

## APPENDIX I NET ENERGY METERING AGREEMENT 10 kW or Less

### Section 1. Applicant Information

#### Customer-Generator

Fill in information for HECO account holder.

Fill in ONLY if Service Address is different from Mailing Address above.

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

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

City/State: \_\_\_\_\_, Zip Code: \_\_\_\_\_

Generating Facility Location (if different from above)/Tax map key \_\_\_\_\_

Daytime Phone #: \_\_\_\_\_ Evening/Cell Phone #: \_\_\_\_\_

Electric Service Account #: \_\_\_\_\_

For New Construction, show temporary HECO account number

#### Owner of Generating Facility (if different from Customer-Generator)

Fill in ONLY if Owner of Facility is different from HECO account holder above

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

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

City/State: \_\_\_\_\_, Zip Code: \_\_\_\_\_

Daytime Phone #: \_\_\_\_\_ Evening/Cell Phone #: \_\_\_\_\_

#### Operator of Generating Facility (if different from Customer-Generator)

Fill in ONLY if Operator of Facility is different from above.

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

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

City/State: \_\_\_\_\_, Zip Code: \_\_\_\_\_

Daytime Phone #: \_\_\_\_\_ Evening/Cell Phone #: \_\_\_\_\_

### Section 2. Generating Facility Information

### Power Conditioning Equipment

### Energy Storage

Solar: Rated generator capacity in kW \_\_\_\_\_ Generator/Inverter Make/Model \_\_\_\_\_ . \_\_\_\_\_ kWh.

Rated photovoltaic module capacity in kW<sub>DC</sub> \_\_\_\_\_

Wind: Rated generator capacity in kW \_\_\_\_\_ Generator/Inverter Make/Model \_\_\_\_\_ . \_\_\_\_\_ kWh.

Biomass: Rated generator capacity in kW \_\_\_\_\_ Generator/Inverter Make/Model \_\_\_\_\_ . \_\_\_\_\_ kWh.

Hydro: Rated generator capacity in kW \_\_\_\_\_ Generator/Inverter Make/Model \_\_\_\_\_ . \_\_\_\_\_ kWh.

Hybrid: Rated generator capacity in kW \_\_\_\_\_ Generator/Inverter Make/Model \_\_\_\_\_ . \_\_\_\_\_ kWh.

Total rated capacity in kW \_\_\_\_\_ (Shall not exceed 10 kW) Attach specification sheet if available.

Generating System Building Permit # (Certificate of Completion or Notice of Electrical Inspection?): \_\_\_\_\_

Is system self-excited with potential to island:

Yes

No

Please submit a single line diagram. Submitted:

Yes

No

Answer "NO", for inverters meeting UL1741 certification

PV module PTC capacities can be found at:  
[http://www.gosolarcalifornia.ca.gov/equipment/pv\\_modules.php](http://www.gosolarcalifornia.ca.gov/equipment/pv_modules.php)

Use the lesser capacity of the Inverter or Modules.

Single Line Diagrams are required to be submitted with this application.

HAWAIIAN ELECTRIC COMPANY, INC.

**Section 3. Certification by Licensed Electrical Contractor:**

Generating and interconnection systems must be compliant 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 Public Utilities Commission of the State of Hawaii ("Commission"), or other applicable governmental laws and regulations, and the Electric Company's (Company) interconnection requirements, in effect at the time of signing this agreement. The following certifies that the installed generating system meets all preceding requirement(s).

