



**Hawaiian
Electric**

**ROOFTOP RENTAL INITIAL ASSESSMENT: FRONT OF THE METER
(FTM) PHOTOVOLTAIC AND ENERGY STORAGE SYSTEMS
ENABLED TO DELIVER GRID SERVICES AND RESILIENCY**

O‘AHU ONLY

**REQUEST
FOR
PROPOSAL**

RFP NO. 031021-01



Rooftop Rental Request for Proposal

REQUEST FOR PROPOSAL

Hawaiian Electric Company, Inc. (the “Company”) hereby requests a proposal for its Rooftop Rental Initial Assessment: utility-owned, front of the meter (“FTM”) photovoltaic and energy storage systems (“PES System”) that will interconnect on the utility-side of the meter and be enabled, monitored, and controlled from a centralized system to deliver Grid Services to the Company. The systems must also operate in resiliency mode to provide power to the residential customer during grid outages.

This Request for Proposal (“RFP”) is open to all potential suppliers (“Potential Bidder”) of the required services. Responsive proposals must be submitted by **6 PM HST on March 10, 2021** and consistent with the requirements set forth in this RFP.

PROPRIETARY RIGHTS AND CONFIDENTIALITY OF RFP

This RFP has been prepared exclusively for the Company and is proprietary in nature. The Company reserves all copyrights for this document and its constituent parts and prohibits any unauthorized use or reproduction hereof. All or portions of this RFP and/or Attachments hereto may be designated or marked confidential (“Confidential Information”). Confidential Information shall not be disclosed to third parties without the Company’s prior written consent, except that you may disclose Confidential Information to your consultants, affiliates, attorneys or potential subcontractors who need the Confidential Information for purposes of preparing a responsive proposal, and provided that such recipient is advised of the confidentiality of the Confidential Information and is bound by agreement or otherwise to preserve the confidentiality of the same.

RFP DOCUMENTS

This RFP includes and incorporates the following attached documents:

- Attachment A: Intent to Bid Form
- Attachment B: Proposals
- Attachment B1: Proposal Questions
- Attachment B2: Requirements
- Attachment C: Grid Services and Forecast Requirements
- Attachment C1: FFR
- Attachment C2: Load Reduction and Load Build
- Attachment C3: Energy
- Attachment C4: Forecast
- Attachment D: General Services Master Agreement (the “Contract”)
- Attachment E: Survey



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SUMMARY OF PROJECT

OVERVIEW

The Company is a regulated electric public utility engaged in the production, purchase, transmission, distribution and sale of electricity on the island of O‘ahu.

The Company is seeking proposals for its Rooftop Rental Initial Assessment: utility-owned front of the meter (“FTM”) photovoltaic and energy storage systems (“PES System”) that can interconnect on the utility-side of the meter and be enabled, monitored, and controlled from a centralized system to deliver Grid Services. The systems must also operate in resiliency mode to provide power to the residential customer during grid outages. Specifically, this RFP seeks proposals for up to twenty PES systems to be installed on residential single family homes by the second quarter of 2021.

The Company intends to contract for the requested Functions through this RFP using its General Services Master Agreement (“GSMA”). The GSMA is attached as Attachment D to this RFP. Potential Bidders may submit proposals for an individual, a combination, or all Functions (see Attachment B2). Each successful Bidder(s) will provide the specified services pursuant to the terms of the GSMA to be negotiated between the Company and Bidder(s). Bidders shall include in detail and fully blacklined all exceptions taken to the GSMA with their bid packet submission. The length of this contract is for the duration of 2021 (installation of the PES System and approximately four months of related services after interconnection and integration of all required equipment for Functions A, B, and C).

The Company will evaluate Proposals using the evaluation and selection process described in Section 10 of this RFP. The Company will evaluate and select Proposals based on both price and non-price factors that impact the Company, its customers, and communities affected by the proposed Projects. The amount of PES Systems that the Company may acquire from this RFP depends on, among other things, the quality of bids received in response to this RFP; economic comparison to other RFP responses; updates to the Company’s budget forecasts; and changes to regulatory or legal requirements.

All requirements necessary to submit a Proposal or Proposals are provided in this RFP. A description of the requirements for Bidders is included in Section 3 of this RFP and in the GSMA attached as Attachment D.

All capitalized terms used in this RFP shall have the meaning set forth in Section 1 of this RFP.



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BRIEF BACKGROUND

This RFP is in response to the Order issued by the Hawaii Public Utilities Commission (“Commission”) directing the Company to focus on advanced distributed energy resource programs.¹ The Rooftop Rental Program as proposed in the DER Program Track under Docket No. 2019-0323 is intended to expand opportunities to install cost-effective DER by making more rooftops available, and to provide opportunities to underserved customer segments, specifically low-moderate income (“LMI”) customers and renters, to manage and lower their electric bills.

The Company defines a demonstration or “initial assessment” phase, with the following objectives:

- Assess and demonstrate the level of customer interest in this program model, including delivery and pricing and the related benefit to participating customers;
- Assess and demonstrate the level of DER market interest in this business model and the market’s ability to execute in a coordinated manner with the Company for a positive customer experience;
- Determine the cost-effectiveness of the program (based on the market’s responses and actual performance on execution costs and grid services potential (kW)); and
- Assess and demonstrate the option to incorporate resilience benefits for host customers.

Through this RFP the Company intends to install utility-owned PES Systems to fulfill the initial assessment and vet the objectives listed above which may then lead to a full-scale application filing with the Commission of a proposed Rooftop Rental Program.

REQUIREMENTS

This RFP requests services for three different functions. The following is a high-level description of each Function.

- Function A. The installation and maintenance of a PES System on a customer’s premise.
- Function B. The implementation and maintenance of a Grid Service Monitoring and Control System (“GSMCS”).
- Function C. The implementation and maintenance of Resiliency Equipment.

Bidders can bid on Functions A, B, or C individually or in any grouping (Example: Bidder bids on Function A only, Function A and C, or Function A, B, and C). Bidders will indicate in their

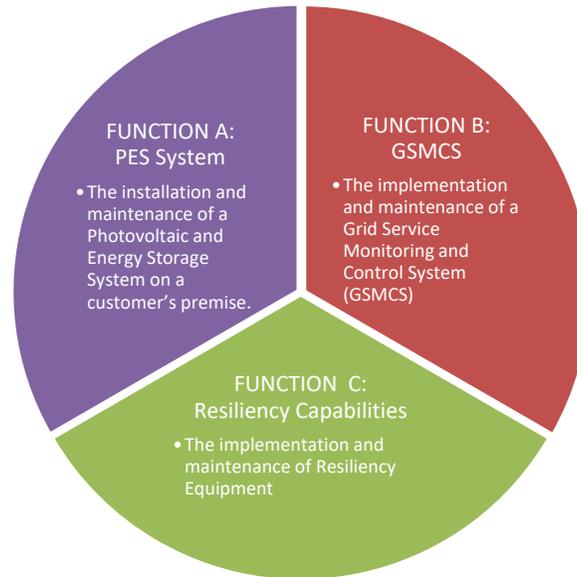
¹ See Order No. 37066 in Docket No. 2019-0323. “The Commission is inclined to focus development on two types of programs for both residential and commercial customers: (1) a basic, export-only program; and (2) a more advanced program which will feature compensation for a combination of energy exports and grid services.”



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proposal (see Attachment B1) which of these functions it proposes to perform. The requirements to be performed by awardees for each function are stated in Attachment B2.

Figure 1: Functions A-C Required for RFP



COMMERCIAL TERMS AND CONDITIONS

Contract: Following the RFP process, the Company and the selected Bidder(s) will execute a contract (the "Contract"). The Contract will be based in part on the selected Bidder's Proposal and other information, if any, submitted by the bidder during the RFP process. The form of the Contract is contained in Attachment D. Other terms and conditions may be included in the Contract by mutual agreement of the Company and the selected Bidder.



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INSTRUCTIONS FOR SUBMISSION OF PROPOSALS

PROPOSAL REQUIREMENTS, TERMS AND CONDITIONS

1. Definition of Terms and Abbreviations

Area Electric Power System (Area EPS)	An electric power system that serves Local Electric Power Systems.
Bidder:	refers to a supplier of goods and/or services who submits a Bid in response to this RFP.
Contract:	refers to the product and service contract to be executed by the Company and the Selected Bidder following the RFP process.
Gateway:	refers to the device that connect the GSMCS to the PES System to provide Grid Services.
Grid Services:	The services delivered to the Company by the GSMCS, which will be one or more of the following, described in Attachment C.
GSMCS	refers to the Grid Service Monitoring and Control System (“GSMCS”). The GSMCS allows the Company to monitor, control, and forecast performance of the PES Systems for the delivery of Grid Services.
Intentional Island	A planned electrical island that is capable of being energized by one or more Local EPSs. These (1) have distributed energy resource(s) and load, (2) have the ability to disconnect from and to parallel with the Area EPS, (3) include one or more Local EPS(s), and (4) are intentionally planned. NOTE—An intentional island may be an <i>intentional Area EPS island</i> or an <i>intentional Local EPS island</i> (also: “facility island”).
Island	A condition in which a portion of an Area Electric Power System (“Area EPS”) is energized solely by one or more Local EPSs through the associated PCCs while that portion of the Area EPS is electrically separated from the rest of the Area EPS on all phases to which the distributed energy resource is connected. When an island exists, the distributed energy resource energizing the island may be said to be “islanding”.



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Local Electric Power System (“Local EPS”):	An electric power system contained entirely within a single premises or group of premises. For this RFP, the Local EPS is all equipment on the customer-side of the service point.
PES System:	A utility-owned front of the meter photovoltaic and energy storage system installed and interconnected at a service location.
Point of Common Coupling (“PCC”)	The point of connection between the area electric power system and the local electric power system. For this RFP, the PCC is the service point.
Potential Bidder:	refers to a potential supplier of goods and/or services to whom the Company has sent this RFP.
Proposal:	refers to a bid, quote or proposal submitted by a Bidder in response to this RFP.
Proposal Due Date:	refers to the date by which a Proposal must be delivered to the Company to be considered for this RFP, which date is identified below.
Resiliency Equipment:	refers to the equipment that allows the Local EPS to disconnect from the utility distribution system
Resource:	Same as PES System
Revised Proposal:	refers to a revised Proposal submitted in accordance with the requirements of Section 5 below.
Selected Bidder:	refers to the Bidder(s) selected to provide the product and service under this RFP.
Supplier:	Same as Selected Bidder

2. Proposals

2.1. A Proposal may only be submitted by a Potential Bidder.

2.2. Table 1 sets forth the schedule for the proposal process (the “RFP Schedule”). The Company reserves the right to revise the RFP Schedule as necessary. Changes to the RFP Schedule prior to the RFP Proposals Due date will be posted to the RFP



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website. Changes to the RFP Schedule after the Proposals Due date will be communicated via email or via the Electronic Procurement Platform to the Proposers.

Table 1 RFP Schedule

(1) RFP is Issued	January 26, 2021
(2) Intent to Submit Bid	February 3, 2021
(3) Questions on RFP Due	February 10, 2021
(4) Response to Questions from Potential Bidders Due	February 16, 2021
(5) Proposals Due	March 10, 2021 at 6pm HST
(6) Selection of Final Award Group	March 24, 2021
(7) Contract Negotiations Start	March 25, 2021

- 2.3. A Potential Bidder must complete and submit the Intent to Submit Bid Form (Attachment A) to the contact specified in subsection 14.1 of this RFP by date and time in RFP Schedule to confirm the Potential Bidder’s intention to submit a Proposal. The Company reserves the right not to consider any Proposal from a Bidder who fails to provide an Intent To Submit Bid Form by the deadline specified above.
- 2.4. The Proposal is due on March 10, 2021 by 6 PM HST in RFP Schedule, which date and time constitute the “Proposal Due Date”. The Company in its sole discretion may cancel or postpone the Proposal Due Date at any time by providing notice to the Potential Bidder, which notice shall be deemed an amendment of this RFP.
- 2.5. The Proposal must be delivered to and received by the Company on or before the Proposal Due Date in electronic format in accordance with the requirements as further specified below.

An electronic Proposal must be sent to the following address:
response@hawaiianelectric.com
- 2.6. The Bidder bears sole responsibility for assuring that the electronic Proposal submitted is complete, correctly formatted, legible, and timely delivered, transmitted, and received by the Company.
- 2.7. Proposals that are delivered after the Proposal Due Date, or otherwise not in conformity with the requirements of this RFP, may be rejected and may not be considered at the Company’s sole discretion.
- 2.8. The Bidder has the sole responsibility for careful review of the Proposal to correct any errors prior to submission. The Company shall be entitled to rely on the



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correctness and accuracy of the Proposal contents.

- 2.9. The Bidder is responsible for proposing all products, terms and/or services that will be required for or incidental to the successful delivery of the requested in this RFP, including but not limited to products, terms, and services that may not have been specifically identified or requested in the RFP. If the Bidder's Proposal is accepted and the Bidder failed to propose any such required or incidental product, term, or service, the Bidder will be responsible for providing such product, term, or service at no additional cost to the Company.
- 2.10. This RFP, the Selected Bidder's Proposal and all other material representations made by that Bidder in connection with its Proposal may or will be written or incorporated into the Contract between that Bidder and the Company. Thus, by submitting a Proposal, the Bidder understands and acknowledges that the Company will rely on the Proposal and all material representations made by the Bidder in selecting the Selected Bidder and in entering into the Contract, and the Bidder warrants that the statements made in the Proposal and other material representations are truthful and accurate.
- 2.11. The Proposal constitutes an irrevocable offer to the Company if not modified or withdrawn prior to the Proposal Due Date pursuant to Sections 5 or 6, below, which shall remain open and which cannot be withdrawn by the Bidder for a period of ninety (90) days following the Proposal Due Date.
- 2.12. Based on its evaluation of the Proposals, the Company may require some or all Bidders to answer additional follow up questions and/or submit additional information for the Company's review. The Company is not obligated to request the same follow up information from all Bidders. Following the Proposal Due Date, the Company may request or agree to product or services demonstrations from, or have discussions with, some or all Bidders.

3. Required Information

- 3.1. The Proposal shall contain complete and accurate responses to the questions set forth in Attachment B1 hereto. Attach a **Cover Letter** and include signature of a representative for the Bidder **authorizing the submission** of the Proposal.
- 3.2. The Proposal shall affirmatively state that the contract terms contained in Attachment D are acceptable to the Bidder, or, the Bidder shall identify specifically which such terms and conditions are objectionable and shall propose substitute language for the same acceptable to the Bidder. Terms and conditions with respect to which a Bidder does not identify objections shall be deemed by the Company to be acceptable to the Bidder. Vague comments or generalized wholesale exceptions do not satisfy this requirement and will be disregarded.



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- 3.3. If applicable, consistent with Section 3.2, any modifications in Microsoft Word Track Changes redline format to the terms of the General Services Master Agreement (Attachment D)
- 3.4. Bidder's responses to the Proposal Questions (Attachment B1)
- 3.5. The Proposal must include complete pricing information with respect to all options if more than one is proposed.
- 3.6. Bidder's responses to the Survey (Attachment E). Completing the survey is a requirement of this RFP. However, it will not be used in evaluating the proposals.

