. Without limiting the foregoing, Customer-Generator expressly acknowledges the following:

    - The Grid Supply Plus Tariff is subject to modification by the Hawaii Public Utilities Commission ("Commission"). **The credit rate associated with any electricity exported to the grid from your Generating Facility will be fixed for five (5) years** from **the effective date of the Grid Supply Plus Tariff. Thereafter, the applicable Energy Credit Rates shall be subject to modification by the Commission.**

- **Your Agreement and Generating Facility shall be subject to any future modifications ordered by the Commission. Such modifications may positively or negatively impact any potential savings in your electricity bill that were calculated by you or presented to you to support your decision to buy or lease a Generating Facility and may otherwise change the value of your Agreement and Generating Facility. You agree to pay for any costs related to such Commission-ordered modifications**.

  BY SIGNING BELOW, YOU ACKNOWLEDGE THAT YOU HAVE READ, UNDERSTAND AND AGREE TO THE ABOVE NOTICE AND DISCLAIMER. FURTHER, BY SIGNING BELOW, YOU CONFIRM YOUR UNDERSTANDING THAT ANY POTENTIAL SAVINGS IN YOUR ELECTRICITY BILL THAT WERE CALCULATED BY YOU OR PRESENTED TO YOU TO SUPPORT YOUR DECISION TO BUY OR LEASE A GENERATING FACILITY MAY CHANGE.

2. **Effectiveness of Agreement**. This Agreement shall not be effective until approved and executed by each Party, i.e. upon the Effective Date. Customer-Generator shall not interconnect and operate the Generating Facility in parallel with the Company's system prior to approval and execution of this Agreement by the Company, except to extent necessary to obtain governmental or utility approvals. Until this Agreement is effective, no Party shall have any legal obligations arising hereunder, express or implied, and any actions taken by a Party in reliance on the terms of this Agreement prior to the Effective Date shall be at that Party's own risk.

3. **Term and Termination.** This Agreement shall continue on a month-to-month basis from the Effective Date. Customer-Generator may terminate this Agreement at any time with thirty (30) days' written notice. Company may terminate this Agreement at any time if Customer-Generator fails to comply with any term of this Agreement or if Customer-Generator fails to be an Eligible Customer-Generator.

4. **Generating Facility Description**. For the purposes of this Agreement, the "Generating Facility" is defined as the equipment and devices, and associated appurtenances, owned by the Customer-Generator, which produce electric energy for use by the Customer-Generator and are to be interconnected and operated in parallel with the Company's system. The Generating Facility is identified in Exhibits A (Description of Generating Facility) and, if applicable, Exhibit A-1 (Description of Generating Facility- Additional Information) attached hereto.

5. **Scope of Agreement**. The Parties understand and agree that this Agreement applies only to the operation of Customer-Generator's Generating Facility described in Exhibit A attached hereto.

6. **Parallel Operation**. Company shall allow Customer-Generator to interconnect and operate the Generating Facility in parallel with the Company's distribution system in accordance with the terms and conditions of this Agreement and Company Rule 14, Paragraph H (Interconnection of Distributed Generating Facilities Operating in Parallel With The Company's Electric System) ("Rule 14H").

7. **Permits and Licenses**. Customer-Generator shall be responsible for the design, installation, operation, and maintenance of the Generating Facility and shall obtain at its expense, and maintain any required governmental authorizations and/or permits for the construction and operation of the Generating Facility. Customer-Generator shall not commence parallel operation of the Generating Facility until Company has provided written approval. Company shall provide such written approval within fifteen (15) business days from Company's receipt of a copy of the final inspection or approval of the Generating Facility, which has been issued by the governmental authority having jurisdiction to inspect and approve the installation. Company's written approval shall not be unreasonably withheld. Company shall have the right to have its representatives present at the final inspection made by the governmental authority having jurisdiction to inspect and approve the installation of the Generating Facility. Customer-Generator shall be required to notify Company in accordance with the terms of Section 19 (Notices), herein, at least five (5) business days prior to such inspection.

8. **Installation**.

(a) Design, installation, operation and maintenance of the Generating Facility shall include control and protection equipment as specified by the Company, including but not limited to an automatic load-break device such as a circuit breaker or inverter and a manual disconnect that has a visible break or breaker with rack-out capability to isolate the Generating Facility from the Company's system. The manual disconnect device must be accessible by the Company and be capable of being locked by the Company in the open position, to establish working clearance for maintenance and repair work in accordance with the Company's safety rules and practices. The disconnect devices shall be furnished and installed by the Customer-Generator and are to be connected between the Generating Facility and the Company's electric system. The disconnect devices shall be located in the immediate vicinity of the electric meter serving the Customer-Generator. The manual disconnect device shall be, at a minimum, clearly labeled "Customer-Generator System Disconnect". With permission of the Company, the disconnect devices may be located at an alternate location which is readily and safely accessible to the Company on a 24-hour basis. Such alternate location shall be clearly identified with signage placed in the immediate vicinity of the electric meter serving the Customer-Generator.

(b) The Customer-Generator grants access to the Company to utilize the disconnect device, if needed. The Customer-Generator shall obtain the authorization from the owner and/or occupants of the premises where the Generating Facility is located that allows the Company to access the Generating Facility for the purpose specified in this Agreement. Company may enter premises where the Generating Facility is located, as permitted by law or tariff, for the following purposes: (a) to inspect Generating Facility's protective devices and read or test meter(s); and (b) to disconnect the Generating Facility and/or service to Customer-Generator, whenever in Company's sole opinion, a hazardous condition exists and such immediate action is necessary to protect persons, Company's facilities, or property of others from damage or interference caused by the Generating Facility, or the absence or failure of properly operating protective device.

(c) Under no circumstances shall a Customer-Generator interconnect and operate a generating facility in parallel with the Company's electric system without prior written approval by the Company in the form of a fully executed Agreement.

(d) Once a Generating Facility is interconnected to the Company's system, the Company reserves the right to require the installation of, or modifications to, equipment determined by the utility to be necessary to facilitate the delivery of reliable electric service to its customers, subject to the requirement that such installation or modification be consistent with applicable interconnection standards (e.g., Rule 14H). The Company shall provide a written explanation of the need for such installation or modification. Such installation or modification shall be made by mutual agreement of the Company and the Customer-Generator. Any disputes related to this provision shall be resolved according to the dispute resolution process described in Rule 14H.

(e) Subject to the Communication and Controls requirements set forth in this Section 8 (Installation), the Customer-Generator may elect to either: (1) have the Company install a separate smart production meter to be owned, installed or operated by the Company (the "Smart Meter Option"); or (2) contract separately with a third-party aggregator where the Company will accept aggregated data from such aggregators that can meet the Company's technical requirements for reliability of data collection and provision to the Company (the "Aggregator Option"). Such third-party aggregators shall also be required to provide a flexible mechanism through which a general connect/disconnect function can be configured, i.e. a function that separates the Generating Facility from the grid while leaving the customer's load connected to the grid.