Original Signature is required

Signed (Licensed Electrical Contractor): John E. Egan Date: \_\_\_\_\_

License Holder (printed) \_\_\_\_\_ Hawaii License #: \_\_\_\_\_

Mail Address: \_\_\_\_\_

City: \_\_\_\_\_, Hawaii, Zip Code: \_\_\_\_\_

Daytime Phone #: \_\_\_\_\_ Installation date: \_\_\_\_\_

**Section 4. Installation:** Design, installation, operation and maintenance of the Generating Facility shall include appropriate control and protection equipment and a manual load-break disconnect device lockable in the open position and accessible by the Company, as a means of electrically isolating the Generating Facility from the Company's system, and to establish working clearance for maintenance and repair work in accordance with the Company's safety rules and practices. This load-break disconnect device shall be furnished and installed by the Customer-Generator and is to be connected between the Generating Facility and the Company's electric system. The disconnect device shall preferably be located in the immediate vicinity of the electric meter serving the Customer-Generator. With permission of the Company, the disconnect device may be located at an alternate location which is accessible to utility company personnel on a 24-hour basis. The Customer-Generator and/or Owner/Operator grants access to the Company to utilize the disconnect device, if needed. The Customer-Generator shall obtain the authorization from the owner and/or occupant of the premises where the Generating Facility is located that allows the Company access to the Generating Facility for the purposes specified in this Agreement. The disconnect device shall be clearly labeled "Customer-Generator System Disconnect".

Location of lockable disconnect device, adjacent to meter?  yes

Utility disconnect is required & should be located in the immediate vicinity of the electric meter. Check YES box ONLY if all conditions are met. Alternate disconnect locations must be approved by HECO prior to installation.

If not, please describe location: \_\_\_\_\_

**Section 5. Notice:** A Customer-Generator shall provide the Company with an advance 30-day written notice of any proposed material changes made to the Generating Facility, for example, a change in ownership or an increase in capacity. In no event may the rated generator capacity of the Generating Facility exceed 10 kW. If a Generating Facility changes ownership, the Company may require the new owner to complete a new Net Energy Metering Agreement.

**Section 6. Permits and Licenses:** The Customer-Generator shall obtain, at its expense, any and all authorizations, permits and licenses required for the construction and operation of its facility.

**Section 7. Metering:** The Company will supply, own, and maintain all necessary meters and associated equipment utilized for billing. The meters will be tested and read in accordance with the rules of the Commission and the Company. The Customer-Generator shall supply, at no expense to the Company, a suitable location for meters and associated equipment used for billing and in accordance with the Company's tariffs. The 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 installations on the Customer-Generator's premises in accordance with the Company's Rule 14, Section A.2.

**Section 8. Indemnification:** Each party as indemnitor shall hold harmless and indemnify the other party and the directors, officers, authorized agents, and employees of such other party against and from any and all loss and liability for injuries to persons including employees and authorized agents of either party, and damages, including property of either party, resulting from or arising out of (i) the engineering, design, construction, maintenance, or operation of, or (ii) the making of replacements, additions, or betterments to the indemnitor's facilities which are required for the interconnection and parallel operation of the Generating Facility with the Company's electric system and the generation of energy by the Generating Facility. Neither party shall be indemnified for liability or loss resulting from its sole negligence or willful misconduct. 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.

**Provided, however, where the Customer-Generator is an agency of the United States,** 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 Contract 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 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.

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.

**[FOR OWNER / OPERATOR OTHER THAN STATE AGENCY]**

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 their control or on their behalf) with respect to their obligations under this Agreement, and/or arising out of the installation, operation and maintenance of the Facility and/or the Facility Parties 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.

**Section 9. Continuity of Service:** The Company may require that the Generating Facility be temporarily curtailed, interrupted or deliveries of energy reduced: (a) when necessary in order for the Company to construct, install, maintain, repair, replace, remove, investigate or inspect any of its equipment or any part of its system; or (b) if the Company determines that such curtailment, interruption or reduction is necessary because of a system emergency, forced outage, or compliance with good engineering practices. Whenever feasible, Company shall give Customer-Generator reasonable notice of the possibility that interruption or reduction of deliveries may be required. In any such event, the Company shall not be obligated to accept any energy from the Generating Facility except for such energy that the Company notifies the Customer-Generator that it is able to take during this period due to the aforesaid circumstances. The Company shall take all reasonable steps to minimize the number and duration of interruptions, curtailments or reductions.

**Section 10. 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. 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 a net metering facility or for the acts or omissions of the Customer-Generator that cause loss or injury, including death, to any third party.

**Section 11. Additional Information:** The Company reserves the right to require additional information, where necessary, to serve the Customer-Generator under net energy metering service.