4. Preparation of Proposal

- 4.1. Each Bidder has the sole responsibility for carefully reviewing the RFP and all attachments and for thoroughly investigating and informing itself with respect to all matters pertinent to this RFP, its Proposal, and its anticipated performance under the Contract. The Bidder shall have the obligation to seek clarification of any perceived ambiguities contained in this RFP prior to the Proposal Due Date. Any failure by a Bidder to do so shall be at its sole risk.
- 4.2. In preparing and submitting a Proposal, a Bidder shall not rely upon any oral statements made by the Company's employees, consultants, or agents.
- 4.3. Each Bidder shall be solely responsible for and shall bear all costs incurred in its preparation of its Proposal and/or its participation in this RFP, including, but not limited to, all costs incurred with respect to the review of the RFP documents, site visits, third party consultant consultation, and investigation and informing itself with respect to matters pertaining to its Proposal and this RFP, and the same shall not be reimbursed by the Company to any Potential Bidder or Bidder, including the Selected Bidder.

5. Modification of Proposal

- 5.1. A Bidder may modify its Proposal at any time prior to the Proposal Due Date.
- 5.2. In order to modify its Proposal, the Bidder must submit a revised Proposal ("Revised Proposal"), clearly identified as such, which expressly supersedes and replaces the earlier Proposal from the Bidder. The Revised Proposal must identify the date of the earlier Proposal which it is superseding and replacing.
- 5.3. Revised Proposals are subject to all requirements of this RFP, shall not incorporate or rely upon the Proposal that it is superseding and replacing, and must be delivered



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to or received by the Company on or before the Proposal Due Date.

- 5.4. A Proposal or Revised Proposal may not be modified or revised after the Proposal Due Date.

6. Withdrawal of Proposals

- 6.1. A Bidder may withdraw its Proposal or Revised Proposal at any time prior to the Proposal Due Date.
- 6.2. A Proposal will be deemed withdrawn upon receipt by the Company of a written notice sent to response@hawaiianelectric.com, on or before the Proposal Due Date.
- 6.3. Proposals that have been withdrawn pursuant to this section will not be considered by the Company and may be discarded by the Company.
- 6.4. A Bidder may not withdraw a Proposal or any Revised Proposals after the Proposal Due Date for any reason, including, but not limited to, errors or mistakes.

7. Correction of Errors in Proposals

- 7.1. A Bidder may correct errors in its Proposal or Revised Proposal prior to the Proposal Due Date by modification or withdrawal of a Proposal pursuant to Sections 5 and 6, above.

8. Opening of Proposals

- 8.1. Proposals will be opened by the Company at such date and time and in such manner as the Company, in its sole judgment and discretion, deems appropriate.
- 8.2. No Bidder shall be entitled to be present for the Company's opening of Proposals.

9. Exceptions

- 9.1. A Bidder may take express exception to any term or condition of the RFP in its Proposal or Revised Proposal. All exceptions shall be clearly and separately stated, shall identify the relevant section/subsection of this RFP or its attachments, shall identify the reason(s) for taking the exception, and shall propose a clearly stated alternative.
- 9.2. The Company shall have the right in its sole judgment and discretion to reject any Proposal or evaluate a Proposal unfavorably based on exceptions taken by a Bidder.



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10. Evaluation of Proposals

10.1. The Company will use the following attributes, responses to the Proposal Questions (Attachment B1), and Requirements (Attachment B2) to evaluate Proposals:

- Experience of the Bidder with respect to providing the products and/or services contemplated by this RFP
- Bidder's presence and staffing in Hawaii
- Bidder's price to perform Functions A, B, and/or C
- With respect to Function B, the Bidder's ability to provide multiple grid services
- Prior experience with the Company
- Any exceptions consistent with Sections 3.2 and 3.3 of this RFP taken to the contract template included in Attachment D, GSMA.

10.2. Proposals will be considered relative to other Proposals as well as any additional information as the Company, in its sole discretion, deems appropriate.

10.3. The evaluation of Proposals will be based upon criteria that the Company, in its sole judgment and discretion, believes to be in the best interest of the Company and its customers. Potential Bidders, Bidders and Selected Bidder(s) shall not be entitled to disclosure of the Company's evaluation criteria or information pertaining to the Company's actual evaluation and analysis of Proposals.

10.4. The Company shall have the right to reject any Proposal or Revised Proposal, which the Company, in its sole judgment and discretion, believes to be unsatisfactory or unresponsive, and may, as well, at any time up to the award of the Contract, withdraw this RFP and elect not to award the Contract.

10.5. Subsequent to the opening of Proposals and Revised Proposals (if any), but prior to award of the Contract, the Company shall have the right to contact any Bidder to request additional information or to clarify a Bidder's Proposal or Revised Proposal. The Company may do so without notice or disclosure to any other Bidder of such inquiry or of the information derived from such inquiry.

11. Award

11.1. The Company shall have the right to award the Contract to the Bidder(s) that, in the Company's sole judgment and discretion, has provided a Proposal or Revised Proposal that is in the best interests and has the best value to the Company and its customers ("Selected Bidder").



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11.2. Bidders expressly acknowledge that the Company shall have the right to award the Contract to a Bidder, notwithstanding the fact that another Bidder may have submitted a Proposal with a lower price.

11.3. The Company shall have the right to determine not to award the Contract, or to re-bid, restate, revise or cancel this RFP at any time.

11.4. The award of the Contract is an estimation, but not a commitment by the Company.

12. Notification of Award

12.1. The award, if any, will be announced in writing or by electronic mail to the Selected Bidder(s). The Company will provide notice to all other Bidders that their Proposals were not selected.

12.2. The selection is provisional until execution of a Contract by the Company and the Selected Bidder. Until such time, the Company may revoke or change its selection for any reason, including but not limited to failure of the Company and the Selected Bidder to agree on final terms for the Contract.

12.3. The Company shall not be required to explain its selection of the Selected Bidder(s) to any Potential Bidder, Bidder, or other Selected Bidder(s), or explain to any Bidder why its Proposal was not selected. Bidders expressly acknowledge that they have no right to a debriefing after an award is made by the Company.

13. No Right to Protest or Appeal Award

Potential Bidders, Bidders, and Selected Bidder(s) expressly acknowledge that they have no right to protest or appeal an award under this RFP.

14. Questions Regarding the RFP

14.1. Any questions or communication regarding the RFP must be made by email; include "RFP No. 031021-01" in the subject line. See RFP Schedule for deadline to submit questions.

Email Address: response@hawaiianelectric.com

14.2. The Company shall have the sole option of determining whether a response to a question is necessary or appropriate under the circumstances.

14.3. If a question is generally applicable to other Bidders or Proposals and the Company elects to respond to such a question, then the Company will provide the response to all Bidders.



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15. Confidentiality of Proposals

15.1. Bidders shall clearly identify information in their Proposals (or any Revised Proposal) that they are requesting be treated as confidential and not be disclosed outside of the Company and its employees, consultants and representatives involved with the RFP and its evaluation. Bidders shall describe with particularity the basis for such confidentiality designation and the cognizable harm to the Bidder if from any unpermitted disclosure of the information. Blanket and unsupported confidentiality designations shall not be honored by the Company. The Company shall have the right to disclose Proposals, including all information therein and otherwise submitted as part of the RFP process which is designated as confidential by the Bidder to the State of Hawaii Public Utilities Commission (“PUC”) and Division of Consumer Advocacy, Department of Commerce and Consumer Affairs (“Consumer Advocate”) and the respective staffs and consultants of the same. As appropriate, the Company will request that any confidential information be submitted to the PUC and/or Consumer Advocate pursuant and subject to a protective order. The Company may also disclose Bidder confidential information to any participant or party to any PUC docket who has agreed in writing to be bound by the terms of a protective order approved and entered by the PUC in such docket. Any statement or condition in any Proposal that attempts to restrict the Company’s rights under this section shall be void.

15.2. No Bidder shall be entitled to a copy of any Proposal or Revised Proposal submitted by any other Bidder or any other information contained therein or provided by or with respect to any other Bidder, nor shall any Bidder or other person or entity be entitled to any information from the Company pertaining to the evaluation of Proposals under this RFP unless otherwise explicitly provided for in this RFP (e.g., through the question and answer process in Section 14).

16. Rights Reserved

The Company may, at any time, in its sole discretion, postpone, withdraw and/or cancel this RFP; alter, extend or cancel any due date; and/or, alter, amend, withdraw and/or cancel any requirement, term or condition of this RFP, any and all of which shall be without any liability to the Company.

17. Integration

This RFP, including all documents attached hereto or referenced herein, constitutes the entire agreement between the parties with respect to this RFP, superseding all prior and contemporaneous agreements, understandings or undertakings, oral or written with respect to the subject matter. There are no other applicable terms or conditions not found in this RFP.



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18. Headings

The headings used in this RFP are for convenience of reference only. They are not substantive and may not be used to interpret the agreement between the parties.

19. Governing Law

This RFP is made under, governed by, construed, and enforced in accordance with, the laws of the state of Hawaii. Subject to Section 13 above, any action brought with respect to the matters contained in this RFP shall be brought in the federal or state courts located in the State of Hawaii. Each party agrees and irrevocably consents to the exercise of personal jurisdiction over each of the parties by such courts and waives any right to plead, claim or allege that the State of Hawaii is an inconvenient forum or improper venue.

20. Acceptance of RFP Terms and Conditions by Potential Bidders

By retaining this RFP or copies of it, and/or by submitting a Proposal, a Potential Bidder or Bidder shall be deemed to accept and consent to the terms and conditions in the RFP. If the Potential Bidder or Bidder does not accept these terms and conditions, all originals and copies of the RFP and any portion thereof must be returned to the Company immediately to the address provided in Section 2.5. The returned materials must be accompanied by a statement that the Potential Bidder or Bidder has decided not to respond to the RFP.

ATTACHMENT A
INTENT TO SUBMIT BID SUBMITTAL FORM
Request for Proposal (RFP) # 031021-01

BIDDER must complete this form and return it via email by the due date listed on the RFP.

If no proposal will be submitted, then the reason must be indicated by completing the requested data below. In addition, the inquiry documents must be returned with the completed form.

Failure to comply may render the supplier ineligible for future solicitations for the type of material(s) or service(s) involved. Include "RFP No. 031021-01" in the subject line and email completed form to:

response@hawaiianelectric.com

Receipt of Request for Proposal No. 031021-01 covering:

Hawaiian Electric Company, Inc. (the "Company") requests a proposal for its Rooftop Rental Initial Assessment: utility-owned, front of the meter ("FTM") photovoltaic and energy storage systems ("PES System") that will interconnect on the utility-side of the meter and be enabled, monitored, and controlled from a centralized system to deliver Grid Services to the Company. The systems must also operate in resiliency mode to provide power to the residential customer during grid outages.

- a. Receipt of Request for Proposal is hereby acknowledged and we
 will,
 will not, submit a proposal on or before the due date specified.

If a proposal will not be submitted, then check or complete the following as applicable:

- a. Cannot comply with specifications or scope of work.
b. Cannot meet delivery or performance requirement.
c. Do not currently manufacture or sell the type of item(s) or service(s) involved.
d. Other: _____
e. We do, do not, desire to be considered for future solicitations for the type of item(s) or service(s) involved.

Name, address (include zip code) and telephone number (include area code) of firm:

Company Name: _____

Address: _____

Representative Name: _____

Position/Title: _____

Phone Number: _____

E-Mail: _____

Signature: _____

Date: _____

ATTACHMENT B: PROPSOALS

Attachment B1: Proposal Questions

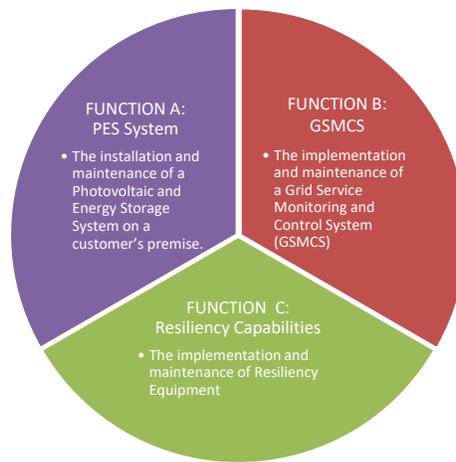
Attachment B2: Requirements

ATTACHMENT B1: PROPOSAL QUESTIONS

Please provide a proposal tailored to the requirements documented in the Requirements Section. Proposals should be concise and factually supported. All questions should be answered, but the Bidder may indicate why certain questions are not relevant for its product or services. An unanswered question may be treated as an unsatisfactory response. Questions may be answered in whole or in part as appropriate by specific cross-reference to other answers in the proposal. Such cross-references should cite the exact section, page number, and/or paragraph number of the other answer or portion thereof. Imprecise or unclear references to other sections of the Proposal, or references that do not specifically answer the question posed may be treated as an unsatisfactory response to the question. All questions must be followed immediately by their answer or reference.

1. Please provide a brief description of your company history and organizational structure with specific emphasis on relevant experience with the requested services. Include information on:
 - a. Company name, date established, location established, and years in business.
 - b. Company ownership structure, and any parental and subsidiary affiliations.
 - c. Team members that will be assigned to this Project and their relevant experience.
 - d. Subcontractors or partners, their relevant experience, and their team members.
2. Provide number of employees in Hawaii working in the energy industry.
3. Provide number of total employees working in the energy industry.
4. Describe the steps used to assure quality control and assurance in the management of your product and delivery of your services.
5. Describe warranty on equipment and workmanship. What is the duration of the warranty?
6. Describe the type, carrier, amounts, and deductibles for insurance you carry relating to liability and property coverage.
7. Provide references and any scholarly media/publications available featuring the bidder that is applicable to this RFP

Please answer the questions identified for the relevant Function(s) being proposed.



EXAMPLE HOUSE

Please formulate your bid based on a residential single-family house that is two stories, has a shingle roof, and wall space that is adequate to accommodate the necessary equipment. The photovoltaic panels will be installed on faces of a roof that are west-facing and south-facing. The photovoltaic system must have a minimum capacity of 4 kW paired with an energy storage device with a four-hour duration. Company wants to optimize the available roof space while ensuring cost effectiveness when selecting and situating photovoltaic panels.

FUNCTION A ONLY

8. Beyond the example house described above, what additional structural attributes have you taken into consideration in preparing your proposal? Have you taken any other factors into consideration in preparing your proposal?
9. Site Inspection - When conducting site inspections, what criteria or requirements do you use to determine the safety and feasibility for installing a PES System.
10. Installation - The PES Systems sought by this RFP must be electrically interconnected on the utility side of the revenue meter and meet the interconnection requirements of Rule 14 Section H of the Tariff Applicable to Electrical Service of Hawaiian Electric Company, Inc. ("Tariff"), those stated in this document, or those otherwise stated in the Tariff and applicable to such resources. Describe your level of experience with interconnecting PES Systems on the customer-side of the revenue meter. Describe any difficulties or problems you have experienced with interconnecting PES Systems on the utility-side of the revenue meter.
11. Design –Provide the technical specifications and a single line diagram of all equipment you propose to include in performance of the services required under this RFP.
12. Operations – Can the proposed PES System enter “islanding” mode when the customer loses power from the utility? Can the proposed PES System export during solar and non-solar production hours?
13. Measurements – What data will be measured and in what intervals? Can metered data be sent back to the Company or to the Bidder’s GSMCS? How?
14. Communication – The PES System must communicate through LTE Cellular to send IEEE 2030.5 control for this proposal. Can the PES System communicate to Bidder’s GSMCS using IEEE 2030.5? What cellular carrier is being proposed for this RFP? What cellular carrier have you used in the past? Was this in Hawaii? What equipment (i.e., battery controller, inverter, both) does the IEEE 2030.5 signal control?
15. Schedule - Describe schedule for installation of PES System and typical permit duration. If providing Function C, please itemize the work required and indicate how long it will take to add Function C capability?
16. Installation rate - How many PES System installations can you commit to per week? per month?