(f) Without limiting any other provision in this Section 8 (Installation), whether the Smart Meter Option or the Aggregator Option is elected by the Customer-Generator, the Company shall be able to remotely measure, monitor, evaluate and verify technical compliance, Generating Facility performance, and power quality and, if necessary, control the Generating Facility ("Communication and Controls"). The Communication and Controls shall include monitoring of: (a) gross generation by the generating facility; (b) feedback of Watts, Vars, WattHours, current and voltage; and (c) if available, connection status of the Generating Facility, frequency, and operational state of charge (i.e., 0% to 100% of operational energy storage capacity). The acceptable method(s) of implementing and satisfying the Communication and Controls requirements may include cellular or other comparable technology.

If the Customer-Generator has a single-phase Generating Facility with a system size rating less than or equal to 175 Amps and opts for the Smart Meter Option to satisfy the Communication and Controls requirement, the Customer-Generator will be required to install a meter socket with line terminals wired to an acceptable location on the load side of the production meter or customer generator disconnect switch and load terminals wired to the power output terminals of the generator.

If the Customer-Generator has a single-phase Generating Facility with a system size rating greater than 175 Amps or a three-phase Generating Facility of any size and opts for the Smart Meter Option to satisfy the Communication and Controls requirement, the Customer-Generator will be required to install a meter socket compatible with a form 2s meter. The line terminals of the meter socket shall be wired to an acceptable location on the load side of the utility revenue meter and the load terminals shall be wired to the control voltage terminal of a definite purpose contactor. The definite purpose contactor shall have normally open contacts rated appropriately for the Generating Facility design and installed with terminals connected to the power output terminals of the generator and the Customer Generator System Disconnect switch.

(g) With respect to the Smart Meter Option, the LTE cellular connectivity and throughput speed will be measured pre-deployment by utilizing built in software toolkits with Verizon LTE mobile devices. LTE connectivity will be deemed acceptable using either a bandwidth test or a signal strength test. The bandwidth test does not indicate the minimum throughput required for the operation of the Smart Meter Option and is only used to determine acceptable connectivity. The minimum acceptable bandwidth requirement for connectivity testing shall be 1.0 Mbps download and 0.5 Mbps upload. Should the site fail the bandwidth test, a signal strength test will be performed and shall be deemed acceptable with minimum readings of -110 dBm RSRP and an RSRQ of -12 dB or better. Lower signal strength values are considered marginal and may result in lower performance which can be verified by testing the meter on-site. For example, -120 dBm is a lower signal strength measurement than -110 dBm. As necessary, utility personnel will determine and record official cellular connectivity tests prior to the installation and operation of the smart production meter at production meter socket location indicated on the site plan included with the application. Furthermore, once the meter installation is completed, utility personnel will verify the meter is successfully communicating with the Verizon Grid Wide platform.

(h) If the Customer-Generator is prevented from meeting the minimum cellular connectivity requirements set forth herein by reason of the Customer-Generator's geographic location, or other variable ("Outlying Customer-Generator"), the Company shall utilize non-cellular alternatives to establish the connectivity levels sufficient to implement and satisfy the Communication and Controls requirements, to the extent such alternatives are available and acceptable, as determined by the Company ("Non-Cellular Alternatives").

If the Company's remote control of the Outlying Customer-Generator's Generating Facility cannot be established through Non-Cellular Alternatives, the Outlying Customer-Generator shall install at the Outlying Customer-Generator's premises a second meter socket, to allow for a seamless transition at such time when the technology becomes available, or is otherwise appropriate for installation at the Outlying Customer-Generator's premises, to allow the Company to remotely control the Outlying Customer-Generator's Generating Facility.

9. **Metering**. Within fifteen (15) days of execution of this Agreement, the Company will supply, own, and maintain all necessary meters and associated equipment utilized for billing and energy purchase. The meters will be tested and read in accordance with the rules of the Commission and the Company. The Customer-Generator, at its expense, shall provide, install and maintain all conductors, service switches, fuses, meter sockets, meter instrument transformer housing and mountings, switchboard meter test buses, meter panels and similar devices required for service connection and meter installations on the Customer-Generator's premises in accordance with the Company's Rule 14H.

10. **Interconnection Facilities**.

(a) Customer-Generator-Owned Interconnection Facilities (for Generating Facilities Larger than (30 kW or with three-phase electrical service).

(1) The Customer-Generator shall furnish, install, operate and maintain, at its cost, the interconnection facilities (such as circuit breakers, relays, switches, synchronizing equipment, monitoring equipment, and control and protective devices and schemes) identified in Exhibit B (Customer-Generator-Owned Generating Facility and Interconnection Facilities).

(2) The point of interconnection is shown on the single-line diagram and three-line diagram (provided by the Customer-Generator and reviewed by the Company) which are attached to Exhibit B (Customer-Generator-Owned Generating Facility and Interconnection Facilities). Pursuant to Company Rule 14H, Appendix I (Distributed Generating Facility Interconnection Standards Technical Requirements), Section 6.c (Review of Design Drawings), the Company must review and approve Customer-Generator's single-line and three-line diagrams prior to Customer-Generator constructing of the Generating Facility interconnection.

(3) The Customer-Generator agrees to test the Generating Facility, to maintain operating records, and to follow such operating procedures, as may be specified by the Company to protect the Company's system from damages resulting from the parallel operation of the Generating Facility, including such testing, records and operating procedures as more fully described in Exhibit C attached hereto.

(4) The Company may inspect the Generating Facility and Customer-Generator's interconnection facilities.

(b) Company-Owned Interconnection Facilities (for Generating Facilities Larger than 30 kW or with three-phase electrical service).

(1) The Company agrees to furnish, install, operate and maintain such interconnection facilities on its side of the point of interconnection with the Generating Facility as required for the parallel operation with the Generating Facility and more fully described in Exhibit C (Company-Owned Interconnection Facilities) attached hereto and made apart hereof ("Company Interconnection Facilities"). All Company Interconnection Facilities shall be the property of the Company. Where portions of the Company Interconnection Facilities are located on the Customer-Generator's premises, the Customer-Generator shall provide, at no expense to the Company, a suitable location for and access to all such equipment. If a 120/240 Volt power source or sources are required, the Customer shall provide these at no expense to the Company.

(2) The Customer-Generator agrees to pay to the Company: (1) a non-refundable contribution for the Company's investment in the Company Interconnection Facilities described in Exhibit C (Company-Owned Interconnection Facilities), subject to the terms and conditions included in Exhibit C and to pay for other interconnection costs. The interconnection costs will not include the cost of an initial technical screening of the impact of the Generating Facility on the Company's system.