**Section 12. Term:** This agreement shall become effective upon execution by the Customer-Generator and the Company and shall continue in effect on a month-to-month basis. The Customer-Generator may terminate the agreement at any time. Company may terminate the agreement at any time if the Customer-Generator fails to comply with the terms of this agreement or meet the definition of Eligible Customer-Generator under the Company's Rule 18 relating to Net Energy Metering.

**Section 13. Net Energy Metering and Billing:**

**A. General:**

(1) The net energy metering and billing arrangement covered by the Net Energy Metering Agreement shall be governed by the Company's Rule 18, as may be amended, revised and/or updated from time to time. If there is a conflict between any provision in the Net Energy Metering Agreement and the Company's Rule 18, as may be amended, revised and/or updated, the provisions of the Company's Rule 18 shall control.

(2) Customer-Generator's with Net Energy Metering service, pursuant to the Company's Rule 18, shall be billed monthly for the billing period, in accordance with the Company's Rule 8. Every 12 months, a reconciliation of the Customer-Generator's net energy consumption supplied by the Company with the net energy produced by the Generating Facility for that 12-month period will be performed as described in Section C.5. of the Company's Rule 18.

(3) For Customer-Generators with existing Net Energy Metering service, the measurement of kilowatthours supplied by the Company and the kilowatthours produced by the Customer-Generator for the first bill of the initial 12-month period under 2005 Haw. Sess. Laws Act 104 (effective July 1, 2005) shall begin at the start date of the billing period following the effective date of the Company's Rule 18. For all other Customer-Generators requesting Net Energy Metering service, the measurement of kilowatthours supplied by the Company and the kilowatthours produced by the Customer-Generator for the first bill of the initial 12-month period shall begin on the start date of the first billing period after the installation of the required meter(s).

**B. Net Electricity Producer:**

- (1) When the electricity produced by the Generating Facility during a billing period exceeds the electricity supplied by the Company for the same period, the Customer-Generator is deemed to be a net electricity producer.
- (2) In a billing period when the Customer-Generator is deemed to be a net electricity producer, the Customer-Generator will not be billed for the kilowatthours supplied by the Company during that billing period. For billing purposes, the Customer-Generator shall instead be charged the Minimum Charge provided in the applicable rate schedule in effect during the billing period.
- (3) The excess kilowatthours produced by the Customer-Generator in each billing period, shall be carried over to the next billing period(s) within the current 12-month period, as a monetary credit and applied only to the Energy Charge, plus adjustments applicable to the Energy Charge, as well as adjustments based on kWh consumption, if any, for the Customer-Generator's net kilowatthour consumption in the succeeding billing period within the current 12-month period. Adjustments applicable to the Energy Charge include the Power Factor Adjustment, the Supply Voltage Delivery Adjustment, the IRP Cost Recovery Adjustment, Temporary Rate Adjustment and other similar adjustments applicable to the Energy Charge that are in effect. Adjustments based on kWh consumption include the Energy Cost Adjustment, the Residential DSM Adjustment, the Commercial & Industrial DSM Adjustment, and other similar adjustments based on kWh consumption that are in effect. When the Customer-Generator is billed the Minimum Charge in any billing period, the Customer-Generator's cumulative net monetary credit shall not be applied to the Minimum Charge.
- (4) The Customer-Generator's cumulative net monetary credit shall also not be applied to the Demand Charge, Customer Charge, adjustments applicable to the Demand and Customer Charges and other similar rate adjustments applicable to the Demand and Customer Charges that are in effect. See Section C.3. (a-e) of the Company's Rule 18 for the determination of monetary credit as applicable to the Customer-Generator's rate schedule.

**C. Net Electricity Consumer:**

- (1) When the electricity supplied by the Company to the Customer-Generator during a billing period exceeds the electricity produced by the Generating Facility for the same period, and also exceeds any unused cumulative credits for excess electricity supplied by the Customer-Generator carried over from the prior months since the last 12-month reconciliation period, the Customer-Generator is deemed to be a net electricity consumer.
- (2) For billing purposes, the Customer-Generator shall be charged for the excess kilowatthours supplied by the Company based on the applicable rate schedule in effect during the billing period. The payment for excess kilowatthours supplied by the Company, however, will take into consideration any unused cumulative credits to the extent provided for in Section C.3. of the Company's Rule 18.