FUNCTION B ONLY

17. Experience – Describe your experience in providing Grid Services.
18. Gateway – Describe your experience in communicating IEEE 2030.5 to gateways.
19. Schedule - Describe your proposed schedule for interconnecting the GSMCS with the PES System.

20. Grid Services – Which Grid Services do you proposed be delivered?

Table B1-1 Grid Services Proposed

Grid Service	Yes or No
Energy	
Load Reduction	
Load Build	
FFR-1	
FFR-2	

FUNCTION C ONLY

- 21. Experience – Describe your experience in providing the proposed Resiliency Equipment.
- 22. Resiliency Equipment – Describe the Resiliency Equipment that you propose to supply. Describe how your equipment will detect grid disturbances and island the Local EPS. Provide technical specifications and a diagram. Will you require other measured values besides power to activate islanding?
- 23. Equipment Requirements – Does the proposed Resiliency Equipment work with any PES System make and model? If the proposed Resiliency Equipment is compatible with only specific PES System makes and models, please specify.
- 24. Customer Requirements – Does the proposed Resiliency Equipment require specific Customer equipment (i.e., main panel rating, electric panel make/model, meter socket make/model)?
- 25. Schedule – How long does it take to install the proposed Resiliency Equipment?

FUNCTION A, B, C

- 26. Customer Service - Describe the customer services (examples but not limited to: call center, truck roll, troubleshooting, vegetation management, etc.) that you provide.

Price - Bidders must submit pricing for the proposed Functions. Provide the price for **one** system in each of the cells. Use “0” if the table cell is not applicable to your bid. This RFP is for 5-20 systems. Describe each of the items being proposed for each of the columns. In the proposal, describe the product type and part numbers used for the equipment, the amount of labor hours required for the installation, maintenance, removal, and training, and the items that make up the “Other” field, if applicable. Use the notes below the table to guide your answer and proposal description.

Table B1-A Function A Price

	Equipment (\$/system)	Installation (\$/system)	Maintenance (\$/system/month)	Removal (\$/system)
4kW System				

	Gateway (\$/system)	Cellular (\$/system/month)	Other	Total
4kW System				

Definitions for Function A Price table

- i. Equipment price shall include the price for all solar panels, inverters, batteries, panels, control devices, and measurement and other equipment that will be supplied to safely and securely connect the PES System to the Company’s facilities in order to deliver energy and Grid Services to the Company.
- ii. The installation price shall include all labor required to install the PES System equipment (defined in i). Please explain cost of installing other equipment provided by Suppliers of Function B and C, in the case that a Supplier of Function A is not awarded a contract or does not submit a bid for Functions B or C. Provide the \$/hr price you will charge for installing the equipment of others and a \$/hr price that you will charge for installing Function A equipment.
- iii. Disclose anything that will not be included in the warranty coverage. State the maintenance price that you will charge per month.
- iv. The Removal price shall include the cost to remove each PES System
- v. The Gateway price shall include the cost of the Gateway(s) for each PES System.
- vi. The Cellular price shall include monthly cellular LTE costs each system.
- vii. The Other price shall include any other costs not accounted for in the items above.
- viii. The 4 kW System is peak output without losses plus a 4 hour battery, where max output duration is for the max PV system. For example, a 4 kW AC PV system will need a 16kWh battery or larger to export 4 kW AC for 4 hours.
- ix. Pricing shall not be contingent upon other factors (e.g., changes to State or federal tax policy or receiving all investment tax credits assumed).
- x. Tax credits shall not be included in pricing.

Table B1-B Function B Price

	Licensing (\$/system/month)	Gateway (\$/system)	Other	Total
4kW System				

Definitions for Function B Price table

- i. The Licensing price shall include any monthly fees required to access GSMCS to control Grid Service and change inverter settings.
- ii. The Gateway price shall include the cost to enable and provision each Gateway.
- iii. The Other price shall include any other costs not accounted for in the items above, including but not limited to licensing fees, if applicable.

Table B1-C Function C Price

	Resiliency (\$/system)	Maintenance (\$/system/month)	Other	Total
4kW System				

Definitions for Function C Price table

- i. The Resiliency price shall include the cost of Resiliency equipment and the cost to train Function A personnel to install Resiliency equipment.
- ii. The maintenance price that you will charge per month.
- iii. The Other price shall include any other costs not accounted for in the items above, including but not limited to maintenance fees, if applicable.

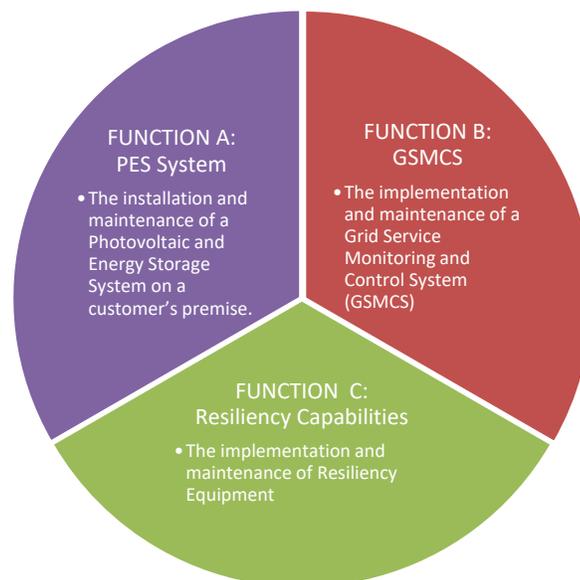
ATTACHMENT B2: REQUIREMENTS

This RFP is requesting services for three different functions. The following is a high-level description of each Function.

- Function A. The installation and maintenance of a PES System on a customer’s premise.
- Function B. The implementation and maintenance of a Grid Service Monitoring and Control System (“GSMCS”).
- Function C. The implementation and maintenance of Resiliency Equipment.

Bidders can bid on Functions A, B, or C individually or in any grouping (Example: Bidder bids on Function A only, Function A and C, or Function A, B, and C). Bidder will indicate in their proposal (see Attachment B1) which service(s) is being proposed. Requirements for the Supplier of each Function is included in the Requirements (see Attachment B2).

Figure 1: Functions A-C Required for RFP



GENERAL REQUIREMENTS – Applied to all Functions

- Supplier must possess a valid Hawai‘i Contractor license of the appropriate classification(s) required to perform the work for this Project. The license shall be valid for the entire term of the awarded contract.
- Company will own the PES System and all equipment required to provide Function A, B, and C, except for the GSMCS.
- Supplier is not required to recruit customers.
- Company is responsible for obtaining any necessary interconnection approvals. Company will obtain any necessary approvals from the customer and property owner to install, maintain, and operate the PES System.
- Potential Supplier must be subscribed to ISNetworkd (ISN) and hold an acceptable grade pursuant to ISN requirements to be considered for the award of this RFP. Potential Bidders

who are not currently subscribed may do so by contacting ISN Customer Services at [\(800\)-976-1303](tel:800-976-1303), [Contact Us](mailto:ContactUs@isnetworld.com)¹ or visit www.isnetworld.com.

FUNCTION A ONLY – PES System

- Supplier of Function A must conduct a site inspection to determine the feasibility and safety of installing a PES System at the provided customer location.
- Supplier of Function A must obtain all permits associated with any work required under Function A.
- If the roof at the customer location is under a warranty, Supplier of Function A is solely responsible for performing all work in a manner that is consistent with the requirements of such warranty and will be solely liable for any act or omission that voids such warranty.
- All PES Systems must be interconnected on the utility-side of the revenue meter and operate in parallel with the Company's electric system. The PES Systems must meet the interconnection requirements set forth in the Company's Tariff Applicable to the Electrical Service of Hawaiian Electric Company, Inc. ("Tariff"), including Rule 14 Section H thereof. See Figure 2.
- Inverters and batteries must be approved by the Company for Source Requirement Document ("SRD") Version 1.1 or SRD Version 2.0 prior to installation.²
- Supplier of Function A must provide the Company with the capability to modify inverter settings specified in IEEE 1547-2018 or Company's list of inverter settings shown in Company's Utility-Requirements Profile ("URP") or Test Range Requirements³.
- Supplier of Function A must measure and report to the Company all photovoltaic production and energy imported/exported to the energy storage device on a basis defined by the Company.
- All PES Systems are required to communicate using IEEE 2030.5 and Cellular LTE to support Function B and allow for the modification of inverter settings at the Company's discretion.
- Supplier of Function A must remove the PES System if and when required by the Company.
- Supplier of Function A is responsible for coordinating and completing the installation of all equipment required for Function A, B, and C. If Function B and C are awarded to other suppliers, Supplier of Function A is required to coordinate the installation and provisioning of any required equipment.
- If the PES System is unable to communicate with the GSMCS, Supplier of Function A must provide and use a Gateway to control the delivery of Grid Services.
- Supplier of Function A must provide the Company with a complete scope of maintenance obligations that it will undertake for the duration of 2021.

FUNCTION B ONLY – Grid Service Monitoring and Control ("GSMCS")

- Supplier of Function B must provide the GSMCS to monitor, control, and forecast performance of the PES Systems for the delivery of Grid Services.

¹ <https://www.isnetworld.com/en/contact-us>

² [https://www.hawaiianelectric.com/products-and-services/customer-renewable-programs/private-rooftop-solar/customer-energy-resource-\(cer\)-equipment](https://www.hawaiianelectric.com/products-and-services/customer-renewable-programs/private-rooftop-solar/customer-energy-resource-(cer)-equipment)

³ https://www.hawaiianelectric.com/documents/products_and_services/customer_renewable_programs/HECO_SRD_2_0_test_range_requirements.xlsx

- The GSMCS must be able to provide one or more of the defined Grid Services. Detailed specifications and requirements of Grid Services are identified in Attachment C, which includes FFR-1 and FFR-2 (FFR), Load Reduction, Load Build, and Energy.
- The GSMCS must enable the Company to control PES Systems in aggregate or individually to provide one or more of the Grid Services.
- Supplier of Function B must provide a forecast. (See Attachment C-4.)
- Supplier of Function B must enable the Company to access and review forecasts, inspect devices, and verify that events are correctly received.
- GSMCS must use IEEE 2030.5 to communicate to Function A and Function C equipment, as applicable.
- Supplier of Function B must coordinate and support the provisioning of the PES System or the Gateway supplied by the Supplier of Function A.
- Supplier of Function B must provide the Company with a complete scope of licensing terms that it will undertake for the duration of 2021.

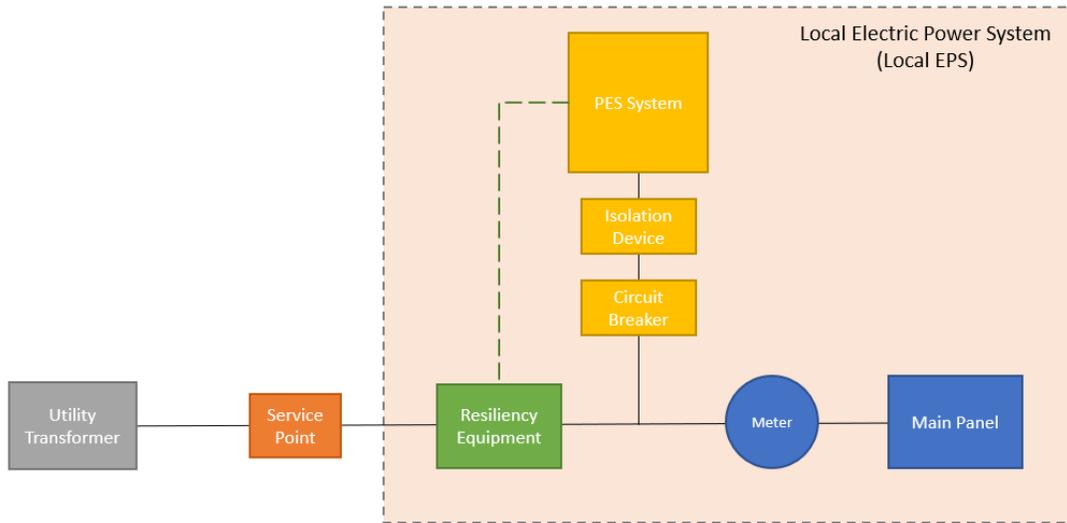
FUNCTION C ONLY – Resiliency Capabilities

- Supplier of Function C's Resiliency Equipment must allow the Local EPS to disconnect from the utility distribution system and island when a grid outage is detected. The Local EPS specific to this RFP is the equipment on the customer-side of the service point.
- Supplier of Function C is responsible for the communication and coordination between the Resiliency Equipment and PES System and must ensure that the PES System meets the interconnection requirements set forth in the Company's Tariff, including Rule 14 Section H thereof, and IEEE 1547-2018 when grid-connected or islanding. Communication between the Resiliency Equipment and PES System must be autonomous (not through the GSMCS).
- The Company is interested in the ability to use the GSMCS to activate the Resiliency Equipment to isolate the Local EPS from the utility distribution system and form a scheduled intentional island.⁴ If applicable, Resiliency Equipment must meet the requirements included in IEEE 1547-2018 and required to communicate using IEEE 2030.5 to support Function B and C.
- Supplier of Function C must provide the Supplier(s) of Function A and Function B with instructions and training to install and integrate the Resiliency Equipment.
- Supplier of Function C must provide the Company with a complete scope of maintenance obligations that it will undertake for the duration of 2021.

The following figure is an example of the architecture that that the Company seeks. However, the Company is open to other solutions that meet its requirements under this RFP. Supplier of Function A is responsible for the installation of a PES System on customer premises as illustrated by the items colored in yellow in Figure 2, below. Supplier of Function C is responsible for resiliency capabilities as illustrated by the items colored in green in Figure 2, below. This includes the communication (if applicable) and coordination between the resiliency equipment and the PES System. Function B is not depicted in this diagram.

⁴ IEEE 1547-2018. Scheduled intentional islands are formed through Distributed Energy Resource operator or Area Electric Power System operator manual action or other operating dispatch means (e.g., Energy Management System or Automatic Generator Control action) that trigger the transition from being in parallel and synchronized with the Area EPS, to operation as an islanded system.