11. **Indemnification:**

(a) The Customer-Generator shall indemnify, defend and hold harmless the Company and its officers, directors, agents and employees, from and against all liabilities, damages, losses, fines, penalties, claims, demands, suits, costs and expenses (including reasonable attorney's fees and expenses) to or by third persons, including the Company's employees or subcontractors, for injury or death, or for injury to property, arising out of the actions or inactions of the Customer-Generator (or those of anyone under its control or on its behalf) with respect to its obligations under this Agreement, and/or arising out of the installation, operation and maintenance of the Generating Facility and/or the Customer-Generator Interconnection Facilities, except to the extent that such injury, death or damage is attributable to the gross negligence or intentional act or omission of the Company or its officers, directors, agents or employees.

(b) The Owner/Operator shall indemnify, defend and hold harmless the Company and its officers, directors, agents and employees, from and against all liabilities, damages, losses, fines, penalties, claims, demands, suits, costs and expenses (including reasonable attorney's fees and expenses) to or by third persons, including the Company's employees or subcontractors, for injury or death, or for injury to property, arising out of the actions or inactions of the Owner/Operator (or those of anyone under its control or on its behalf) with respect to its obligations under this Agreement, and/or arising out of the installation, operation and maintenance of the Generating Facility and/or the Interconnection Facilities, except to the extent that such injury, death or damage is attributable to the gross negligence or intentional act or omission of the Company or its officers, directors, agents or employees.

Provided, however, where the Customer-Generator is an agency of the United States, the following Section shall be applicable in place of Paragraphs 11(a) and (b):

"The United States understands that it may be held liable for loss, damages expense and liability to third persons and injury to or death of persons or injury to property caused by the United States in its engineering design, construction ownership or operations of, or the making of replacements, additions betterment to, or by failure of, any of such party's works or facilities used in connection with this Agreement to the extent allowed by the Federal Tort Claims Act 28 U.S.C. § 2671 et seq. and the Agreement Disputes Act of 1978, 41 U.S.C. §§ 601-613.

Company shall be responsible for damages or injury caused by Company, Company's agents, officers, and employees in the course of their employment to the extent permitted by law."

Provided, however, where the Customer-Generator is an agency of the State of Hawaii (the "State"), the following Section shall be applicable in place of Paragraphs 11(a) and (b):

"The State shall be responsible for damages or injury caused by the State's agents, officers, and employees in the course of their employment to the extent that the State's liability for such damage or injury has been determined by a court or otherwise agreed to by the State. The State shall pay for such damage and injury to the extent permitted by law. The State shall use reasonable good faith efforts to pursue any approvals from the Legislature and the Governor that may be required to obtain the funding necessary to enable the State to perform its obligations or cover its liabilities hereunder. The State shall not request Company to indemnify the State for, or hold the State harmless from, any claims for such damages or injury.

(c) Company shall be responsible for damages or injury caused by Company, Company's agents, officers, and employees in the course of their employment to the extent that Company's liability for such damage or injury has been determined by a court or otherwise agreed to by Company, and Company shall pay for such damage and injury to the extent permitted by law. Company shall not request the State to indemnify Company for, or hold Company harmless from, any claims for such damages or injury."

(d) The Company shall indemnify, defend and hold harmless the Customer-Generator, and its officers, directors, agents and employees, from and against all liabilities, damages, losses, fines, penalties, claims, demands, suits, costs and expenses (including reasonable attorney's fees and expenses) to or by third persons, including the Customer-Generator's employees or subcontractors, for injury or death, or for injury to property, arising out of the actions or inactions of the Company (or those of anyone under its control or on its behalf) with respect to its obligations under this Agreement, and/or arising out of the installation, operation and maintenance of the Company Interconnection Facilities, except to the extent that such injury, death or damage is attributable to the gross negligence or intentional act or omission of the Customer-Generator or its officers, directors, agents or employees.

(e) Nothing in this Agreement shall create any duty to, any standard of care with reference to, or any liability to any person not a party to it.

12. **Continuity of Service**.

(a) The Company may require the Seller to temporarily curtail, interrupt or reduce deliveries of energy when necessary in order for the Company to construct, install, maintain, repair, replace, remove, investigate, test or inspect any of its equipment or any part of the Company System including, but not limited to, accommodating the installation and/or testing of non-utility owned facilities to the Company system; or if the Company determines that such curtailment, interruption or reduction is necessary because of a system emergency, forced outage, operating conditions on its system; or the inability to accept deliveries of energy due to excess energy conditions; or if either the Generating Facility does not operate in compliance with good engineering and operating practices or acceptance of energy from the Seller by the Company would require the Company to operate the Company system outside of good engineering and operating practices which in this case shall include, but not be limited to, excessive system frequency fluctuations or excessive voltage deviations, and any situation that the Company system operator determines, at his or her sole discretion, could place in jeopardy system reliability.

(b) In the event that the Company temporarily curtails, interrupts, or reduces deliveries of energy pursuant to Section 12(a), the Company shall not be obligated to accept or apply credit for any energy from the Seller. The Company shall take all reasonable steps to minimize the number and duration of interruptions, curtailments or reductions. Whenever feasible, Company shall give Seller reasonable notice of the possibility that interruption or reduction of deliveries may be required.

(c) In the event that the Company temporarily curtails or interrupts deliveries of energy from the Generating Facility pursuant to this Section 12, the Generating Facility shall not energize a de-energized utility line under any circumstances, but may operate the Generating Facility isolated from the utility system with an open tie point in accordance with Section 4.1 of Appendix I to Rule 14H.

(d) When the Company determines that curtailment of energy becomes necessary pursuant this Section 12, all Generating Facilities enrolled under the Customer Grid Supply Plus program may be curtailed as a single block. Curtailment may also be effected in increments in order to manage the impact to the Company's system, in which case each incremental curtailment block shall be rotated sequentially after each curtailment event to ensure equitable treatment amongst all Customer Gird Supply Plus participants. The size of each increment, if any, will be determined by the Company. Unless otherwise ordered by the Commission, the Customer Grid Supply Plus participants shall only be curtailed after all other curtailable resources on the Company's system have first been curtailed. When Company determines that curtailment of energy becomes necessary for engineering and/or operating reasons that are directly attributable to the Generating Facility, the above curtailment order will not apply.

13. **Personnel and System Safety**. If at any time the Company determines that the continued operation of the Generating Facility may endanger any person or property, the Company's electric system, or have an adverse effect on the safety or power quality of other customers, the Company shall have the right to disconnect the Generating Facility from the Company's electric system remotely or otherwise. The Generating Facility shall remain disconnected until such time as the Company is satisfied that the endangering or power quality condition(s) has been corrected, and the Company shall not be obligated to accept any energy from the Generating Facility during such period. The Company shall not be liable, directly or indirectly, for permitting or continuing to allow an attachment of the Generating Facility for the acts or omissions of the Customer-Generator that cause loss or injury, including death, to any third party.