(3) In a billing period in which the Customer-Generator is deemed to be a net electricity consumer, the Customer-Generator will also be billed for other applicable charges, base rate adjustments and non-base rate adjustments, to the extent the amount exceeds the Minimum Charge; if such amount does not exceed the Minimum Charge, the Customer-Generator will be billed the Minimum Charge, plus any rate adjustment that may apply to the Minimum Charge.

(4) The kilowatthours supplied by the Company and the kilowatthours produced by the Customer-Generator for each billing period shall be recorded in each billing period of the 12-month period. Coincident with the last bill of the 12-month period following the start date of the Customer-Generator's billing under the Net Energy Metering contract, and for each 12-month period thereafter, the (i) Energy Charge plus adjustments applicable to the Energy Charge and adjustments based on kWh consumption, less any monetary credits applied during the 12-month period for net kilowatthours produced by the Customer-Generator ("Remaining Energy Charge Balance"), and (ii) the available cumulative credit balance (i.e., cumulative net monetary credit for net kilowatthours produced by the Customer-Generator for the 12-month period remaining after the subtraction of the monetary credits previously credited to the Customer-Generator during the 12-month period for net kilowatthours produced by the Customer-Generator) will be compared to determine whether the Customer-Generator is entitled to a refund of remaining Energy Charges plus adjustments applicable to the Energy Charge and adjustments based on kWh consumption. If the available cumulative credit balance equals, or exceeds the Remaining Energy Charge Balance, the Remaining Energy Charge Balance will be refunded. If the Remaining Energy Charge Balance is greater than the available cumulative credit balance at the end of the 12-month period, the amount of the refund will be capped at the available cumulative credit balance.

(5) The Energy Charge shall include the Customer-Generator's Energy Charge for each billing period within the 12-month period, plus adjustments applicable to the Energy Charge and adjustments based on kWh consumption, except for those billing periods when the Customer-Generator was billed the Minimum Charge provided in the applicable rate schedule. Any monetary credits for excess kilowatthours produced by the Customer-Generator that remain unused at the end of each 12-month period shall expire and not be carried over to the next 12-month period. The Customer-Generator shall not be compensated for such excess kilowatthours produced by the Customer-Generator unless the Company enters into a purchase power agreement with the Customer-Generator.

**D. Other:**

(1) If a Customer-Generator terminates its Net Energy Metering service under Rule 18 prior to the end of any 12-month period, the Company shall reconcile the Energy Charge, plus adjustments applicable to the Energy Charge and adjustments based on kWh consumption, less monetary credits previously applied, to the cumulative credit balance at the end of the billing period when service was terminated, similar to the reconciliation that would have been performed at the end of the normal 12-month period.

(2) The kilowatthours supplied by the Company and, if any, the kilowatthours produced by the Customer-Generator, including an accounting of the cumulative monetary credits for the excess kilowatthours produced by the Customer-Generator since the last 12-month period reconciliation, the credits applied in each billing period of the current 12-month period and the remaining unused credits, if any, will be included in the Customer-Generator's regular billing statement.

**Section 14. Customer-Generator (and/or Owner/Operator) Signature:** I agree to be bound by the terms of this Net Energy Metering Agreement, and I understand that all aspects of billing for electric service will conform with existing Company Rules, the Commission's general orders, and the applicable provisions of Hawaii Revised Statutes, Chapter 269, Part VI. I also certify that, to the best of my knowledge, all the information provided in this agreement, is true and correct.

Original Signature is required

Customer-Generator John Doe Date \_\_\_\_\_

Owner/Operator of Generating Facility \_\_\_\_\_ Date \_\_\_\_\_

**Section 15. Company Signature:** THIS SECTION FOR HECO USE ONLY.

Signature only required if Owner/Operator is NOT Customer-Generator.

I hereby acknowledge receipt and completeness of the Net Energy Metering Agreement.

Company \_\_\_\_\_ By \_\_\_\_\_

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