Figure 2: Interconnection Diagram for Function A and C



ATTACHMENT C: GRID SERVICES AND FORECAST REQUIREMENTS

- Attachment C1: FFR
- Attachment C2: Load Reduction and Load Build
- Attachment C3: Energy
- Attachment C4: Forecast

ATTACHMENT C1: FFR**Fast Frequency Response Grid Service for Customer-Sited Photovoltaic and Energy Storage Systems Enabled to Deliver Grid Services and Resiliency****Fast Frequency Response – 1 (“FFR-1”) for the island of Oahu****1. FFR-1 Grid Service Description**

Supplier shall provide FFR-1 to rapidly inject or absorb energy in the event of a sudden and rapid system frequency disturbance.

- A. Resources enrolled with Supplier offering FFR-1 on Oahu shall adjust, without intentional delay and without regard to any ramp rate limits, the Supplier’s aggregate real power import or export based on the rate of change of frequency setting(s) and deadband specified by the Company.
- B. The response shall be proportional to (or discrete but dynamically adjusted to the severity of) the disturbance.
- C. The output as adjusted by the aggregate fast frequency response control from Resources enrolled with Supplier shall reach the control’s full commanded response in 200 milliseconds or less (12 cycles or less).
- D. The rate of change of frequency is proportional to the per unit generation/load mismatch and inversely proportional to the system inertial time constant.
- E. Supplier shall be capable of adjusting the rate of change of frequency through Supplier’s GSMCS to assist in scaling the response of the Resources enrolled with Supplier in aggregate.
- F. Resources enrolled with a Supplier delivering FFR-1 shall be in continuous operation when the Supplier is online and connected to the Company unless directed otherwise by the Company.
- G. Supplier’s FFR-1 delivery methodology shall be approved in writing by the Company and implemented by Supplier prior to conducting the System Integration Test.

Fast Frequency Response – 2 (“FFR-2”) for island of Oahu**1. Grid Service Description.**

- A. FFR-2 is a local discrete response at a specified frequency trigger. FFR-2 acts to limit the frequency drop resulting from a frequency disturbance, such as loss of a generator. It assists in arresting the decline in frequency as a result of a contingency event. Updates to this Grid Service may be informed by any future updates to the Company’s requirements.

2. Service Requirements.

- A. Resource. Resources enrolled with a Supplier offering FFR-2 must have the following operating characteristics and technical capabilities:
- (1) Resources must be capable of the full range of the amount of FFR-2 capability offered without manual resource operator intervention of any kind.
 - (2) Supplier must ensure that its control and monitoring or related SCADA (Supervisory Control and Data Acquisition) equipment for Resources enrolled with Supplier is operational throughout the time period during which FFR-2 is required to be provided. The polling rate of monitored equipment must occur at a frequency of 1 minute or faster.
- B. Resources enrolled with Supplier must return to a normal operating state at a rate not to exceed ten percent (10%) of Supplier's total forecasted FFR-2 capability per minute until an aggregate of 50 MW or more is enrolled across all Suppliers contracted to provide FFR-2. When 50 MW or more of FFR-2 is available in aggregate across all Suppliers, the Company will assign a ramp rate to Resources enrolled with a specific Supplier such that the maximum aggregate ramp rate across all Suppliers does not exceed five (5) MW per minute.
- C. Response Timing and Accuracy. When the measured frequency is less than or equal to the frequency trigger (as specified in Section G), the called upon Resource must be fully deployed within 12 cycles, including operating time of any devices. A deviation of +/- 0.02 Hz of the frequency trigger as specified in Section G below will be permitted.
- D. Availability requirement. FFR-2 is subject to event trigger 24 hours per day.
- E. Periods of No Availability. If Supplier is temporarily unable to provide FFR-2, Supplier shall update its Operational Forecast to identify the period(s) during which FFR-2 service will be unavailable.
- F. Operational Requirements.
- (1) Return to normal operation. Supplier shall ensure that no snap back occurs upon return to normal operation (i.e. a demand peak because of holding off participant load). The return ramp rate of Resources enrolled with Supplier shall adhere to Section 2.B.
- G. Trigger. Resources enrolled with Supplier shall provide FFR-2 when the system reaches the trip frequency trigger.
- (1) The trigger set point shall be configurable remotely by Supplier.
 - (2) The trigger may be changed upon the Company's written request as necessary for grid response coordination, up to twice annually.
 - (3) The initial trigger set point shall be 59.7 Hz.
- H. Event Duration. Supplier must commence normal operation in accordance with Section G. Operational Requirements specified above.
- (1) Supplier shall provide Capability for a total of thirty (30) minutes after detection of the FFR-2 trigger described above or, at the Company's discretion, after detecting frequency holding between 59.95 and 60 Hz for

one (1) minute. Event Duration Operational Requirements must be implemented uniformly across all Resources enrolled with Supplier.

3. Dispatch/Control Requirements. Supplier must demonstrate, or, at the Company's discretion, certify Resource compliance with Section C. Response Timing and Accuracy.
4. Forecasting Requirements.
 - A. Refer to Attachment C-4 (Operational Forecast) for information regarding forecasting requirements.
5. Communications and Control.
 - A. Data. Real-time metered values in kW representing all Resources enrolled with Supplier shall be made available.
 - B. Control. Supplier must provide access to a web portal for Control of Grid Services. Supplier's GSMCS must be capable of :
 - (1) Changing FFR set point
 - (2) Providing a Forecast per Attachment C-4
 - (3) Sending test dispatch to a group of Resources or individual Resources
6. Maximum Events Called Per Year: Not Applicable

ATTACHMENT C2: LOAD REDUCTION AND LOAD BUILD**Load Reduction and Load Build Grid Service for Customer-Sited Photovoltaic and Energy Storage Systems Enabled to Deliver Grid Services and Resiliency****1. Grid Service Description:**

Load Reduction is the Capacity that can be provided by a generator, storage or controlled load to reduce system load in the required timeframes and durations in response to a remote dispatch signal.

Load Build is Capacity that can be provided by storage or controlled load to increase system load in the required timeframes and durations in response to a remote dispatch signal.

2. Service Requirements.

A. Resource. A Resource enrolled with Supplier offering Load Reduction and Load Build must have the following operating characteristics and technical capabilities:

- (1) Load Build: Provide Load Build continuously for up to four (4) hours during the system mid-day renewable generation peak, as specified under Section 2.E Availability Requirement, below.
- (2) Load Reduction: Provide Load Reduction capability for up to four (4) hours during evening peak periods, as specified under Section 2.E Availability Requirement, below.
- (3) Supplier must ensure that its control and monitoring or related SCADA equipment for its Resources enrolled with Supplier is operational throughout the time period during which Load Reduction and Load Build is required to be provided. The polling rate of monitored equipment may not exceed the rate of 1 minute.

B. Resource Ramp Rate. Preceding a Load Reduction and Load Build event, Resources enrolled with Supplier must ramp to the forecasted Capability at the ramp rate (increase and decrease in MW/minute) specified below. Immediately following a Load Reduction and Load Build event, each Resource enrolled with Supplier must return to normal operating state at the ramp rate specified below.

- (1) Each Resource shall ramp at a rate not to exceed ten percent (10%) of Supplier's total forecasted Capability per minute until an aggregate of 50 MW or more of Load Reduction and Load Build becomes available. When fifty (50) MW of Load Reduction and Load Build is available, the Company will assign a ramp rate to Supplier not to exceed a maximum ramp rate of five (5) MW per minute across all Resources enrolled with Supplier.
- (2) Each Resource must return to its normal operating state at a rate not to exceed ten percent (10%) of Supplier's total forecasted capability per minute until an aggregate of fifty (50) MW or more is enrolled in the Load Reduction and Load Build grid service across all Supplier Resources. When 50 MW or more of Load Reduction and Load Build is available, Company will assign a ramp rate to Resources enrolled with Supplier such that the

maximum ramp rate across all Resources does not exceed five (5) MW per minute.

- C. Response Timeline: Resources enrolled with Supplier shall respond to a dispatch command sent through Supplier's GSMCS, by Company, as specified below.
- (1) Load Build: Company will dispatch a Load Build command no earlier than twenty-four (24) hours prior to the Load Build event. Each Resource enrolled in Supplier's portfolio shall ramp up to its Forecasted Load Build Capability in the thirty (30) minutes preceding the event at the Ramp Rate specified in Section 2.B Resource Ramp Rate, and must achieve the Load Build Capability provided in the Operational Forecast by the start of the build event. Following the event, each Resource may return to its normal operating state within the thirty (30) minutes following the end of the Load Build event at the Ramp Rate specified in Section 2.B Resource Ramp Rate, or, after receiving a command from Suppliers GSMCS, at the Ramp Rate specified in Section 2.B Resource Ramp Rate.
 - (2) Load Reduction: Company will dispatch a Load Reduction command no earlier than twenty-four (24) hours prior to the Load Reduction event. Resources enrolled with Supplier's must meet Forecasted Load Reduction and Load Build Reduction Capability within two (2) minutes from the start of the event. Following the event, each Resource may return to normal operating state within the thirty (30) minutes after the end of the Load Reduction event at the Ramp Rate specified in Section 2.B Resource Ramp Rate, or, after receiving a command from Company's system operations department, at the Ramp Rate specified in Section 2.B Resource Ramp Rate.
- D. Event Duration.
- (1) Load Build: Supplier shall continuously provide Load Build for up to four (4) hours within the specified timeframes.
 - (2) Load Reduction: Supplier shall provide service for up to four (4) hours for Reduction within the specified timeframes. Event duration will be at the discretion of Company's system operations department at the time of event trigger.
- E. Availability Requirement: Resources enrolled with Supplier must be available to provide Load Reduction and Load Build for Load Reduction and Load Build periods. These periods should be reflected in the Supplier's operational forecast.
- (1) Load Build: None
 - (2) Load Reduction: None
- F. Periods of no Availability: If Supplier is temporarily unable to provide Capacity, Supplier shall update its Operational Forecast to identify the period(s) during which Load Reduction and Load Build will be unavailable.

3. Dispatch/Control Requirements.
 - A. Trigger. Supplier will receive a control signal from Suppliers GSMCS.
4. Forecasting Requirements.
 - A. A separate forecast file will be required for Load Reduction and Load Build.
 - B. Refer to Attachment C-4 (Operational Forecast), for information regarding forecasting requirements.
5. Communications and Control.
 - A. Protocol/Specification. Supplier's GSMCS shall use IEEE2030.5 to communicate with the Resource
 - B. Data. Real-time metered values in kW representing all Resources enrolled with Supplier shall be made available for polling by every five (5) minutes.
6. Testing.
 - A. Testing of service is allowed at any time.
7. Maximum events called per year: 365

ATTACHMENT C3: ENERGY**Energy Grid Service for Customer-Sited Photovoltaic and Energy Storage Systems Enabled to Deliver Grid Services and Resiliency**

1. Grid Service Description:
Energy is a continuous, controllable, and predictable supply of megawatt-hours to serve system load needs in response to an Automatic Gain Control (AGC)¹ signal.
2. Service Requirements.
 - A. Resource. Resource enrolled with Supplier offering Energy must have the following operating characteristics and technical capabilities:
 - (1) Energy: Provide continuous, controllable, and predictable supply of Energy.
 - (2) Supplier must ensure that its control and monitoring or related SCADA equipment for its Resources enrolled with Supplier is operational throughout the 24 hour time period. The polling rate of monitored equipment may not exceed the rate of 1 minutes.
 - B. Response Timeline: Resources enrolled with Supplier shall respond to a dispatch command sent through Supplier's GSMCS, by Company. Company will dispatch a curtailment command at least one (1) minute before event start. Resources enrolled with Supplier's must meet Operational Forecast.
 - C. Availability Requirement: Any energy available to Company from PV or ESS.
 - D. Periods of no Availability: If Supplier is temporarily unable to provide Energy, Supplier shall update its Operational Forecast to identify the period(s) of unavailability.
3. Dispatch/Control Requirements.
 - A. Trigger. Supplier will receive a control signal from GSMCS.
4. Forecasting Requirements.
 - A. Refer to Attachment C-4 (Operational Forecast), for information regarding forecasting requirements.
5. Communications and Control.
 - A. Protocol/Specification. Supplier's GSMCS shall use IEEE2030.5 to communicate with the Resource
 - B. Data. Real-time metered values in kW representing all Resources enrolled with Supplier shall be made available for polling by every five (5) minutes.
6. Testing.
 - A. Testing of service is allowed at any time.
7. Maximum events called per year: 365

¹ For this RFP, we will not be controlling the Resource with AGC, but through GSMCS.

ATTACHMENT C4: FORECAST

Operational Forecast

The Operational Forecast represents Supplier's Total Grid Service Capability for the given period. An Operational Forecast is required for each Grid Service that Supplier is contracted to provide as Capability.

The Operational Forecast shall fulfill the following requirements:

Attributes	FFR	Load Build	Load Reduction	Energy
Forecast Capability	kW/kWh	kW/kWh	kW/kWh	kW/kWh
Forecast Term	Min 4 days	Min 4 days	Min 4 days	Min 4 days
Data Resolution (Interval)	15 Minute	15 Minute	15 Minute	15 Minute
Update Timing	Hourly	1am/1pm	1am/1pm	Hourly
Update Frequency	Hourly	12 hours	12 hours	Hourly

Table 1 - Operational Forecast Attributes

The values stated in Table 1 may be changed periodically at the discretion of Company (example: as the grid service resources are used, the experience may require the System Operators to request for different forecast requirements).

The Operational Forecast shall be updated within 10 minutes to reflect the activation or reservation of Grid Service Capability and the impact of the activation or reservation on any other Grid Service Capability. For example, if a Participant Resource Capability is enabled for participation in both FFR and Load Build Grid Services, at the time that Load Build is scheduled for the next day, the Operational Forecast should be updated to remove the Participant Resource Capability from the FFR Grid Service Operational Forecast. The updated FFR Grid Service Operational Forecast must be available to the DERMS within 10 minutes.

Load Build shall be forecasted for the Build period, e.g. 10am-2pm, intervals outside the Build period shall be zero.

Load Reduction shall be forecasted for the Reduction period, e.g. 5pm-9pm. Intervals outside the Reduction period shall be zero.

Energy is the amount of energy available from PV and ESS. Energy shall be forecasted during all hours.

ATTACHMENT D:
GENERAL SERVICES MASTER AGREEMENT

THIS GENERAL SERVICES MASTER AGREEMENT (“**Master Agreement**” or “**Agreement**”) is effective as of _____, 20__ (“**Effective Date**”), by and between HAWAIIAN ELECTRIC COMPANY, INC. (“**Company**”), a Hawai‘i corporation, and [INSERT full name of CONTRACTOR] (“**Contractor**”), a _____ corporation, doing business in Hawai‘i. Company and Contractor may be referred to individually as a “**Party**” and collectively as the “**Parties**.”

W I T N E S S E T H :

WHEREAS, Company is in the business of generating, transmitting, and distributing electrical power in Hawai‘i;

WHEREAS, Company requires certain services to be accomplished in order to maintain reliable electrical power for its customers; and

WHEREAS, Contractor represents that it is equipped and has the expertise and qualifications (including required licenses, if any) necessary to perform the particular Work (as defined herein) required by Company.