14. **Prevention of Interference**. The Customer-Generator shall not operate equipment that superimposes a voltage or current upon the Company's system that interferes with the Company's operations, service to the Company's customers, or the Company's communication facilities. Such interference shall include, but not be limited to, overcurrent, voltage imbalance, and abnormal waveforms. If such interference occurs, the Customer-Generator must diligently pursue and take corrective action at its own expense after being given notice and reasonable time to do so by the Company. If the Customer-Generator does not take timely corrective action, or continues to operate the equipment causing interference without restriction or limit, the Company may, without liability, disconnect the Customer-Generator's equipment from the Company's system.

15. **Limitation of Liability**. Neither by inspection, if any, or non-rejection, nor in any other way, does the Company 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 Customer-Generator or leased by the Customer-Generator from third parties, including without limitation the Generating Facility and any structures, equipment, wires, appliances or devices appurtenant thereto.

16. **Customer-Generator and Generating Facility Information.** By signing this Agreement, the Customer-Generator expressly agrees and authorizes the Company to: (1) request and obtain from Customer-Generator and its contractors, vendors, subcontractors, installers, suppliers or agents (collectively "Customer-Generator Agents"), at no cost to Company, information related to the Generating Facility, including but not limited to Watts, Vars, Watt Hours, current and voltage, status of the generating facility, inverter settings, any and all recorded event or alarm logs recorded, (collectively "Generating Facility Data") that Company reasonably determines are needed to ensure the safe and reliable operation of the Generating Facility or the Company's system; or (2) make such modifications to the Customer-Generator's system, at no cost to the Company, that Company determines, in its reasonable discretion, are needed to ensure the safe and reliable operation of the Generating Facility or the Company's system. Customer-Generator expressly agrees and irrevocably authorizes Customer-Generator Agents to disclose such Customer-Generator Data to Company and to make such modifications to the Customer-Generator's Generating Facility upon request by Company.

17. **Additional Information**. The Company reserves the right to request additional information from Customer-Generator relating to the Generating Facility, where reasonably necessary, to serve the Customer-Generator under this Agreement or to ensure reliability, safety of operation, and power quality of the Company's system.

18. **No Material Changes to Generating Facility**. The Customer-Generator agrees that no material changes or additions to the Generating Facility shall be made without having obtained prior written consent from the Company, which consent shall not be unreasonably withheld. In no event may the Total Rated Capacity of the Generating Facility exceed 100 kW. If a Generating Facility changes ownership, the Company may require the new Customer-Generator and/or Owner/Operator to complete and execute an amended Agreement or new Agreement, as may be applicable.

19. **Notices**. Any notice required under this Agreement shall be in writing and mailed at any United States Post Office with postage prepaid and addressed to the Party, or personally delivered to the Party at the address identified on the last page of the Agreement. Changes in such designation may be made by notice similarly given. Notice sent by mail shall be deemed to have been given on the date of actual delivery or at the expiration of the fifth day after the date of mailing, whichever is earlier.

20. **Certification by Licensed Electrical Contractor**. Generating and interconnection systems must comply with all applicable safety and performance standards of the National Electrical Code (NEC), Institute of Electrical and Electronic Engineers (IEEE), and accredited testing laboratories such as the Underwriters Laboratories (UL), and where applicable, the rules of the Commission, or other applicable governmental laws and regulations, and the Company's interconnection requirements, in effect at the time of signing this agreement. This requirement shall include, but not be limited to, the interconnection provisions of the Company's Rule 14H, as authorized by the Commission. Upon request by Company, Customer-Generator shall cause a Licensed Electrical Contractor, as agent for Customer-Generator, to certify that once approved by the Company, the proposed Generating Facility will be installed to meet all preceding requirement(s).

21. **Force Majeure**. For purposes of this Agreement, "Force Majeure Event" means any event: (a) that is beyond the reasonable control of the affected party; and (b) that the affected party is unable to prevent or provide against by exercising reasonable diligence, including the following events or circumstances, but only to the extent they satisfy the preceding requirements: (a) acts of war, public disorder, insurrection or rebellion; floods, hurricanes, earthquakes, lighting, storms, and other natural calamities; explosions or fires; strikes, work stoppages, or labor disputes; embargoes; and sabotage. If a Force Majeure Event prevents a party from fulfilling any obligations under this Agreement, such party will promptly notify the other party in writing, and will keep the other party informed on a continuing basis of the scope and duration of the Force Majeure Event. The affected party will 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 part will be entitled to suspend or modify its performance of obligations under this Agreement, other than the obligation to make payments then due or becoming due under this Agreement, but 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.

22. **Good Engineering Practice**.

(a) Each party agrees to install, operate and maintain its respective equipment and facilities and to perform all obligations required to be performed by such party under this Agreement in accordance with good engineering practice in the electric industry and with applicable laws, rules, orders and tariffs.

(b) Wherever in this Agreement and the attached Exhibits the Company has the right to give specifications, determinations or approvals, such specifications, determinations and/or approvals shall be given in accordance with the Company's standard practices, policies and procedures, which may include the Company's Electric Service Installation Manual, the Company's Engineering Standard Practice Manual and the IEEE Guides and Standards for Protective Relaying Systems.

23. **Insurance**. The following insurance provisions are only applicable to Generating Facilities with a Total Rated Capacity greater than 10 kW but not exceeding 100 kW:

The Customer-Generator shall, at its own expense and during the term of the Agreement and any other time that the Generating Facility is interconnected with the Company's system, maintain in effect with a responsible insurance company authorized to do insurance business in Hawaii, the following insurance or its equivalent at Company's discretion that will protect the Customer-Generator and the Company with respect to the Generating Facility, the Generating Facility's operations, and the Generating Facility's interconnection with the Company's system:

A commercial general liability policy, covering bodily injury and property damage combined single limit of at least the following amounts based on the Total Rated Capacity of the generator (for solar systems—Total Rated Capacity of the generator or inverter, whichever is lower, can be used with appropriate technical documentation on inverter, if not higher Total Rated Capacity will be used), for any occurrence. Generating Facilities up to 10kW are exempt and are not required to have a commercial general liability policy.

Commercial General Liability (or equivalent) Coverage Amount	Total Rated Capacity of the Generating Facility
$1,000,000	Greater than 30 kW and less than or equal to 100 kW
$500,000	Greater than 10 kW and less than or equal to 30 kW
$0	Up to 10 kW

The Customer-Generator has responsibility to determine if higher limits are desired and purchased. Said insurance shall name the Company, its directors, officers, agents, and employees as additional insureds, shall include contractual liability coverage for written Agreements and agreements including this Agreement, and shall include provisions stating that the insurance will respond to claims or suits by additional insureds against the Customer-Generator or any other insured thereunder. Customer-Generator shall immediately provide written notice to the Company should the required insurance be cancelled, limited in scope, or not renewed upon expiration. "Claims made" policies are not acceptable, unless the Customer-Generator agrees to maintain coverage in full effect at all times during the term of this Agreement and for THREE (3) years thereafter. The adequacy of the coverage afforded by the required insurance shall be subject to review by the Company from time to time, and if it appears in such review that risk exposures require an increase in the coverages and/or limits of this insurance, the Customer-Generator shall make such increase to that extent and any increased costs shall be borne by the Customer-Generator. The insurance required hereunder shall provide that it is primary with respect to the Customer-Generator and the Company. Initially, certificates of insurance must be provided to the Company prior to executing the Agreement and any parallel interconnection. Receipt of any evidence of insurance showing less coverage than requested is not a waiver of the Customer-Generator's obligations to fulfill this provision. The Customer-Generator's indemnity and other obligations shall not be limited by the foregoing insurance requirements. Any deductible shall be the responsibility of the Customer-Generator.

Alternatively, where the Customer-Generator is a governmental entity, Customer Generator may elect to be self-insured for the amounts set forth above in lieu of obtaining insurance coverage to those levels from an insurance company.

24. **Miscellaneous.**

(a) **Disconnection and Survival of Obligations.** Upon termination of this Agreement, the Generating Facility shall be disconnected from the Company's system. The termination of this Agreement shall not relieve the Parties of their respective liabilities and obligations, owed or continuing at the time of termination.

(b) **Governing Law and Regulatory Authority.** This Agreement was executed in the State of Hawaii and must in all respects be interpreted, governed, and construed under the laws of the State of Hawaii. This Agreement is subject to, and the parties' obligations hereunder include, operating in full compliance with all valid, applicable federal, state, and local laws or ordinances, and all applicable rules, regulations, orders of, and tariffs approved by, duly constituted regulatory authorities having jurisdiction.

(c) **Amendment, Modifications, or Waiver**. This Agreement may not be altered or modified by either of the Parties, except by an instrument in writing executed by each of them. None of the provisions of this Agreement shall be considered waived by a Party unless such waiver is given in writing. The failure of a Party to insist in any one or more instances upon strict performance of any of the provisions of this Agreement or to take advantage of any of its rights hereunder shall not be construed as a waiver of any such provisions or the relinquishment of any such rights for the future, but the same shall continue and remain in full force and effect. This Agreement contains the entire agreement and understanding between the Parties, their agents, and employees as to the subject matter of this Agreement. Each party also represents that in entering into this Agreement, it has not relied on any promise, inducement, representation, warranty, agreement or other statement not set forth in this Agreement.

(d) **Termination of Existing Agreement**. This Agreement shall supersede any existing agreement, if any, under which Customer-Generator is currently operating the Generating Facility and any such agreement shall be deemed terminated as of the date this Agreement becomes effective.

(e) **Assignment.** This Agreement may not be assigned by either Party without the prior written consent of the other party. Such consent shall not be unreasonably withheld.

(f) **Binding Effect.** This Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective successors, legal representatives, and permitted assigns.

(g) **Relationship of Parties**. Nothing in this Agreement shall be deemed to constitute any Party hereto as partner, agent or representative of the other party or to create any fiduciary relationship between the Parties.

(h) **Limitations**. Nothing in this Agreement shall limit the Company's ability to exercise its rights or expand or diminish its liability with respect to the provision of electrical service pursuant to the Company's tariffs as filed with the Commission, or the Commission's Standards for Electric Utility Service in the State of Hawaii, which currently are included in the Commission's General Order Number 7, as either may be amended from time to time.

(i) **Execution of Agreement; Multiple Counterparts**. This Agreement may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument binding all Parties notwithstanding that all of the Parties are not signatories to the same counterparts. Signatures may be provided in original ("wet") form or by other means intended to preserve the original graphic and pictorial appearance of the signature, such as as photocopy. A copy of a Party's signature shall be considered an "original" signature for purposes of this Agreement.

25. **Generator/Equipment Certification**

Generating Facilities that utilize inverter technology must be compliant with *Institute of Electrical and Electronics Engineers IEEE Std 1547* and *Underwriters Laboratories UL 1703* and *UL 1741* in effect at the time this Agreement is executed. Generating systems that use a rotating machine must be compliant with applicable National Electrical Code, Underwriters Laboratories, and Institute of Electrical and Electronics Engineers standards and rules and orders of the Public Utilities Commission of the State of Hawaii in effect at the time this Agreement is executed. By signing below, the Applicant certifies that the installed generating equipment will meet the appropriate preceding requirement(s) and can supply documentation that confirms compliance, including a certification of the same from the Installing Electrical Contractor upon request by the Company.

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 date first set forth above.

CUSTOMER-GENERATOR

By: _____ _____
Signature Date

Name (Print): _____

Company Name
(if applicable): _____

Title (if applicable): _____

OWNER/OPERATOR
(if different from Customer-Generator) ☐ Not Applicable

By: _____ _____
Signature Date

Name (Print): _____

Company Name
(if applicable): _____

Title (if applicable): _____

MAUI ELECTRIC COMPANY

By: To be filled out by the Company To be filled out by the Company
Signature Date

Name (Print): To be filled out by the Company

Title: To be filled out by the Company

MAILING ADDRESS

Maui Electric Company, LTD
Attn: Renewable Energy Projects Division
P.O. Box 398
Kahului, HI 96733-6898

EXHIBIT A

DESCRIPTION OF GENERATING FACILITY

Under no circumstances shall a Customer-Generator interconnect and operate a generating facility in parallel with the Company's electric system without prior written approval by the Company in the form of a fully executed Agreement. Generating facilities that incorporate the use of an energy storage device, e.g. battery storage, regardless of whether such energy storage device is intended to operate in parallel with the Company's transmission and/or distribution facilities, shall obtain an interconnection review by the Company pursuant to this Agreement. Energy storage systems that are intended to be installed by an Eligible Customer-Generator after Company's execution of an Agreement shall constitute a material change and addition to a generating facility and shall require interconnection review pursuant to this Rule prior to installation.