NOW, THEREFORE, in consideration of these premises and of the mutual promises contained herein, Company and Contractor agree that Contractor will perform Work (as defined below) for Company under the following terms and conditions:

1. SCOPE OF AGREEMENT

1.1. Purpose - The purpose of this Master Agreement is to set forth the terms and conditions applicable to the Work to be provided by Contractor pursuant to Work Authorizations issued hereunder. However, Company shall have no obligation to issue any Work Authorizations under this Master Agreement.

1.2. Term - This Agreement shall terminate on _____, 20__; provided, however, that the Agreement shall continue to be effective as to any outstanding Work Authorizations issued prior to that date.

1.3. Contract Documents - This Agreement, including all Appendices, any Work Authorization(s) issued pursuant to Section 3 (Work Authorizations), and any amendment(s) issued pursuant to Section 17.17 (Amendments), shall constitute the “**Contract Documents**.”

2. SCOPE OF WORK

2.1. Description of Work - Contractor agrees to furnish all labor, tools, materials, administrative support, equipment, meals, lodging, transportation and supervision necessary to complete the work and tasks described in Section I of each executed Work Authorization (“**Work**”). The Work shall be performed in a professional and workmanlike manner, to the reasonable satisfaction of Company, in accordance with the Contract Documents.

2.2. Schedule of Work - The Work shall start and be completed as provided in each Work Authorization.

2.3. Change of Scope - No change in the scope of Work shall be effective unless documented in a written Amendment to the applicable Work Authorization duly executed by both Parties. A sample of the form that may be used for such an amendment is attached hereto as Appendix B.

3. WORK AUTHORIZATION PROCESS

3.1. Request for Quote - During the term of this Master Agreement, Company may from time to time issue a Request for Quote in the form of Section I of Appendix A for certain Work to be performed by Contractor under the terms and conditions contained herein.

3.2. Contractor’s Proposal - If Contractor desires to do the requested Work, Contractor will fill out Section II of Appendix A and propose a price or price structure for the Work. Such a price quote shall constitute an affirmative representation by Contractor that it is equipped and has the expertise and qualifications (including required licenses, if any) necessary to perform the Work.

3.3. Work Authorization - If Company desires to have the Work done by Contractor, Company will issue a Work Authorization by executing Section III of Appendix A and delivering it to Contractor.

3.4. Specific Contract - Each executed Work Authorization shall constitute a specific contract, which shall be governed by the particular Work Authorization terms and this Master Agreement.

3.5. Authority to Issue - The following are the only Company individuals authorized to sign Section III of Appendix A and thereby issue Work Authorizations and may do so only up to the stated limits for each Work Authorization:

Manager or Superintendent	-	up to \$50,000
Director	-	up to \$100,000
Officer	-	up to \$1,000,000
Two Officers (one must be the Chief Financial Officer)	-	up to \$5,000,000
Two Officers	-	greater than \$5,000,000

(one must be the Chief Executive Officer)

3.6. Verbal Work Authorizations - In emergency or other time-critical situations, Work may be authorized by Company under a Verbal Work Authorization by an individual listed in Section 3.5 (Authority to Issue); provided that a written Work Authorization is completed within 24 hours of the start of such Work; and provided that Contractor invoices Company no more than the amount it would charge its best customer for the same Work. Company's request for Work under a Verbal Work Authorization and the start of Work thereunder by Contractor shall constitute a specific contract, and all Work performed shall be governed by the terms and conditions of this Master Agreement.

3.7. Company-Generated Purchase Orders - For Work to be performed *for \$10,000 or less only*, the Work may be authorized by delivery of a Company-generated Purchase Order issued with express reference to this Master Agreement, provided that the scope and pricing for the Work is included in the Purchase Order or an Appendix thereto. The Purchase Order shall be signed by Contractor to signify acceptance (however, Contractor hereby agrees that its performance or beginning of performance shall constitute acceptance of the Purchase Order and the applicability and governance of this Master Agreement to the Work even if the Purchase Order was not signed by Contractor). Each Purchase Order issued hereunder shall constitute a separate contract that shall be governed by the terms of the Purchase Order and this Master Agreement. For purposes of applying this Master Agreement to Work performed in accordance with this Section, the term "**Work Authorization**" as used herein shall be construed as including such Purchase Orders.

4. COMPENSATION

4.1. Price - Compensation for Work performed and expenses incurred under each Work Authorization shall be as set forth in the Work Authorization. Unless otherwise agreed, Company shall only pay travel expenses consistent with its Contractor Travel and Expense Terms, which are available online¹ or by hardcopy upon Contractor's request.

4.2. Invoicing - For each Work Authorization, Contractor shall submit its invoice for Work rendered on a monthly basis ("**Billing Period**"). Failure to submit invoices on a timely basis shall be grounds to deny payment of such invoices. Such invoices shall be in a form approved by Company and shall, at a minimum, show: (a) the total hours of Work for the applicable Billing Period by each Contractor employee or subcontractor ("**Workers**"); (b) the hourly rate for each Worker; (c) a description of the Work performed; and (d) an itemized list of all allowable expenditures made during the month. Upon Company's request, Contractor shall provide supporting documentation of such expenditures, including, without limitation, invoices and receipts. The invoice shall reference Company's Designated Representative, the purchase or service order number, if any, the Contract Number, the Work Authorization Number and any additional information required by the Work Authorization. All invoices should be mailed or emailed as follows:

By Mail: Hawaiian Electric Company, Inc.

¹https://www.hawaiielectric.com/prebuilt/contractors/contractor_travel_and_expense_terms.pdf

P. O. Box 2750
Honolulu, Hawai'i 96840-0001
Attention: Accounts Payable

By Email: APIInvoices@hawaiianelectric.com

NOTE: Do not include the name of Company's Designated Representative in the address. The ORIGINAL invoice, without attachments, must be mailed or emailed directly to Accounts Payable at one of the addresses listed above. ALL REQUIRED SUPPORTING DOCUMENTATION must be sent SEPARATELY to Company's Designated Representative. Failure to follow this procedure may cause a delay in payment.

4.3. Timing of Payments - Payment to Contractor shall be made as follows:

- 4.3.1. *Electronic Payments* - For Contractors participating in Company's electronic payment program, Company will pay properly submitted invoices within fifteen (15) days of receipt and approval.
- 4.3.2. *ACH Payments* - For Contractors participating in Company's Automated Clearing House ("ACH") payment program, Company will pay properly submitted invoices within forty (40) days of receipt and approval.
- 4.3.3. *Manual Payments* - For Contractors not participating in Company's electronic or ACH payment programs, Company will pay properly submitted invoices within forty-five (45) days of receipt and approval.

4.4. Retained Amounts - Regardless of the payment method, Company may withhold ten percent (10%) of the amount invoiced ("**Retained Amount**") until such time as the final payment is made.

4.5. Lien Releases - Company may require partial lien releases as a condition of payment of Contractor's invoices.

4.6. Final Payment - Final payment of all remaining amounts due Contractor, including any and all Retained Amounts, shall be made within sixty (60) days after Acceptance of all Work by Company and submission of a proper final invoice and release of claims form(s) by Contractor, a sample of which is attached as Appendix C; provided, however, that payment may be made within thirty (30) days if Company is satisfied by bond or otherwise that there are no outstanding claims against the Work.

4.7. Withholding of Payments - All payments, including the final payment, are subject to adjustment during or after termination of the Work on the basis of any final accounting that may be made by Company. Company may withhold from any payment, including the final payment: (1) any amount incorrectly invoiced; (2) any amount in dispute either because Company has found

the invoice excessive or the Work performed unacceptable; (3) an amount sufficient to completely protect Company from any loss, damage or expense arising out of assertions by third parties of any claim or lien against Company because of Contractor's performance of this Agreement; and/or (4) any amounts due from Contractor or Contractor's affiliate (*i.e.* an entity that controls, is controlled by, or is under common control with Contractor) to Company in connection with this Agreement.

4.8. Acceptance - For purposes of this Agreement or any Work Authorization issued hereunder, "**Acceptance**" shall be considered to occur upon completion of all Work to the reasonable satisfaction of Company, as acknowledged by Company in writing, including any and all punch list items, the submittal of documentation and as-built drawings, and any other requirements set forth in the Contract Documents. Final payment shall not itself be deemed to constitute Acceptance. Neither Acceptance of the Work nor final payment by Company shall waive any rights or remedies Company has or may have under Section 6.5 (Warranty & Correction of Work) or other applicable provisions of this Agreement or under the law or in equity.

5. POINTS OF CONTACT

5.1. Company's Designated Representative - "**Company's Designated Representative**" shall be appointed for each Work Authorization. Company's Designated Representative shall be the point of contact for and have the authority to speak on behalf of Company concerning all matters related to that Work Authorization, except that Company's Designated Representative shall not have the authority to amend this Master Agreement or the Work Authorization.

5.2. Contractor's Designated Representative - "**Contractor's Designated Representative**" shall be appointed for each Work Authorization. Contractor's Designated Representative shall be the point of contact for and have the authority to speak on behalf of Contractor concerning all matters related to the Work Authorization, except that the Contractor's Designated Representative shall not have the authority to amend this Master Agreement or the Work Authorization.

6. PERFORMANCE STANDARDS

6.1. Worker Standards - In selecting Workers to undertake the Work, Contractor shall select only those persons who are qualified by the necessary education, training and experience to provide high-quality performance of the particular Work for which they will be responsible. Contractor shall accomplish all Work in a professional and workmanlike manner and to the reasonable satisfaction of Company. Unless a higher standard is specified in the Contract Documents, Contractor's Workers shall exercise that degree of skill and care required by the generally-accepted standards for such Work in Contractor's field.

6.2. Technological Developments - Contractor shall promptly advise Company of any reasonably-available technological advances or remedies that are known or become known to Contractor that would likely result in the Work having added value (*e.g.*, better performance, design, material, longer useful life) to Company. Should Company elect to incorporate such

advances, it may do so pursuant to a mutually-agreeable amendment to the applicable Work Authorization.

6.3. Materials and Equipment - All materials and equipment used by Contractor in the performance of Work shall be guaranteed by Contractor to be fit for the specific purpose for which the materials and equipment are used.

6.4. Right to Reject - Due to the critical nature of Company's operations, Contractor agrees that, if Company, in its sole discretion and after reasonable consultation with Contractor, determines that any of Contractor's Workers, materials or equipment are unsuitable for the performance of the Work, or otherwise not consistent with the best interests of Company, Company may request that Contractor replace such Workers, material or equipment, and Contractor shall comply with such request promptly and at no additional cost to Company.

6.5. Warranty & Correction of Work - Contractor acknowledges its absolute responsibility for insuring that the materials, equipment and procedures used in the performance of each Work Authorization are sufficient to satisfactorily accomplish the Work and that review and approval by Company of any drawings, specifications or other documents prepared by Contractor shall not relieve Contractor or any of its subcontractors or vendors of their professional responsibility for the Work. Contractor agrees that it shall promptly correct or replace, without expense to Company, all defective or substandard materials, equipment or workmanship. Contractor shall correct such defective Work upon written notice thereof anytime such defects appear within one (1) year of Company's Acceptance of the Work ("**Warranty Period**"), even after termination of this Agreement. Contractor shall also remedy and make Company whole with respect to any consequences of Contractor's defective or substandard Work.

Company will give Contractor prompt written notice of any defective Work following discovery of such defective Work. Contractor shall commence corrective Work within twenty-four (24) hours following notification and shall continuously and vigorously pursue correction of such Work, without expense to Company, until such Work is completed to the reasonable satisfaction of Company. In addition to any other rights granted to Company hereunder, if Contractor fails to perform corrective Work in the manner and within the time stated, Company may take over the Work and perform same to completion, either directly or through a replacement contractor and may take possession of and utilize any materials or equipment that are at the Work site. Company shall be entitled to recover from Contractor any and all costs for replacement Work as well as reasonable attorneys' fees, consultants' fees, and costs necessarily incurred by Company in relation to Contractor's failure to satisfactorily complete the Work.

6.6. Performance Bond - If required by Company, Contractor shall provide a Performance Bond for the Work in an amount specified in the applicable Work Authorization. The Performance Bond shall be in a form and issued by a surety acceptable to Company and shall guarantee Contractor's full compliance with the warranty and other provisions of the Contract Documents.

6.7. Subcontracting - Contractor shall not subcontract any portion of the Work without first submitting the proposed subcontract to and receiving written approval from Company's

Designated Representative, which consent may be granted or withheld at Company's sole discretion. A request to subcontract must contain the name and location of the individuals or entities to whom Work would be delegated, information on their qualifications and experience, and an estimate of the fees and expenses to be charged. Subcontracted work must comply with the applicable terms and conditions of the Contract Documents, and Contractor shall be responsible for any material deviation therefrom by its subcontractors. Company's consent to a subcontract will not relieve Contractor of responsibility for the performance of the Work in accordance with the terms and conditions of the Contract Documents.

6.8. Offshoring - Unless explicitly agreed to by Company in writing, all Workers performing Work under the Contract Documents shall be in the United States of America, and Contractor shall retain all of Company's Confidential Information within the United States of America.

7. RESPONSIBILITY FOR WORK

7.1. Risk of Loss During Work - Contractor is responsible for and shall bear all risk of loss or damage to the Work and all materials, tools and equipment delivered to the Work site until completion and Acceptance of Work by Company. Company is not responsible for any loss or damage to the Work or to Contractor's materials, tools or equipment caused by any other contractor. In such case, Contractor's sole remedy shall be through the other contractor.

7.2. Precautions Against Damage - Contractor shall be responsible for taking all precautions necessary to prevent damage or injury to the Work or to the property of Contractor, Company, other contractors, any of their employees, or members of the general public. These measures shall include, without limitation, laying drop cloths, constructing shields and guard fences, and any other precautionary measures that may be warranted.

7.3. Cleanup - Contractor shall be responsible for keeping the Work site clean and for removing all rubbish, waste, debris and unused materials periodically and upon completion of the Work. If Contractor fails to perform these obligations, Company may elect to perform them or have them performed, and Contractor shall be responsible for Company's reasonable costs, multiplied by a factor sufficient to cover Company's administrative and general overhead costs.

7.4. Maintenance of Contractor Vehicles, Tools and Equipment - Contractor shall properly maintain all of the vehicles, tools and equipment that will be utilized in performing the Work such that they operate safely and free from leaks or other conditions that may cause damage to Company's premises or property. Contractor shall ensure that such vehicles, tools and equipment are in good working order and condition before bringing them onto Company's premises or the Work site. Except for emergency maintenance, Contractor shall not maintain vehicles, tools and equipment on Company's premises without prior written authorization from Company. For the purposes of this Section, the terms "maintain" and "maintenance" shall include, without limitation, washing vehicles, tools and equipment.

8. PLANS, DRAWINGS, SPECIFICATIONS & DOCUMENTATION

8.1. Prior to Work Beginning - Contractor shall not begin any part of the Work that requires Contractor to perform in accordance with plans, drawings, specifications or similar documentation (“**Project Specs**”) until the Project Specs are in the possession of Contractor’s Designated Representative. Contractor shall keep one (1) copy of the Project Specs at the Work site at all times and shall produce that copy upon request of Company’s Designated Representative.