1. Customer-Generator Information

Name (print): _____

Property Address: _____

City: _____ State: _____ Zip: _____

Active Electric
Service Account #: _____ Meter #: _____ TMK: _____

Phone: _____ Cell: _____ Email: _____

☐ Mailing Address is the same as the Property Address

Mailing Address: _____

City: _____ State: _____ Zip: _____

2. Owner-Operator Information ☐ Not Applicable

Name (print): _____

Company:
(If applicable) _____

Mailing Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ Cell: _____ Email: _____

3. Electrical Contractor

Electrical Contractor: _____ Hawai`i License #: _____

Mailing Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ Cell: _____ Email: _____

Supply certification that the generating system will be installed and inspected in compliance with the local Building/Electrical code of the County of: ☐ Honolulu ☐ Maui ☐ Hawai`i

Generating System Building Permit # (to be filled out by the Company upon the Company's approval and execution of Agreement): To be filled out by the Company

Interconnection Date (to be filled out by the Company upon the Company's approval and execution of the Agreement): To be filled out by the Company

4. Insurance ☐ Not Applicable (less than 10 kW)

Insurance Carrier: _____

5. General Technical Information (Attached)

☐ **Single Line Diagram** (if the Generating Facility is less than 30 kW)

☐ **Three Line Diagram** (if the Generating Facility's capacity is greater than or equal to 30 kW)

☐ **Relay List and Trip Scheme** (if applicable)

6. Generator Qualifications

Check all that apply (include Exhibit A-1 for all but Photovoltaic):

☐ Photovoltaic ☐ Wind Turbine ☐ Hydroelectric ☐ Biomass ☐ Hybrid (describe): _____

Generator Type:

☐ Photovoltaic with DC Inverter ☐ Non-Photovoltaic DC Generator (include Exhibit A-1) ☐ Synchronous (include Exhibit A-1) ☐ Induction (include Exhibit A-1)

Does this design include an Energy Storage System?

☐ No ☐ Yes (include Exhibit A-1)

What is the system's Maximum Export capability?

☐ Less than 30 kW

Technical System Size: _____ kW Maximum Export: _____ kW

☐ Greater than or equal to 30 kW but less than or equal to 100 kW (include Exhibit A-1and Exhibit B)

Technical System Size: _____ kW Maximum Export: _____ kW

Maximum Site Load without Generation: _____ kW Minimum Site Load without Generation: _____ kW

7. Interconnecting Equipment Technical Data

Generator Disconnect Information:

Manufacturer: _____ Catalog #: _____

Type: _____ Rated Amps: _____ Rated Volts: _____

☐ Fused *or* ☐ Non-Fused | ☐ Single Phase *or* ☐ Three Phase (include Exhibit A-1) | ☐ Uses multiple disconnects

Mounting Location: _____

Will an interposing transformer be used between the generator and the point of interconnection?

☐ No ☐ Yes (include Exhibit A-1)

8. Generator Facility Technical Information

System Information:

Micro Inverter	Central/ String Inverter	Energy Storage (Inverter)	Inverter Manufacturer	Model	Qty.	Peak AC Output Rating (kW)*	Quantity x Peak AC Output Rating (kW)
☐ 1	☐ 1	☐ 1					
☐ 2	☐ 2	☐ 2					
☐ 3	☐ 3	☐ 3					
☐ 4	☐ 4	☐ 4					
☐ 5	☐ 5	☐ 5					
						Total Inverter Capacity (kW):	

Micro Inverter	Central/String Inverter	Module Manufacturer	Model	Qty.	STC Rating (kW)*	Quantity x STC Rating (kW)
☐ 1	☐ 1					
☐ 2	☐ 2					
☐ 3	☐ 3					
☐ 4	☐ 4					
☐ 5	☐ 5					
					Total Module Capacity (kW):	

Total Capacity of Inverter #:	1:	2:	3:	4:	5:
				Total Program Size (kW):	

Total System Capacity is the combined sums of the lesser of the AC or DC capacities per inverter.

*All equipment ratings must match those listed on their manufacturer's specification sheets.

EXHIBIT A-1

DESCRIPTION OF GENERATING FACILITY – ADDITIONAL INFORMATION

[ADDITIONAL INFORMATION FOR GENERATING FACILITIES THAT: (1) INCLUDE AN ENERGY STORAGE SYSTEM; (2) INCLUDE NON-PHOTOVOLTAIC GENERATORS; OR (3) HAVE A TOTAL SYSTEM CAPACITY GREATER THAN 30 KW OR THREE-PHASE ELECTRICAL SERVICE]

1. Energy Storage System Information ☐ Not Applicable

Specification sheets must be provided for all equipment listed in the section below

Description of Energy Storage System Operations:

Manufacturer: _____ Model: _____

Size kW: _____ Max Capacity kWh: _____

Rated kW discharge: _____ Rated kW charge: _____

Will the energy storage system be used only as an Emergency Backup System?
☐ No ☐ Yes

Describe mode(s) of operation (e.g. charge and discharge timing; does the system match the load with PV and battery?)

_____

_____

Will the distribution grid be used to charge the storage device?
☐ No ☐ Yes, charging periods: _____

Will power be exported to the grid?
☐ No ☐ Yes, maximum export to the grid: _____

2. Wind Generator System Information ☐ Not Applicable

Specification sheets must be provided for all equipment listed in the section below

DC Generator Manufacturer	Model	Qty.	Rating (kW)	Quantity x Rating (kW)
			Total DC Generator Capacity (kW):	
Inverter Manufacturer	Model	Qty.	Rating (kW)	Quantity x Rating (kW)
			Total Inverter Capacity (kW):	
			Total System Capacity (kW):	
			Fault Current Contribution of Generator (Amps):	

3. Technical Information for Synchronous and Induction Generators ☐ Not Applicable

Specification sheets must be provided for all equipment referenced in the section below

Number of starts per day: _____ Maximum Starting kVA: _____ Generator Operating Power Factor: _____

Generator Grounding Method (check all that apply):

☐ Effectively Grounded ☐ Resonant Grounded ☐ Low-Inductance Grounded ☐ Low-Resistance Grounded ☐ High-Resistance Grounded ☐ Ungrounded

Generator Characteristic Data*:

* Not needed if Generator Nameplate and Manufacturer's Specification Sheet are provided.

Direct Axis Synchronous Reactance, X_d: _____ P.U. Direct Axis Transient Reactance, X'_d: _____ P.U.

Direct Axis Subtransient Reactance, X''_d: _____ P.U. Inertia Constant, H: _____ P.U. Excitation Response Ratio: _____

Direct Axis Open-Circuit Transient Time Constant, X_d: _____ Seconds Direct Axis Open-Circuit Subtransient Time Constant, T"do: _____ Seconds

4. Interconnecting Equipment Technical Data

Transformer Data ☐ Not Applicable

A copy of transformer Nameplate and Manufacturer's Test Report may be substituted

Transformer Primary (Volts): _____ ☐ Delta ☐ Wye ☐ Wye Grounded

Transformer Secondary (Volts): _____ ☐ Delta ☐ Wye ☐ Wye Grounded

Size: _____ KVA Transformer Impedance: _____ % on _____ KVA Base

Transformer Fuse Data ☐ Not Applicable

Attach fuse manufacturer's Minimum Melt & Total Clearing Time-Current Curves

☐ At Primary Voltage ☐ At Secondary Voltage

Manufacturer: _____ Type: _____ Size: _____ Speed: _____

Transformer Protection (if not fuse) ☐ Not Applicable

Please describe: _____

Generator Main Circuit Breaker ☐ Not Applicable

A copy of circuit breaker's Nameplate and Specification Sheet may be substituted

Manufacturer: _____ Type: _____

Continuous Load Rating (Amps): _____ Interrupting Rating (Amps): _____ Trip Speed (Cycles): _____

Feeder Circuit Breaker ☐ Not Applicable

Attach copy of any proposed Time-Overcurrent Coordination Curves

Manufacturer	Type	Style/Catalog No.	Proposed Setting

Current Transformer Data ☐ Not Applicable

Attach copy of Manufacturer's Excitation & Ratio Correction Curves

Manufacturer	Type	Accuracy Class	Proposed Ration Connection
			/5
			/5
			/5
			/5
			/5

EXHIBIT B

CUSTOMER-GENERATOR-OWNED GENERATING FACILITY AND INTERCONNECTION FACILITIES

[THIS EXHIBIT IS ONLY APPLICABLE TO GENERATING FACILITIES EQUAL TO OR GREATER THAN 30 kW OR WITH THREE-PHASE ELECTRICAL SERVICE. DO NOT INCLUDE THIS EXHIBIT IF NOT APPLICABLE.]

1. Generating Facility

a. Compliance with laws and standards. The Generating Facility, Generating Facility design, and Generating Facility drawings shall meet all applicable national, state, and local laws, rules, regulations, orders, construction and safety codes, and shall satisfy the Company's Distributed Generating Facility Interconnection Standards, Technical Requirements ("Interconnection Standards"), as set forth in Rule 14, Paragraph H.1 of the Company's tariff.

b. Avoidance of adverse system conditions. The Generating Facility shall be designed, installed, operated and maintained so as to prevent or protect against adverse conditions on the Company's system that can cause electric service degradation, equipment damage, or harm to persons, such as:

- Unintended islanding.
- Inadvertent and unwanted re-energization of a Company dead line or bus.
- Interconnection while out of synchronization.
- Overcurrent.
- Voltage imbalance.
- Ground faults.
- Generated alternating current frequency outside of permitted safe limits.
- Voltage outside permitted limits.
- Poor power factor or reactive power outside permitted limits.
- Abnormal waveforms.

c. Specification of protection, synchronizing and control requirements. The Customer-Generator shall provide the design drawings, operating manuals, manufacturer's brochures/instruction manual and technical specifications, manufacturer's test reports, bill of material, protection and synchronizing relays and settings, and protection, synchronizing, and control schemes for the Generating Facility to the Company for its review, and the Company shall have the right to specify the protection and synchronizing relays and settings, and protection, synchronizing and control schemes that affect the reliability and safety of operation and power quality of the Company's system with which the Generating Facility is interconnected ("Facility Protection Devices/Schemes").

d. **Generating Facility protection**. The Customer-Generator is solely responsible for providing adequate protection for the Generating Facility.

e. **Customer-Generator Interconnection Facilities**.

(i) The Customer-Generator shall furnish, install, operate and maintain interconnection facilities (such as circuit breakers, relays, switches, synchronizing equipment, monitoring equipment, and control and protective devices and schemes) designated by or acceptable to the Company as suitable for parallel operation of the Generating Facility with the Company's system ("Customer-Generator Interconnection Facilities"). Such facilities shall be accessible at all times to authorized Company personnel.

(ii) The Customer-Generator shall comply with the Company's Interconnection Standards.

(iii) 1) Single-line diagram of the Generating Facility, 2) relay list, trip scheme and settings of the Generating Facility, 3) Generating Facility Equipment List, and 4) three-line diagram (if the Generating Facility's capacity is greater than or equal to 30 kW), which identify the circuit breakers, relays, switches, synchronizing equipment, monitoring equipment, and control and protective devices and schemes, shall, after having obtained prior written consent from the Company, be attached to Exhibit A and made a part hereof at the time the Agreement is signed. The single-line diagram shall include pertinent information regarding operation, protection, synchronizing, control, monitoring, and alarm requirements. The single-line diagram and three-line diagram shall expressly identify the point of interconnection of the Generating Facility to the Company's system. The relay list, trip scheme and settings shall include all protection, synchronizing and auxiliary relays that are required to operate the Generating Facility in a safe and reliable manner. The three-line diagram shall show potential transformer and current transformer ratios, and details of the Generating Facility's configuration, including relays, meters, and test switches.

f. **Approval of Design Drawings**. If the Generating Facility's capacity is greater than or equal to 30 kW, the single-line diagram, relay list, trip scheme and settings of the Generating Facility, and three-line diagram shall be approved by a Professional Electrical Engineer registered in the State of Hawaii prior to being submitted to the Company. Such approval shall be indicated by the engineer's professional seal on all drawings and documents.

2. Verification Testing.

a. Upon initial parallel operation of the Generating Facility, or any time interface hardware or software is changed, a verification test shall be performed. Such verification test shall include testing of the telemetry and control interface which allows the Company to remotely measure, monitor, evaluate and verify technical compliance, Generating Facility performance, and power quality and, if necessary, control the Generating Facility. A licensed professional engineer or otherwise qualified individual shall perform verification testing in accordance with the manufacturer's published test procedure. Qualified individuals include professional engineers, factory trained and certified technicians, and licensed electricians with experience in testing protective equipment. The Company reserves the right to witness verification testing or require written certification that the testing was performed.

b. Verification testing shall also be performed every four years. The Company reserves the right to perform, at its expense, additional verification testing. All verification tests prescribed by the manufacturer shall be performed. If wires must be removed to perform certain tests, each wire and each terminal shall be clearly and permanently marked. The Customer-Generator shall maintain verification test reports for inspection by the Company.

c. Inverters shall be verified once per year as follows: once per year the Customer-Generator shall operate the customer generator system disconnect switch and verify the Generating Facility automatically shuts down and does not reconnect with the Company's system until the Company's system continuous normal voltage and frequency have been maintained for a minimum of 5 minutes. The Customer-Generator shall maintain a log of these operations for inspection by the Company.

d. Any system that depends upon a battery for trip power shall be checked once per month for proper voltage. Once every four (4) years the battery shall either be replaced or have a discharge test performed. The Customer-Generator shall maintain a log of these operations for inspection by the Company.

e. Tests and battery replacements as specified in this section 2 of Exhibit B shall be at the Customer-Generator's expense.