8.2. Upon Work Completion - Upon Acceptance of the Work, Contractor shall return all Project Specs to Company, after having indicated on them any changes in the as-built condition of the Work. Upon request, Contractor shall turn over to Company all documents or materials, in whatever form, in possession of Contractor that are related to the Work, including such documents as may have been prepared or used by Contractor in support of the Work. All such documents shall become the sole property of Company and not be subject to any proprietary claims of Contractor.

8.3. Discrepancies - Any discrepancy, contradiction or ambiguity within the Project Specs or between the Project Specs and the Contract Documents shall be immediately referred to Company’s Designated Representative. Company’s Designated Representative will resolve the discrepancy, contradiction or ambiguity, and the decision of Company’s Designated Representative shall be final. In all cases, figures will take precedence over scale measurements on drawings, but where obvious discrepancies exist, Contractor shall consult with Company’s Designated Representative and abide by his or her decision.

9. LIQUIDATED DAMAGES

If liquidated damages are included in a Work Authorization, and Contractor accepts the Work, Contractor is thereby acknowledging that time is of the essence in completing the Work, by the date specified in the Work Authorization (“**Completion Date**”), and that Company will suffer financial loss if the Work is not completed by the Completion Date. By agreeing to such a provision, the Parties recognize that proving the actual losses suffered by Company in the event the Work is not completed on time would be extremely difficult or impossible. Accordingly, instead of requiring proof of actual damages, Company and Contractor agree that, in the event the Work is not completed by the Completion Date, Contractor shall pay liquidated damages to Company in the amount specified in the Work Authorization for each calendar day beyond the Completion Date until the Work is completed. The Parties agree that this amount is not intended as a penalty, but rather, it represents the Parties’ best reasonable estimate of fair compensation for the losses that may reasonably be anticipated if such a delay occurs. For purposes of this provision, the Work shall be deemed completed upon Company’s Acceptance, as defined in Section 4.8 (Acceptance).

10. INSURANCE

10.1. Workers’ Compensation -

10.1.1. Contractor and anyone acting under its direction or control or on its behalf shall, at its own expense, procure and maintain in full force, at all times during the term of each Work Authorization, Workers’ Compensation and other

similar insurance required by state or federal laws. In the event Contractor fails to maintain such insurance, Contractor acknowledges and agrees that it will not seek or be entitled to any coverage under Company's insurance.

10.1.2. In addition, if Workers' Compensation is required, Contractor and anyone acting under its direction or control or on its behalf shall, at its own expense, procure and maintain in full force, at all times during the term of each Work Authorization, Employers' Liability Insurance with minimum limits for bodily injury from accident of ONE MILLION DOLLARS (\$1,000,000) - each accident; for bodily injury from disease of ONE MILLION DOLLARS (\$1,000,000) - each employee; and for bodily injury from disease of ONE MILLION DOLLARS (\$1,000,000) - each policy limit.

10.1.3. If there is exposure for injury to Contractor's Workers under the U.S. Longshoremen's and Harbor Workers' Compensation Act, the Jones Act or other laws, regulations or statutes applicable to maritime employees, coverage shall be included for such injuries or claims.

10.2. Commercial General Liability Insurance - Contractor and anyone acting under its direction or control or on its behalf shall, at its own expense, procure and maintain in full force at all times during the term of each Work Authorization, Commercial General Liability Insurance with a bodily injury and property damage combined single limit of at least TWO MILLION DOLLARS (\$2,000,000) for any occurrence. Such insurance will include coverage in like amount for products/completed operations, contractual liability and personal and advertising injury.

10.3. Automobile Liability Insurance - Contractor and anyone acting under its direction or control or on its behalf shall, at its own expense, procure and maintain in full force at all times during the term of each Work Authorization, Automobile Liability Insurance with a bodily injury and property damage combined single limit of at least ONE MILLION DOLLARS (\$1,000,000) per accident.

10.4. Pollution, Asbestos Abatement and/or Lead Abatement Liability Insurance - If the Work involves pollution exposure, environmental liability, asbestos abatement and/or lead abatement, Contractor shall provide proof of insurance coverage as applicable with a limit of at least ONE MILLION DOLLARS (\$1,000,000) per occurrence.

10.5. Builders' Risk Insurance - If required by the Work Authorization, Contractor and anyone acting under its direction or control or on its behalf shall, at its own expense, procure and maintain in full force at all times during the term of such Work Authorization, Builder's Risk Insurance in the amounts and under the terms specified in the Work Authorization.

10.6. Marine Insurance - If Contractor or anyone acting under its direction or control or on its behalf chartered a marine vessel for performance of any Work, Contractor shall first provide Company with proof of Charterers' Legal Liability Insurance to be in effect during the term of the charter and insuring liabilities arising out of charter agreements on form CL 345 N/E or equivalent, with a limit of at least FIVE MILLION DOLLARS (\$5,000,000).

10.7. Other Insurance Requirements -

- 10.7.1. *Certificates of Insurance* - Concurrent with the execution of this Agreement, Contractor shall provide Company with a certificate of insurance (“COI”) certifying that each of the foregoing insurance coverages is in force. If the COI is not affixed to this Agreement, Contractor shall provide a copy of the COI (and any subsequent updates) to Company’s Legal Division (P.O. Box 2750, Honolulu HI 96840-001). The COI MUST reference this Master Agreement Contract Number, the Effective Date and Contractor by name. Contractor will immediately provide written notice to Company should any of the insurance policies required herein be cancelled, limited in scope or not renewed upon expiration. Receipt of any COI showing less coverage than requested is not a waiver or release of Contractor’s obligation to fulfill the above requirements.
- 10.7.2. *Company as Additional Insured* - Insurance policies (except for Workers’ Compensation and Automobile policies) providing the insurance coverage required herein will name Company, Company’s agents and/or Company’s employees as additional insureds, as appropriate. Coverage must be primary with respect to the additional insureds. Any other insurance carried by Company will be excess only and will not contribute to the insurance required herein.
- 10.7.3. *Subcontractors* - Contractor shall ensure that each of its subcontractors is either (a) named as an additional insured under the insurance policies procured by Contractor; or (b) separately covered by insurance policies equivalent in type and monetary limits as those required of Contractor. All such insurance shall be provided at the sole cost of Contractor or subcontractor.
- 10.7.4. *Waiver of Subrogation* - Contractor and anyone acting under its direction or control or on its behalf will cause its insurers (except for Workers’ Compensation policies) to waive all rights of subrogation that Contractor or its insurers may have against Company, Company’s agents or Company’s employees.

10.8. Miscellaneous Insurance Terms -

- 10.8.1. *Excess and/or Umbrella Insurance* - The limits for the coverages required herein may be satisfied through the use of umbrella and/or excess liability insurance.
- 10.8.2. *Self-Insurance* - Self-insurance will be acceptable subject to submission of a copy of appropriate governmental authorization and qualification.
- 10.8.3. *Claims-Made Policies* - “Claims-made” policies are not acceptable unless coverage is continued for three (3) years after completion of this Agreement.

- 10.8.4. *Right to Modify* - Company reserves the right to add to or modify these requirements, including limits, based on the nature of the risk, prior experience, insurer, coverage or other circumstances, in which event Contractor shall comply with the modified requirements.

11. INDEMNITY

11.1. Damage to Property/Injury to Persons - Contractor shall indemnify, defend and hold harmless Company and Company's officers, directors and employees (and each of their heirs, successors and assigns) (the "**Indemnified Parties**") from and against all losses, damages, claims and actions, including, without limitation, reasonable attorneys' fees and costs, and all expenses incidental to such losses, damages, claims or actions ("**Indemnity Costs**"), based upon or arising out of damage to property or injuries to persons (including death) caused or contributed to by the negligence, gross negligence, willful misconduct, professional acts, errors or omissions, or other tortious acts or omissions of Contractor or anyone acting under its direction or control or on its behalf (including subcontractors) in the course of or related to Contractor's performance under this Agreement or any Work Authorization issued hereunder (including use of any Company equipment to perform the Work); such rights to indemnification shall apply regardless of whether any act, omission, misconduct, negligence or default on the part of the Indemnified Parties contributed to the damage or injury, unless such act, omission, misconduct, negligence or default by an Indemnified Party was the sole or primary cause of the damage or injury.

11.2. Payment to Others - Contractor shall indemnify, defend, and hold harmless the Indemnified Parties Indemnity Costs arising from claims, liens or similar demands relating to payment of Contractor's subcontractors or suppliers. Company may also require satisfactory evidence from Contractor that all materials, equipment and parts supplied, work in progress, work done, finished work delivered, or service performed, for which Company has been invoiced, are free and clear of mechanics or other liens, attachments, claims and demands, charges or other encumbrances. If at any time during the progress of the Work, the Contractor shall incur any indebtedness for labor, services, materials, equipment or parts thereof which indebtedness (1) has become or may become a lien upon the Work or any part thereof, or any materials or equipment, or (2) may become a claim against the Company, or Company's property, including but not limited to claims of mechanic's and materialman's liens under Hawaii Revised Statutes Chapter 507, Contractor shall immediately, upon request by the Company, pay such claim or indebtedness or cause such lien to be released and discharged by giving a bond sufficient under the law applicable to such lien at Contractor's expense; if Contractor fails to do so, Company may, in its discretion: (a) withhold any money due Contractor until such claim or indebtedness is paid; (b) apply any money due to Contractor toward the discharge thereof; and/or (c) terminate the Contract pursuant to Section 13 (Termination for Cause).

12. OWNERSHIP & CONFIDENTIALITY OF MATERIALS & INFORMATION

12.1. Ownership of Project Materials - Any and all drawings, specifications, technical information, reports, studies, documents, deliverables, materials or business information of any

type whatsoever provided to Contractor by Company or prepared or developed by Contractor for or on behalf of Company (“**Project Materials**”) are Company’s exclusive property. Any restrictions or claims of ownership or rights that Contractor adds to or includes within the Project Materials that conflict or are inconsistent with this Section are null and void. Upon Company’s request, Contractor shall provide Company with all copies of all Project Materials. Notwithstanding the foregoing, Contractor retains all of its pre-existing intellectual property rights that may be incorporated into any Project Materials.

12.2. Confidential Information -

- 12.2.1. *Scope of Confidential Information* - Each Party may have a proprietary interest or other need for confidentiality in information that may be furnished to the other during the term of this Agreement. As used herein, “**Confidential Information**” shall include all non-public information disclosed by either Party (“**Disclosing Party**”) to the other Party (“**Receiving Party**”), whether disclosed orally or in writing, electronically or by other medium, and whether or not marked or otherwise identified as confidential. Confidential Information shall not include information if and to the extent the Receiving Party establishes that the information: (i) is part of the public domain through no act or omission of the Receiving Party; or (ii) came into the Receiving Party’s lawful possession outside of the performance of this Agreement and through means other than the Disclosing Party.
- 12.2.2. *General Duty to Protect* - The Receiving Party agrees that it will exercise at least the same standard of care in protecting the confidentiality of the Disclosing Party’s Confidential Information as it does with its own confidential information of a similar nature, but in any event, no less than reasonable care. The Receiving Party will hold in confidence and will not use, reproduce, distribute, transmit or disclose, directly or indirectly, the Disclosing Party’s Confidential Information except as permitted herein or as consented to in writing by the Disclosing Party.
- 12.2.3. *Permitted Disclosures* - The Receiving Party may disclose Confidential Information to its officers, directors, employees, professional advisors and independent contractors with a direct need to know the information for the exercise of rights and/or performance of obligations under this Agreement; provided, however, such persons or entities must be bound by written confidentiality agreements with terms and conditions that are no less restrictive than those contained herein. Confidential Information may also be disclosed by the Receiving Party pursuant to a requirement of a governmental agency, regulatory body or by operation of law; provided, however, the Receiving Party shall disclose only that portion of the Confidential Information that it is required to disclose and shall (if permitted) notify the Disclosing Party prior to such disclosure in order to permit the Disclosing Party to lawfully attempt to prevent or restrict such disclosure should it so choose. Finally, Company may disclose Confidential Information, as necessary and appropriate, to the State of Hawai‘i Public Utilities Commission

and/or State of Hawai‘i Consumer Advocate (including their respective staffs) provided that such disclosure is made under a protective order entered in the docket or proceeding with respect to which the disclosure will be made or any general protective order otherwise applicable to the disclosure.

12.3. Information Security -

- 12.3.1. *Reasonable Safeguards* - Contractor shall maintain and enforce security procedures to safeguard Company’s Confidential Information and, when applicable, Company’s internal systems and data. Contractor warrants that it shall use reasonable physical and systems security measures to prevent destruction, loss, alteration or unauthorized access to, use of or tampering with Company’s Confidential Information and to prevent viruses and similar destructive code from being placed in any software provided to or used by Company.
- 12.3.2. *Security Reporting* - Upon Company’s request, Contractor shall provide available documentation of its information security safeguards (e.g., ISO27001 reports, SSAE 16 SOC2 Type 2 reports, third-party penetration tests and/or similar reports). If at any time during the term of this Agreement, Contractor receives a report or test indicating a critical or high-risk vulnerability to its information security systems, Contractor shall notify Company within forty-eight (48) hours and shall keep Company apprised of all mitigation steps taken to address the vulnerability.
- 12.3.3. *Compliance with Laws* - Contractor shall cause its Workers to comply, at Contractor’s sole cost and expense, with all laws, rules, regulations, reasonable practices and standards applicable to data privacy, data security and the transmission of technical or personal data.
- 12.3.4. *Security Breach* - In the event that Contractor discovers or is notified of an actual or potential breach of security related to Company’s Confidential Information, Contractor shall immediately (i) notify Company of such breach, whether or not it has actually or directly compromised any of Company’s Confidential Information; (ii) investigate and promptly remediate the effects of the breach, whether or not the breach was caused by Contractor; (iii) cooperate with Company with respect to any investigation or response to the breach; (iv) comply with all applicable privacy and data protection laws governing Company’s or any other individual’s or entity’s data; and (v) to the extent such breach was caused by Contractor, provide Company with reasonable assurances satisfactory to Company that such breach or potential breach shall not recur. Contractor shall provide Company with any forensic evidence obtained as a result of its investigation and remediation of the breach. Remediation of any such breach will be at Contractor’s sole expense. If any of Company’s customers’ or employees’ Personally Identifiable Information (“**PII**,” as defined below) was breached, notification of individuals will be at Company’s discretion and Contractor’s sole expense. In addition to other

notification costs, Contractor shall pay for two (2) years of credit monitoring services for each individual whose PII was affected. As used herein, PII means any non-public information that identifies or is unique or traceable to a particular individual (including, without limitation, dates of birth, social security numbers, bank account numbers, credit card numbers, drivers' license numbers, passport numbers, military ID numbers, PINs or passwords); any information that may be used to track, locate or identify a computer or other electronic device capable of accessing the internet (including, without limitation, persistent identifiers such as MAC addresses and static IP addresses); and/or any other information that is so defined and protected by privacy laws.