3. Inspection of the Generating Facility.

a. The Company may, in its discretion and upon reasonable notice not to be less than 24 hours (unless otherwise agreed to by the Company and the Customer-Generator), observe the construction of the Generating Facility (including but not limited to relay settings and trip schemes) and the equipment to be installed therein.

b. Within fourteen days after receiving a written request from the Customer-Generator to begin producing electric energy in parallel with the Company's system, the Company may inspect the Generating Facility (including but not limited to relay settings and trip schemes) and observe the performance of the verification testing. The Company may accept or reject the request to begin producing electric energy based upon the inspection or verification test results.

c. If the Company does not perform an inspection of the Generating Facility (including but not limited to relay settings and trip schemes) and observe the performance of verification testing within the fourteen-day period, the Customer-Generator may begin to produce energy after certifying to the Company that the Generating Facility has been tested in accordance with the verification testing requirements and has successfully completed such tests. After receiving the certification, the Company may conduct an inspection of the Generating Facility (including but not limited to relay settings and trip schemes) and make reasonable inquiries of the Customer-Generator, but only for purposes of determining whether the verification tests were properly performed. The Customer-Generator shall not be required to perform the verification tests a second time, unless irregularities appear in the verification test report or there are other objective indications that the tests were not properly performed in the first instance.

d. The Company may, in its discretion and upon reasonable notice not to be less than 24 hours (unless an apparent safety or emergency situation exists which requires immediate inspection to resolve a known or suspected problem), inspect the Generating Facility (including but not limited to relay settings and trip schemes) and its operations (including but not limited to the operation of control, synchronizing, and protection schemes) after the Generating Facility commences operations.

4. Operating Records and Procedures.

a. The Company may require periodic reviews of the maintenance records, and available operating procedures and policies of the Generating Facility.

b. The Customer-Generator must separate the Generating Facility from the Company's system whenever requested to do so by the Company's System Operator pursuant to this Agreement. It is understood and agreed that at times it may not be possible for the Company to accept electric energy due to temporary operating conditions on the Company's system, and these periods shall be specified by the Company's System Operator. Notice shall be given in advance when these are scheduled operating conditions.

c. Logs shall be kept by the Customer-Generator for information on unit availability including reasons for planned and forced outages; circuit breaker trip operations, relay operations, including target initiation and other unusual events. The Company shall have the right to review these logs, especially in analyzing system disturbance.

5. Changes to the Generating Facility, Operating Records, and Operating Procedures.

a. The Customer-Generator agrees that no material changes or additions to the Generating Facility as reflected in the single-line diagram, relay list, trip scheme and settings of the Generating Facility, Generating Facility Equipment List, and three-line diagram (if the Generating Facility's capacity is greater than or equal to 30 kW), shall be made without having obtained prior written consent from the Company, which consent shall not be unreasonably withheld.

b. As a result of the observations and inspections of the Generating Facility (including but not limited to relay list, trip scheme and settings) and the performance of the verification tests, if any changes in or additions to the Generating Facility, operating records, and operating procedures and policies are required by the Company, the Company shall specify such changes or additions to the Customer-Generator in writing, and the Customer-Generator shall, as soon as practicable, but in no event later than thirty (30) days after receipt of such changes or additions, respond in writing, either noting agreement and action to be taken or reasons for disagreement. If the Customer-Generator disagrees with the Company, it shall note alternatives it will take to accomplish the same intent, or provide the Company with a reasonable explanation as to why no action is required by good engineering practice.

6. Generating Facility Equipment List.

The Generating Facility shall include the following equipment:

[Specific items to be attached as necessary. The Generating Facility Equipment List, together with the single-line diagram, relay list and trip scheme, and three-line diagram (if the Generating Facility's capacity is greater than or equal to 30 kW), should be attached to this Exhibit B.]

EXHIBIT C

COMPANY-OWNED INTERCONNECTION FACILITIES

(To be filled out by Company)

1. Description of Company Interconnection Facilities

The Company will purchase, construct, own, operate and maintain all interconnection facilities required to interconnect the Company's system with the Generating Facility at ___ volts, up to the point of interconnection.

The Company Interconnection Facilities, for which the Customer-Generator agrees to pay, include:

[Need to specify the interconnection facilities. If no interconnection facilities, state "None".]

2. Customer-Generator Payment to Company for Company Interconnection Facilities, Review of Generating Facility, and Review of Verification Testing

The Customer-Generator shall pay to the Company the total estimated interconnection cost to be incurred by the Company (Total Estimated Interconnection Cost), which is comprised of (i) the estimated cost of the Company Interconnection Facilities, (ii) the estimated engineering costs associated with a) developing the Company Interconnection Facilities and b) reviewing and specifying those portions of the Generating Facility which allow interconnected operation, and iii) witnessing and reviewing the verification testing, which shall include testing of the telemetry and control interface which allows the Company to remotely measure, monitor, evaluate and verify technical compliance, Generating Facility performance, and power quality and, if necessary, control the Generating Facility. The following summarizes the Total Estimated Interconnection Cost:

Description	**Estimated Cost ($)** [If no cost, state "None".]
Total Estimated Interconnection Cost ($):	

The Total Estimated Interconnection Cost, which, except as otherwise provided herein, is non-refundable, shall be paid by the Customer-Generator fourteen (14) days after receipt of an invoice from the Company, which shall be provided not less than thirty (30) days prior to start of procurement of the Company Interconnection Facilities.

Within thirty (30) days of receipt of an invoice, which shall be provided within fourteen (14) days of the final accounting, which shall take place within sixty (60) days of completion of construction of the Company Interconnection Facilities, the Customer-Generator shall remit to the Company the difference between the Total Estimated Interconnection Cost paid to date and the total actual interconnection cost (Total Actual Interconnection Cost). The latter is comprised of (i) the total costs of the Company Interconnection Facilities, and (ii) the total engineering costs associated with a) developing the Company Interconnection Facilities and b) reviewing and specifying those portions of the Generating Facility which allow interconnected operations as such are described in Exhibit A, and iii) reviewing the verification testing. If in fact the Total Actual Interconnection Cost is less than the payments received by the Company as the Total Estimated Interconnection Cost, the Company shall repay the difference to the Customer-Generator within thirty (30) days of the final accounting.

If the Agreement is terminated prior to the Customer-Generator's payment for the Total Actual Interconnection Cost (or the portion of this cost which has been incurred) or prior to the Company's repayment of the over collected amount of the Total Estimated Interconnection Cost (or the portion of this cost which has been paid), such payments shall be made by the Customer-Generator or Company, as appropriate. If payment is due to the Company, the Customer-Generator shall pay within thirty (30) days of receipt of an invoice, which shall be provided within fourteen (14) days of the final accounting, which shall take place within sixty (60) days of the date the Agreement is terminated. If payment is due to the Customer-Generator, the Company shall pay within thirty (30) days of the final accounting.

All Company Interconnection Facilities shall be the property of the Company.

3. <u>Operation, Maintenance and Testing Costs</u>

The Company will bill the Customer-Generator monthly and the Customer-Generator will, within 30 days after the billing date, reimburse the Company for any costs incurred in operating, maintaining or testing the Company Interconnection Facilities. The Company's costs will be determined on the basis of outside service costs, direct labor costs, material costs, transportation costs, applicable overheads at time incurred and applicable taxes. Applicable overheads will include such costs as vacation, payroll taxes, non-productive wages, supervision, tools expense, employee benefits, engineering administration, corporate administration, and materials handling. Applicable taxes will include the Public Service Company Tax, and Public Utility Fee.