- 12.3.5. *Data Destruction* - Within ten (10) business days after completion of the Work, unless Company requests that it be returned, Contractor shall destroy, delete and erase Company's Confidential Information by using industry standard data elimination methods used to prevent unauthorized disclosure. For PII, Contractor's destruction methods shall be consistent with Hawai'i Revised Statute 487-R. System-wide archived backups for disaster recovery/business continuity purposes may remain unaltered for the disaster recovery backup retention period. Upon completion of such data elimination, a duly-authorized representative of Contractor shall certify in writing that Contractor has fully complied with this Section and shall forward such certification to Company for its records.
- 12.3.6. *Contingency Plans* - Contractor agrees to implement and maintain, during the term of this Agreement, a business continuity plan, a disaster recovery plan, and an incident response plan ("**Contingency Plans**") appropriate for the level of risk associated with the Work under this Agreement. The Contingency Plans shall be provided to Company upon request. Such Contingency Plans shall be updated to reflect lessons learned from real recovery events.

13. TERMINATION FOR CAUSE

13.1. Conditions Allowing Termination - Company shall have the right to terminate this Master Agreement and/or any Work Authorization, in whole or in part, if at any time during the term hereof Contractor (a) fails or becomes unable to perform its obligations under the Contract Documents; (b) sells, assigns, transfers, or subcontracts all or any part of the Contract Documents without obtaining proper authorization from Company; (c) fails to commence correction of defective Work immediately after notification of defect and to continuously and vigorously pursue correction of defect until cured; (d) becomes involved in a labor problem that, in the opinion of Company, unacceptably impedes the Work; (e) makes a general assignment for the benefit of its creditors; (f) has a receiver appointed for it; or (g) becomes insolvent, files for bankruptcy or has a petition for involuntary bankruptcy filed against it. Unless otherwise agreed, termination of this Master Agreement for cause shall automatically result in termination of all outstanding Work Authorizations.

13.2. Notice Required Before Termination - Before terminating this Agreement or any Work Authorization for cause, Company shall give written notice to Contractor of the existence of grounds (“**Default**”) allowing termination for cause and of Company’s intention to exercise its termination rights if the Default is not cured to the satisfaction of Company within fifteen (15) calendar days or such longer period as may be stated in the notice. Contractor shall have the right to cure the Default during the stated time period.

13.3. Company’s Rights Upon Termination - If Contractor fails to cure the Default within the stated time period, Company may terminate this Master Agreement, or any Work Authorization issued hereunder and secure such substitute services as it deems necessary to complete the Work. In the event Company acquires substitute services, Contractor agrees to pay Company, upon demand, any increase between what Contractor would have been paid had it completed the Work itself and what the substitute services actually cost Company.

14. TERMINATION FOR CONVENIENCE

14.1. Company’s Rights - Company shall have the right to terminate this Master Agreement and/or any Work Authorization, in whole or in part, at any time and for any reason, at the sole discretion of Company, by giving written notice to Contractor. Termination of this Master Agreement shall automatically result in termination of all outstanding Work Authorizations. Upon receiving notice of termination under this Section, Contractor shall discontinue the Work on the date and to the extent specified in the notice and shall not place any further orders for services or materials related to the terminated Work. Contractor shall also make every reasonable effort to cancel, upon terms satisfactory to Company, all orders or subcontracts related to the terminated Work.

14.2. Termination Prior to Commencement of Work - If this Master Agreement or a Work Authorization is terminated for Company’s convenience prior to Contractor’s having commenced the applicable Work, no payment shall be made to Contractor.

14.3. Termination After Commencement of Work - If this Agreement or a Work Authorization is terminated for Company’s convenience after Contractor has commenced the Work, Contractor will be reimbursed for any costs that it has actually incurred, including administrative and general overhead costs and demobilization costs, determined in accordance with generally-accepted accounting principles, plus an amount equal to ten percent (10%) of those costs to account for profit; provided, however, if compensation under a Work Authorization is on a time and expenses basis, Contractor will be compensated for Work actually accomplished prior to the notice of termination at the rates and profit level specified in the Contract Documents. Notwithstanding the above, Company shall not pay for time, expenses and/or costs that are, as determined solely in Company’s reasonable discretion, excessive, given the total Work actually completed prior to notice of termination.

14.4. Contractor’s Duty to Mitigate - Contractor agrees that it has an affirmative duty to mitigate its damages upon termination of this Master Agreement or a Work Authorization for Company’s convenience.

15. FORCE MAJEURE

15.1. Definition - The term “**Force Majeure**” shall mean any cause that is beyond the control and without the fault or negligence of the Party affected, was not reasonably foreseeable at the time this Agreement was entered into, and is unable to be overcome by reasonable efforts of the Party affected, including, without limitation, fire, flood, landslide, lightning, earthquake, hurricane, tornado, storm, volcanic eruption, strike, theft, casualty, war, invasion, civil disturbance, explosion, acts of public enemies or sabotage.

15.2. Excuse of Performance - Notwithstanding anything in this Agreement to the contrary, a Party unable to perform its obligations due solely to a Force Majeure shall be excused from performance of those obligations for such time as the Force Majeure prevents performance. Such affected Party shall make reasonable efforts to resume performance as soon as possible. During any time in which a Party is relying on a Force Majeure to excuse its performance, the other Party shall be excused from its corresponding obligations hereunder. A Party asserting Force Majeure shall immediately, or as soon as reasonably possible, notify the other Party of its inability to perform, the basis for same, and an estimate of when it expects to be able to resume performance (and shall periodically update such estimate while the Force Majeure persists). Except as may be otherwise agreed, in the event such non-performance continues for a period of ninety (90) calendar days or more, either Party may terminate this Agreement and/or any affected Work Authorizations by giving written notice to the other Party.

16. LAWS, REGULATIONS & PUBLIC ORDINANCES

16.1. Compliance - Contractor shall comply with all applicable federal, state and local statutes, regulations and public ordinances pertaining to the Work. In addition, Contractor shall obtain, at its own expense, any and all licenses and permits required for the performance of the Work. Contractor shall indemnify and defend Company from any liability, fines, damages, costs or expenses, including, without limitation, reasonable attorneys’ fees and costs, arising from Contractor’s failure to comply with this Section (Laws, Regulations & Public Ordinances).

16.2. Taxes & Employee Benefits - Contractor shall comply with all applicable federal and state tax laws and regulations. Contractor assumes exclusive liability for all (1) employee taxes, wages, employer contributions, dues, premiums and/or fringe benefits imposed by any Federal or State laws or by any employment contract, collective bargaining agreement, labor agreement, employee pension or benefit plan and/or established custom, including any and all interest and penalties payable as a result of nonpayment or noncompliance; and (2) gross receipts, sales, use, excise, transportation, privilege, occupational, property and other taxes applicable to services, materials and supplies furnished in connection with the Work, which the Contractor is required by law to pay, including any and all interest and penalties payable as a result of nonpayment or noncompliance. The contract price shall include all aforementioned taxes and fees except Hawai‘i general excise tax, which may be passed onto Company if it is separately listed on Contractor’s invoices.

16.3. Safety and Health Regulations - Contractor shall comply with all federal, state and local laws and regulations pertaining to health, safety, sanitary facilities and waste disposal.

Contractor shall meet all requirements of the Occupational Safety and Health Act of 1970 (OSHA), including all amendments. Contractor shall also comply with any standards, rules, regulations and orders promulgated under OSHA and particularly with the agreement for state development and enforcement of Occupational Health and Safety Standards as authorized by Section 18 of the Act.

16.4. Employment Practices - To the extent applicable, Contractor shall comply with the following:

16.4.1. *Equal Employment Opportunity* - (Applicable to all contracts of \$10,000 or more in the whole or aggregate. 41 C.F.R. 60-1.4 & 41 C.F.R. 60-741.5(a).) Contractor is aware and fully informed of Contractor's responsibilities under Executive Order 11246 (reference to which includes amendments and orders superseding, in whole or in part) and shall be bound by and agrees to the provisions as contained in Section 202 of said Executive Order and the Equal Opportunity Clause as set forth in 41 C.F.R. 60-1.4 and 41 C.F.R. 60-741.5 (a), and for construction contracts, 41 C.F.R. 60-4.3, which clauses are hereby incorporated by reference.

16.4.2. *Equal Opportunity for Veterans* - (Applicable to each federal government contract of \$100,000 or more for the purchase, sale or use of personal property or non-personal services (including construction). 41 C.F.R. 60-300.4.) If applicable, Contractor agrees that it is, and shall remain, in compliance with the rules and regulations promulgated under The Vietnam Era Veterans Readjustment Assistance Act of 1974, as amended by the Jobs for Veterans Act of 2002, including the requirements of 41 C.F.R. 60-300.5(a), which are incorporated herein by reference.

16.4.3. *Employee Rights under the National Labor Relations Act* - (Applicable to (i) all prime contracts of \$100,000 or more and (ii) subcontracts of \$10,000 or more resulting from solicitations issued on or after June 21, 2010). If applicable, Contractor agrees that it shall comply with Executive Order 13496 (Notification of Employee Rights under Federal Labor Laws) and 29 C.F.R. Part 471 regarding employees' rights under the National Labor Relations Act to form, join and assist a union and to bargain collectively with their employers.

16.5. Environmental Compliance -

16.5.1. *General Compliance* - Contractor shall comply with all applicable environmental laws. "**Environmental Laws**" means all applicable federal, state and local laws, statutes, ordinances, codes, rules, regulations, standards, directives, interpretations, and conditions of approval, all legislative, administrative or judicial orders, decrees, requirements, rulings or judgments, and all guidelines, permits, licenses, authorizations, approvals or entitlements or rules of common law that currently are in effect or that in the future may be enacted, adopted, issued, amended or modified, pertaining to the protection of the environment or human health or safety.

16.5.2. *Hazardous Substances* - At all times during the performance of the Work, Contractor shall be solely responsible and liable for the cleanup of all fuel spillage and leakage and the removal, remediation or cleanup of, and any other necessary response to, all Hazardous Substances used or released during or in connection with the Work. Any claim for fines or costs assessed by any government entity for cleanup of Company's property, or the removal, remediation or cleanup of, and any other necessary response to, Hazardous Substances associated or in connection with Contractor's Work shall be paid by Contractor. "**Hazardous Substances**" means and includes any chemical, substance, material, object, condition, waste, living organism or combination thereof that is or may be hazardous to human health or safety or to the environment due to its radioactivity, ignitability, corrosivity, reactivity, explosivity, toxicity, carcinogenicity, mutagenicity, phytotoxicity, infectious or other harmful or potentially harmful properties or effects. "**Hazardous Substances**" also includes, without limitation, petroleum hydrocarbons, including crude oil or any fraction thereof, asbestos, radon, polychlorinated biphenyls, methane and all substances that now or in the future may be defined as "Hazardous Substances," "Hazardous Waste," "Extremely Hazardous Waste," "Hazardous Material" or "Toxic Substances," or any similar substances that are otherwise listed, defined or regulated in any manner pursuant to any Environmental Law.

16.6. Export Control Laws - Contractor agrees to comply with all applicable U.S. export control and sanctions laws and regulations including, without limitation, the Arms Export Control Act, 22 U.S.C. 2751-2794, the International Traffic in Arms Regulations, 22 C.F.R. 120 *et seq.*; the International Emergency Economic Powers Act, 50 U.S.C. 1701 *et seq.*; and the Export Administration Regulations, 15 C.F.R. 730-774, including the requirement for obtaining any export license or agreement, if applicable. Contractor shall not export or re-export any personal computer systems, part, technical data (as that term is defined in U.S. export regulations) or sub-elements under this Agreement, directly or indirectly, to any destination prohibited by the United States Government.

16.7. Drawings and Specifications - It is the intent of Company to have all plans, drawings, specifications or similar documentation ("**Project Specs**") relating to the Work comply with applicable statutes, regulations, general orders of the State of Hawai'i, Company Tariffs and local ordinances. If Contractor discovers any discrepancy or conflict between the Project Specs and any applicable legal requirements, Contractor shall immediately report the problem in writing to Company's Designated Representative.

17. MISCELLANEOUS

17.1. Authority - Each Party represents and warrants that it has the full power and authority to enter into and perform this Agreement and that the person signing this Agreement on behalf of each has been properly authorized and empowered to enter into this Agreement, understands it and agrees to be bound by it.

17.2. Assignment - Neither Party shall have the right to assign any of its rights, duties or obligations under this Agreement, by operation of law or otherwise, without the prior written consent of the other Party.

17.3. Regulatory Approvals - This Agreement and any Work Authorization issued hereunder may be contingent upon governmental and regulatory approvals, including those of the State of Hawai'i Public Utilities Commission.

17.4. Further Assurances - If either Party determines that any further instruments, assurances or other things are necessary or desirable to carry out the terms of this Agreement, the other Party will execute and deliver all such instruments and assurances and do all things reasonably necessary or desirable to carry out the terms of this Agreement.

17.5. Notices - All notices, consents and waivers under this Agreement shall be in writing and will be deemed to have been duly given when (a) delivered by hand; (b) sent by email (provided receipt thereof is confirmed in writing by recipient); (c) sent by certified mail, return receipt requested; or (d) when received by the addressee, if sent by a nationally-recognized overnight delivery service, to the appropriate address(es) set forth below (or to such other address(es) as a Party may later designate by notice):

17.5.1. If to Company –

Hawaiian Electric Company, Inc.

By Mail: P.O. Box 2750
Honolulu, Hawai'i 96840-0001
Attention: Manager of Purchasing (CP11-VP)

& Hawaiian Electric Company, Inc.
P.O. Box 2750
Honolulu, Hawai'i 96840-0001
Attention: Director of Legal Division (AT11-NC)

By Hand or
Overnight
Delivery: Hawaiian Electric Company, Inc.

220 South King Street
Suite 1190
Honolulu, Hawai'i 96813
Attention: Manager of Purchasing (CP11-VP)

& Hawaiian Electric Company, Inc.
1001 Bishop Street
Suite 1100
Honolulu, Hawai'i 96813

Attention: Director of Legal Division (AT11-NC)

By Email: melissa.delacruz@hawaiianelectric.com
& legalnotices@hawaiianelectric.com

17.5.2 If to Contractor –

By Mail: [INSERT ADDRESS]

By Hand or
Overnight
Delivery: [INSERT ADDRESS]

By Email: [INSERT ADDRESS]

Or to whomever else the Parties may designate by notice pursuant to this Article 17.5.

17.6. Access to Records - Upon request, Contractor shall make available for inspection and audit by Company, in Honolulu, Hawai‘i, any and all records and/or documents relating to Work performed under this Agreement. This Section shall survive for a period of two (2) years after the completion of all Work.

17.7. Promotional Limitation - Contractor agrees that it will not, without written authorization of Company, use Company’s name for the purpose of promotion, including, without limitation, references to Company in press releases, lists of customers or other material advertising that Company uses Contractor’s products or services.

17.8. Company Rules - When on Company premises or carrying out duties for Company, Contractor’s Workers shall comply with all applicable provisions of Company’s Corporate Code of Conduct, Security Regulations, Information Resources Policy, Safety and Health Manual, and other Company policies, practices and procedures that Company personnel and Contractors are now or during the Work asked to follow. Such policies, practices and procedures are available online² or by hardcopy upon Contractor’s request. Contractor shall advise its Workers of these policies, practices and procedures and secure their consent to abide by these policies, practices and procedures prior to the commencement of Work. Unless otherwise agreed, Contractor’s Workers shall observe the working hours of Company while working on Company’s premises.

² Code of Conduct - https://www.hawaiianelectric.com/prebuilt/contractors/code_of_conduct.pdf

Information Resources Policy (password C0n7rac7Er!) - https://www.hawaiianelectric.com/prebuilt/contractors/information_resource_policy.pdf

Safety & Health Manual - https://www.hawaiianelectric.com/prebuilt/contractors/safety_and_health_manual.pdf

Security Requirements - https://www.hawaiianelectric.com/prebuilt/contractors/security_requirements.pdf

17.9. Access & Screening Requirements - If the Work requires access to Company's premises, remote access to Company's information technology systems, or a Company identification badge, Contractor's Workers may be subject to the following:

- 17.9.1. *Background Checks* – Workers may be required to undergo a criminal history background check, at Company's expense and through Company's approved provider, which shall be good for a period of one (1) year.
- 17.9.2. *Environmental Orientation* – Workers may be required to attend an environmental orientation program, lasting no more than one-half day and presented by the Company, to familiarize Workers with basic housekeeping requirements while performing services on Company property. If required, the orientation must be repeated every year.

Such requirements do not relieve Contractor of any compliance or performance obligations hereunder. Further, for services for which the price is fixed or "lump sum," Contractor shall not be entitled to a change order or other amendment to increase the contract price as a result of compliance with this Section.

17.10. Patents and Copyrights - Contractor agrees that, in performing the Work, it will not use any process, program, design, device or material that infringes on any United States patent or copyright or any trade secret agreement. Contractor agrees to indemnify, defend and hold harmless Company from and against all losses, damages, claims, fees and costs (including, without limitation, reasonable attorneys' fees and costs) arising from or incidental to any suit or proceeding brought against Company for patent, copyright or trade secret infringement relating to Contractor's Work. Company shall promptly notify Contractor of any such suit or proceeding and shall assist Contractor in defending the action by providing any necessary information.

17.11. Governing Law, Jurisdiction & Venue - This Agreement and all Work Authorizations hereunder are made under and shall be governed by and construed in accordance with the laws of the State of Hawai'i, without regard to choice of law principles. Any dispute arising out of this Agreement, however defined, shall be brought in the State of Hawai'i in a court of competent jurisdiction, and each Party agrees and irrevocably consents to the exercise of personal jurisdiction by such courts and waives any right to plead, claim or allege that the State of Hawai'i is an inconvenient forum or improper venue. Notwithstanding the foregoing, Company may elect to submit any such dispute to binding arbitration pursuant to the commercial arbitration rules of Dispute Prevention & Resolution, Inc. or the American Arbitration Association then in effect, in which case the Parties agree that the arbitration shall take place in the State of Hawai'i.

17.12. Limitation on Actions - Contractor must commence any claim against Company within one (1) year after the cause of action or claim accrues.

17.13. Attorneys' Fees and Costs - If there is a dispute between the Parties and either Party institutes a lawsuit, arbitration, mediation or other proceeding to enforce, declare or interpret the terms of this Agreement, the prevailing Party shall be awarded its reasonable attorneys' fees and costs.

17.14. Cumulative Remedies - No rights or remedies herein conferred upon or reserved to either Party are intended to be exclusive of any other right or remedy, and each and every right and remedy shall be cumulative and in addition to any other right or remedy under this Agreement or under applicable law.

17.15. Non-Waiver - The failure at any time of either Party to enforce any of the provisions of this Agreement or any Work Authorization, or to require at any time performance by the other Party of any of the provisions, shall in no way be construed to be a waiver, affect the validity or otherwise prevent future enforcement of such provisions.

17.16. Entire Agreement - The Contract Documents shall constitute the entire understanding between the Parties relating to the subject matter thereof, superseding all prior or contemporaneous understandings, oral or written. The Parties have entered into this Agreement in reliance upon the representations and mutual undertakings contained herein and not in reliance upon any extraneous oral or written representations or information.

17.17. Amendments - Any amendment or modification of this Agreement or any Work Authorization issued hereunder shall not be valid unless in writing and signed by both Parties. Appendix B is an example of an acceptable form for a Work Authorization amendment. Any waiver of rights shall not be valid unless in writing and signed by the Party against whom waiver is asserted.

17.18. Survival of Obligations - The following provisions shall survive the expiration or termination of this Agreement: Section 6 (Performance Standards), Section 10.7.4 (Waiver of Subrogation), Section 11 (Indemnity), Section 12 (Ownership & Confidentiality of Materials & Information), Section 13.3 (Company's Rights Upon Termination), Section 14.4 (Contractor's Duty to Mitigate), Section 16 (Laws, Regulations & Public Ordinances) and Section 17 (Miscellaneous).

17.19. Severability - If any term or provision of this Agreement, or the application thereof to any person, entity or circumstance, is found to be invalid or unenforceable, the remainder of the Agreement, and its application to persons, entities or circumstances other than those as to which it is held invalid or unenforceable, shall not be affected thereby and shall continue in full force and effect.

17.20. Hierarchy of Documents - In the event of a conflict between this Agreement, a Work Authorization, a Statement of Work ("**SOW**"), a Change Order and/or an Attachment or Exhibit to any of the foregoing, precedence shall be in the following order, unless otherwise agreed upon in writing by both Parties: Agreement, Work Authorization, SOW, Change Order. Attachments and Exhibits shall be given precedence immediately after the document to which they are attached.

17.21. Negotiated Terms - The Parties agree that the terms and conditions of this Agreement are the result of negotiations between the Parties and that this Agreement shall not be construed in favor of or against either Party by reason of the extent to which any Party or its professional advisors participated in the preparation of the Agreement.

17.22. Relationship of the Parties - Contractor shall act solely as an independent contractor of Company. Nothing in this Agreement shall be deemed to designate either Party hereto as partner, agent or representative of the other Party or to create any fiduciary relationship between the Parties. All employees of Contractor will work under the supervision of Contractor and not act as Company's agents or servants for any purpose.

17.23. No Third-Party Beneficiaries - Nothing expressed or referred to in this Agreement will be construed to give any person or entity other than the Parties any legal or equitable right, remedy or claim under or with respect to this Agreement or any provision hereof. This Agreement and all of its provisions and conditions are for the sole and exclusive benefit of the Parties and their successors and permitted assigns.

17.24. Counterparts and Electronic Signatures - This Agreement and any subsequent writings, including amendments, may be executed in counterparts, each of which shall be deemed an original, and all of which shall together constitute one and the same instrument binding all Parties. Duplicate, unexecuted and unacknowledged pages of the counterparts may be discarded, and the remaining pages assembled as one document. This Agreement and any subsequent writings, including amendments, may be executed and delivered by exchange of executed copies via email or other acceptable electronic means or formats (*e.g.*, DocuSign, Adobe PDF). A Party's signature transmitted by email or other acceptable electronic means or formats shall be considered an original signature that is binding and effective for all purposes.

-Signatures on next page-

IN WITNESS WHEREOF, the Parties have caused this Master Agreement to be signed by appropriate representatives of each.

HAWAIIAN ELECTRIC COMPANY, INC.
("COMPANY")

By: _____

By: _____

Print Name: _____

Print Name: _____

Title: _____

Title: _____

[INSERT full name of CONTRACTOR]
("CONTRACTOR")

By: _____

Print Name: _____

Title: _____

APPENDIX A

GENERAL SERVICES WORK AUTHORIZATION

WORK AUTHORIZATION NO. _____

PURCHASE ORDER NO. _____

GSMA CONTRACT NO. _____

I. REQUEST FOR QUOTE

Under the terms and conditions of the General Services Master Agreement, effective as of _____, 20__, by and between _____ (“**Contractor**”) and HAWAIIAN ELECTRIC COMPANY, INC. (“**Company**”), Company hereby requests a proposal from Contractor to perform the following Work:

Performance Bond Required? Yes__ No__ Amount: _____
See Section 6.6 (Performance Bond) of Master Agreement.

Liquidated Damages Applicable? Yes__ No__ Amount: _____
See Section 9 (Liquidated Damages) of Master Agreement.

Dated: _____

II. CONTRACTOR’S PROPOSAL

Contractor hereby proposes to perform the Work described above, for the following amount:

Total estimated cost is _____.
Total estimated man-hours required are _____.
Work will begin no later than _____.
Work will be completed on or before _____.
Contractor’s Designated Representative for this Work will be _____.

Dated: _____ Authorized Representative of Contractor: _____

III. WORK AUTHORIZATION

Contractor's foregoing Proposal is accepted. Contractor is authorized to perform the Work as proposed.

Company's Designated Representative for this Work will be _____.

COMPANY:

By: _____

By: _____

Title: _____

Title: _____

Date: _____

Date: _____

APPENDIX B

AMENDMENT NO. _____
TO WORK AUTHORIZATION NO. _____
GSMA CONTRACT NO. _____

HAWAIIAN ELECTRIC COMPANY, INC. (“**Company**”) and _____ (“**Contractor**”) agree to amend Work Authorization No. ____ of the General Services Master Agreement, effective as of _____, 20__ (“**Master Agreement**”), as follows:

Previous total not-to-exceed amount \$ _____
for Authorization No. ____

Total (not-to-exceed) cost for \$ _____
Amendment No. ____

New total not-to-exceed amount for \$ _____
Authorization No. ____

_____ is Company’s Designated Representative for this Work.

Except as provided herein, the terms of said Master Agreement shall remain in full force and effect and are incorporated by reference herein.

Please sign both copies of this document and return both to Company. We will endorse and return one copy to you for your files.

THE ABOVE AMENDMENT IS ACCEPTED BY:

COMPANY:

By: _____ By: _____

Title: _____ Title: _____

Date: _____ Date: _____

CONTRACTOR:

By: _____

Title: _____

Date: _____

APPENDIX C

**CONTRACTOR'S REQUEST FOR FINAL PAYMENT
AND RELEASE OF CLAIMS**

TO: _____ (“**Company**”)
FROM: _____ (“**Releasor**”)
PROJECT: _____ (“**Project**”)

Releasor does hereby request Final Payment in the amount of \$_____. In consideration of payment in full of this amount, as well as progress payments made to date in the amount of \$_____, for labor, materials, equipment and supplies furnished by Releasor in the improvement of the real property described above, Releasor does hereby release and waive all liens and claims that it now has, or may hereafter have, for furnishing such labor, materials, equipment and supplies. Such liens and claims shall include, but shall not be limited to: (1) any mechanic's or materialman's liens against the leasehold or fee simple title in and to such real property and Project; (2) any right to assert or claim any such mechanic's or materialman's liens; (3) any equitable liens; (4) any right to assert a claim under any labor or material payment bond, if any, issued for the benefit of Company or any other person or entity in connection with the Project; and (5) any right, if any, to assert a claim to any construction funds held by Company or its Banker. This release and waiver is for the benefit of, and may be relied upon by Company and the owner of the fee simple title in and to such real property (if not Company) and their respective successors and assigns.

For the foregoing consideration, Releasor further warrants and represents that it has fully and duly paid for all labor, materials, equipment and supplies used or furnished by it in connection with the Project to all persons or entities who have furnished labor or materials on the Project under it (including, without limitation, all subcontractors, lower level subcontractors, materialmen, and material supply houses), and hereby covenants and agrees to indemnify Company and the owner of the fee simple property (if not Company), and each of them, for and against any and all loss, liability, or expenses (including reasonable attorneys' fees) that may be sustained or incurred by any of them for any failure of Releasor to make such payments. Releasor has attached hereto copies of Lien Releases executed by each person or entity that has furnished labor or materials on the Project, evidencing the extent of payments made to date and any outstanding balance owed.

Executed in _____ (City & County) of Hawai'i, this ____ day of _____, 20__.

RELEASOR:

By: _____

Title: _____

Date: _____

APPENDIX D

**FINAL RELEASE AND WAIVER BY SUBCONTRACTOR
(OR SUB-SUBCONTRACTOR AND MATERIALMAN OR
SUPPLY HOUSE) OF MECHANIC'S LIEN AND CLAIMS**

TO: _____ (“Company”)

FROM: _____ (“Releasor”)

PROJECT: _____ (“Project”)

In consideration of payment in full to the undersigned Releasor of all progress payments due and payable to Releasor for labor, materials, equipment and supplies furnished by Releasor in the improvement of the real property described above, Releasor does hereby release and waive all liens and claims that it now has, or may hereafter have, for furnishing such labor, materials, equipment and supplies. Such liens and claims shall include, but shall not be limited to: (1) any mechanic's or materialman's liens against the leasehold or fee simple title in and to such real property and Project; (2) any right to assert or claim any such mechanic's or materialman's liens; (3) any equitable liens; (4) any right to assert a claim under any labor or material payment bond, if any, issued for the benefit of Company or any other person or entity in connection with the Project; and (5) any right, if any, to assert a claim to any construction funds held by Company or its Banker. This release and waiver is for the benefit of, and may be relied upon by Company and the owner of the fee simple title in and to such real property (if not Company) and their respective successors and assigns.

For the foregoing consideration, Releasor further warrants and represents that it has fully and duly paid for all labor, materials, equipment and supplies used or furnished by it in connection with the Project to all persons or entities who have furnished labor or materials on the Project under it (including, without limitation, all subcontractors, lower level subcontractors, materialmen, and material supply houses), and hereby covenants and agrees to indemnify Company and the owner of the fee simple property (if not Company), and each of them, for and against any and all loss, liability, or expenses (including reasonable attorneys' fees) that may be sustained or incurred by any of them for any failure of Releasor to make such payments.

Amount Paid to Date: \$ _____

Balance Due: \$ _____

Executed in _____ (City & County) of Hawai'i, this _____ day of _____, 20____.

RELEASOR:

By: _____

Title: _____

Date: _____

ATTACHMENT E: SURVEY

Note: Response to this survey will not affect the evaluation of the Bidder’s Proposal.

Please provide responses to the following questions. All questions should be answered. If you are unable to answer a question, please note the reason(s). Questions may be answered in whole or in part as appropriate by specific cross-reference to other answers in the Survey.

Function A

- Describe how your proposal prices may change if you were to install 500, 1,000, or 2,000 PES Systems.
- If a property owner needs to replace their roof subsequent to the installation of a PES System, provide the cost to uninstall, store, and reinstall the PES System. Since the property owner is replacing their roof, assume that you would only need to uninstall, store, and re-install the equipment that is sited on the roof.
- The Company is interested in installing PES Systems of various sizes to maximize available roof space (not to match customer load). If the proposed PES System (4 kW PV, 4-hour energy storage device) is the “small” option, what sized systems would you propose for a medium and large option? Provide pricing for the proposed medium and large PES System options.

Table E-A PES System Sizes and Price

	System Size	Equipment	Installation
Medium			
Large			

- Describe how roof type (i.e., tile, foam) could affect your proposal costs?
- What additional variables would affect your pricing?
- What is the annual maintenance cost to maintain the PES Systems for each unit?

Function B

- What is the annual cost to maintain the GSMCS?

Function C

- Describe how your proposal prices may change if you were to install 500, 1,000, or 2,000 units.
- Provide the cost, if any, to maintain the Resiliency Equipment for each unit.